Filing No. 2016-06

CERTIFICATION OF THE REVOCATION OF ORDINANCE AND ADOPTION OF PROPOSED ORDINANCE

REVOCATION OF:
Chapter 33D Wind Energy Facility Ordinance
and
ADOPTION OF
Chapter 33E Wind Energy Facility Ordinance

To: **BETH BELLEGARDE**, *Town Clerk*:

We hereby certify to you that the document to which we have affixed this certificate is a true copy of the official text of a proposed revocation of the ordinance entitled **"Town of Rumford Chapter 33D: Wind Energy Facility Ordinance** and a true copy of the official text of a proposed ordinance for adoption entitled **"Chapter 33E: Wind Energy Ordinance for Rumford, Maine"** approved by the Select Board and which is to be presented to the voters for their consideration on June 14, 2016.

Pursuant to 30-A M.R.S. § 3002(2), you will retain this copy of the complete text of the proposed ordinance as a public record and make other copies available for distribution to the voters, and you will ensure that copies are available at the Town Meeting/Polling Places on the day of the vote.

Dated: April 21, 2016

SELECT BOARD OF THE TOWN OF RUMFORD

BRADFORD ADLEY, Chair

JEFFREY STERLING, Vice-Chair

FRANK DICONZO, Selectperson

MARK N. BELANGER, Selectperson

M. PETER CHASE, Selectperson

REVOKE CHAPTER 33D- WIND ENERGY ORDINANCE TO BE REPLACED WITH

CHAPTER 33E
Wind Energy Facility Ordinance for Rumford, Maine

Section 1. Title. This Ordinance shall be known as the Wind Energy Facility Ordinance for Rumford.

Section 2. Authority. This Ordinance is adopted pursuant to the enabling provisions of Article VIII, Part 2, Section 1 of the Maine Constitution; the provisions of 30-A M.R.S. § 3001 (Home Rule), and the provisions of the Planning and Land Use Regulation Act, 30-A M.R.S. § 4312, *et seq.*

Section 3. Purpose. The purpose of the Ordinance is to provide for the construction and operation of Wind Energy Facilities in Rumford, subject to reasonable conditions that will protect the public health, safety, and welfare.

Section 4. Definitions.

Applicant is the legal entity, including successors and assigns, that files an application under this Ordinance.

Approved Residential Subdivision means a residential subdivision for which all applicable land use permits have been issued, provided that the time for beginning construction under such permits has not expired.

Associated Facilities means elements of a Wind Energy Facility other than its Generating Facilities that are necessary to the proper operation and maintenance of the Wind Energy Facility, including but not limited to buildings, access roads, Generator Lead Lines and substations.

DEP Certification means a certification issued by the Department of Environmental Protection pursuant to 35-A M.R.S. § 3456 for a Wind Energy Development.

Generating Facilities means Wind Turbines and electrical lines, not including Generator Lead Lines, that are immediately associated with the Wind Turbines.

Generator Lead Line means a "generator interconnection transmission facility" as defined by 35-A M.R.S. § 3132 (1-B).

Historic Area means an Historic Site administered by the Bureau of Parks and Recreation of the Maine Department of Conservation, with the exception of the Arnold Trail.

Historic Site means any site, structure, district or archaeological site which has been officially included on the National Register of Historic Places and/or on the Maine Historic Resource Inventory, or which is established by qualified testimony as being of historic significance.

Locally-Designated Passive Recreation Area means any site or area designated by a municipality for passive recreation that is open and maintained for public use and which: a) has fixed boundaries, b) is owned in fee simple by a municipality or is accessible by virtue of public easement, c) is identified and described in a local comprehensive plan and, d) has been identified and designated at least nine months prior to the submission of the Applicant's Wind Energy Facility permit application.

Meteorological Tower (MET Tower) means a Tower used for the measurement and collection of wind data that supports various types of equipment, including but not limited to anemometers, data recorders, and solar power panels. MET Towers may also include wildlife related equipment such as ANABAT detectors, bird diverts and wildlife entanglement protectors.

Municipal Reviewing Authority means the municipal planning board, agency or office, or if none, the municipal officers.

Nacelle means the frame and housing at the top of the Tower that encloses the gearbox and generator.

Non-Participating Landowner means any landowner, other than a Participating Landowner whose land is located within Rumford.

Occupied Building means a residence, school, hospital, house of worship, public library or other building that is occupied or in use as a primary residence or is customarily frequented by the public at the time when the permit application is submitted.

Participating Landowner means one or more Persons that hold title in fee or a leasehold interest with sublease rights to property on which Generating Facilities or Associated Facilities are proposed to be located pursuant to an agreement with the Applicant or an entity that has entered into an appropriate agreement with the Applicant allowing the Applicant to demonstrate the requisite right, title and interest in such property.

Person means an individual, corporation, partnership, firm, organization or other legal entity.

Planned Residence means a Residence for which all applicable building and land use permits have been issued, provided that the time for beginning construction under such permits has not expired.

Protected Location means any location that is:

1) accessible by foot, on a parcel of land owned by a Non-Participating Landowner containing a residence or planned residence, or an approved residential subdivision, house of worship, academic school, college, library, duly licensed hospital or nursing home near the development site at the time an application for a Wind Energy Facility is submitted under this Ordinance;

2) within a State Park, Baxter State Park, a National Park, a nature preserve owned by a land trust, the Maine Audubon Society or the Maine chapter of the Nature Conservancy, the Appalachian Trail, the Moosehorn National Wildlife refuge, a federally designated wilderness area, a state wilderness area designated by statute, a municipal park or a locally-designated passive recreation area, or any location within consolidated public reserve lands designated by rule by the Bureau of Public Lands as a Protected Location, or;

3) a hotel, motel, campsite or duly licensed campground that the municipal authority responsible for review and approval of the pending application under 9.1 has designated a Protected Location after making a determination that the health and welfare of the guests or the economic viability of the establishment will be unreasonably impacted by noise in excess of that allowed under section 13.1.3(b).

Residence means a building or structure, including manufactured housing, maintained for permanent or seasonal residential occupancy providing living, cooking and sleeping facilities and having permanent indoor or outdoor sanitary facilities, excluding recreational vehicles, tents and watercraft.

Scenic Resource means either a Scenic Resource of state or national significance, as defined in 35-A M.R.S § 3451(9) or a scenic resource of local significance located within the municipality and identified as such in a comprehensive plan, open space plan or scenic inventory adopted by the municipal legislative body.

Shadow Flicker means alternating changes in light intensity caused by the movement of Wind Turbine blades casting shadows on the ground or a stationary object.

Short Duration Repetitive Sounds means a sequence of repetitive sounds which occur more than once within an hour, each clearly discernible as an event and causing an increase in the sound level of at least 6 dBA on the fast meter response above the sound level observed immediately before and after the event, each typically less than ten seconds in duration, and which are inherent to the process or operation of the development and are foreseeable.

Sight Line Representation means a profile drawing showing prominent features, including but not limited to topography, buildings, and trees, along and in relation to a line of sight extending from an observer's eye to the lowest point visible on a proposed Tower.

Significant Wildlife Habitat means a Significant Wildlife Habitat as defined in 38 M.R.S. § 480-B(10).

Substantial Start means that construction shall be considered to be substantially commenced when any work beyond excavation, including but not limited to, the pouring of a slab or footings, the installation of piles , the construction of columns, or the placement of a Tower on a foundation has begun.

Tower means the free-standing structure on which a wind measuring or energy conversion system is mounted.

Turbine Height means the distance measured from the surface of the Tower foundation to the highest point of any turbine rotor blade measured at the highest arc of the blade.

Wind Energy Facility means a facility that uses one or more Wind Turbines to convert wind energy to electrical energy. A Wind Energy Facility includes Generating Facilities and Associated Facilities.

Wind Energy Facility, Type 1A means a Wind Energy Facility having a maximum generating capacity of less than 100kW, a maximum of one Wind Turbine and a maximum Turbine Height of 80 feet.

Wind Energy Facility, Type 1B means a Wind Energy Facility having a maximum generating capacity of less than 100kW and either more than one Wind Turbine, or one or more Wind Turbines with a Turbine Height greater than 80 feet.

Wind Energy Facility, Type 2 means a Wind Energy Facility having a maximum generating capacity of 100 kW or greater and which does not require a state permit issued by the Department of Environmental Protection under the Site Location of Development Act, 38 M.R.S. §481, *et seq.*

Wind Energy Facility, Type 3 means a Wind Energy Facility having a generating capacity of 100kW or greater and which requires a state permit issued by the Department of Environmental Protection under the Site Location of Development Act, 38 M.R.S. §481, *et seq.*

Wind Turbine means a system for the conversion of wind energy into electricity which is comprised of a Tower, generator, Nacelle, rotor and transformer.

Section 5. Applicability.

5.1 This Ordinance applies to any Wind Energy Facility proposed for construction in Rumford after the effective date of this Ordinance. This Ordinance does not apply to Associated Facilities unless

the Generating Facilities are located within Rumford, in which case this Ordinance applies to both the Generating Facilities and the Associated Facilities.

5.2 A Wind Energy Facility that is the subject of an application determined to be complete by the Planning Board prior to the effective date of this Ordinance shall not be required to meet the requirements of this Ordinance; provided that any physical modifications after the effective date of the Ordinance shall be subject to the permitting requirements of Section 9.2.

Section 6. Conflict and Severability.

6.1 If there is a conflict between provisions in this Ordinance, the more stringent shall apply. If there is a conflict between a provision in this Ordinance and that of another Rumford ordinance, the provision of this Ordinance shall apply.

6.2 The invalidity of any part of this Ordinance shall not invalidate any other part of this Ordinance.

Section 7. Effective Date. This Ordinance becomes effective on June 30, 2016.

Section 8. Classification of Wind Energy Facilities.

All Wind Energy Facilities shall be classified in accordance with Table 1 below:

Table 1
Classification of Wind Energy Facilities and Corresponding Local Review and Approval Authority

Facility Type	Aggregate Capacity	Turbine Height	Max. # of Turbines	DEP Site Location Permit Required	Local Review and Approval
1A	≤100 kW	< 80'	1	No	Code Enforcement Officer
1B	≤100 kW	> 80'	NA	No	Planning Board
2	≥100 kW	NA	NA	No [1]	Planning Board
3	≥ 100 kW	NA	NA	Yes [2]	Planning Board

1 Per 35-A M.R.S. § 3456. DEP Certificate required if energy generated is for sale or use by a Person other than the generator.

2 Per 38 M.R.S. § 482(2)

Section 9. Administration.

9.1 Review and Approval Authority

1. The Code Enforcement Officer is authorized to review all applications for Type 1A Wind Energy Facilities and MET Towers pursuant to section 11.0, and may approve, deny or approve such applications with conditions in accordance with the standards of the Ordinance.

2. The Planning Board is authorized to review all applications for Type 1B, Type 2, and Type 3 Wind Energy Facilities and may approve, deny or approve such applications with conditions in accordance with this Ordinance.

9.2 Permit Required

1. No Wind Energy Facility shall be constructed or located within Rumford without a permit issued in accordance with this Ordinance.

2. Any physical modification to an existing Wind Energy Facility that materially alters the location or increases the area of development on the site or that increases the Turbine Height or the level of sound emissions of any Wind Turbine shall require a permit modification under this Ordinance. Like-kind replacements and routine maintenance and repairs shall not require a permit modification.

9.3 Permit Applications

1. Application components. A Wind Energy Facility permit application shall consist of the application form, application fee, and supporting documents, as described below:

a. Application Forms. The municipality shall provide the application form which shall be signed by: 1) a Person with right, title and interest in the subject property or; 2) a Person having written authorization from a Person with right, title and interest in the subject property. The signature shall be dated and the signatory shall certify that the information in the application is complete and correct and that the proposed facility will be constructed and operated in accordance with the standards of this ordinance and all approval and permit conditions, if any.

b. Application Fees. Application fees shall be assessed and paid upon submission of the application in accordance with the *Schedule of License, Permit and Application Fees.*

c. Supporting Documents. The application shall include all additional documents necessary to satisfy the applicable submission requirements under section 10 of this Ordinance.

2. Application Submission. The Applicant shall submit its application for a Wind Energy Facility permit to the Code Enforcement Officer who shall note on the application the date on which it was received.

3. Changes to a Pending Application

a. The Applicant shall promptly notify the municipal entity responsible for review and approval of a pending application under section 9.1 of any changes the Applicant proposes to make to information contained in the application.

b. If changes are proposed to a pending application after a public hearing has been held, the Planning Board may consider those changes and continue with the review and approval process without a renewed public hearing if it determines that the changes do not materially alter the application. If the Planning Board determines that the proposed changes do materially alter the application it shall schedule and conduct another public hearing within 30 days of that determination. In making its determination, the Planning Board shall consider whether the proposed changes involve potential adverse effects different than or in addition to those addressed in the initial application.

9.4 Permit Application Procedures

1. Type 1A Wind Energy Facility Application

a. Within 10 days after receiving an application, the Code Enforcement Officer shall notify the Applicant in writing either that the application is complete or, if the application is incomplete, the specific additional material needed to complete the application. The Code Enforcement Officer may waive any submission requirement if the Code Enforcement Officer issues a written finding that, due to special circumstances of the application, adherence to that requirement is not necessary to determine compliance with the standards of this Ordinance.

b. Within 30 days after determining the application to be complete, the Code Enforcement Officer shall issue a written order: 1) denying approval of the proposed Wind Energy Facility, 2) granting approval of the proposed Wind Energy Facility or, 3) granting approval of the proposed Wind Energy Facility with conditions. In making the decision, the Code Enforcement Officer shall make findings on whether the proposed Wind Energy Facility meets the applicable criteria described in sections 12 and 13.

c. With the agreement of the applicant, the Code Enforcement Officer may extend the procedural time frames of this section.

2. Type 1B, Type 2 and Type 3 Wind Energy Facility Applications

a. The Applicant is strongly encouraged to meet with the Code Enforcement Officer before submitting an application. At this pre-application meeting, the Code Enforcement Officer will explain the Ordinance's provisions, application forms, and submission requirements. The Applicant should provide photos of the proposed site and written descriptions of the proposed facility and the proposed site, including its location and lot area.

b. An application shall be eligible for consideration at a regularly-scheduled meeting of the Planning Board only if the applicant submits it at least 14 days prior to the meeting.

c. Within 30 days after receipt of the application by the Code Enforcement Officer, the Planning Board shall notify the Applicant in writing either that the application is complete or, if the application is incomplete, the specific additional material needed to complete the application. The Planning Board may waive any submission requirement if it issues a written finding that, due to special circumstances of the application, adherence to that requirement is not necessary to determine compliance with the standards of this Ordinance.

d. The Planning Board shall hold a public hearing for a Type 3 Wind Energy Facility application within 60 days after determining that the application is complete. The Planning Board may decide to hold a public hearing for a Type 1B or a Type 2 Wind Energy Facility application. If it decides to hold a public hearing for a Type 1B application, the Planning Board shall hold that hearing within 30 days after determining that application is complete. If it decides to hold a public hearing for a Type 2 application, the Planning Board shall hold that hearing within 60 days after determining that the application is complete.

e. Within 60 days after determining that an application for a Type 1B Wind Energy Facility is complete or within 90 days after determining that an application for a Type 2 or Type 3 Wind Energy Facility is complete, the Planning Board shall issue a written order: 1) denying approval of the proposed Wind Energy Facility, 2) granting approval of the proposed Wind Energy Facility or, 3) granting approval of the proposed Wind Energy Facility with conditions. In making its decision, the Planning Board shall make findings on whether the proposed Wind Energy Facility meets the applicable criteria described in sections 12, 13, and 14.

f. With the agreement of the applicant, the Planning Board may extend the procedural time frames of this section.

Table 2
Procedural Time Frames

Facility Type	Application Completeness	Public Hearing	Final Decision
1A	≤10 days [1]	NA	≤30 days [2]
1B	≤30 days [1]	≤30 days [2]	≤60 days [2]
2	≤30 days [1]	≤60 days [2]	≤90 days [2]
3	≤30 days [1]	≤60 days [2]	≤90 days [2]

1 Days after receipt of the application by the Code Enforcement Officer

2 Days after the application is determined to be complete

9.5 Notice of Meetings

Ten days prior to any meeting at which an application for a Type 1B, Type 2, or Type 3 Wind Energy Facility is to be considered, the Planning Board shall send notice by first class mail, to the applicant and all owners of property abutting the property on which the Wind Energy Facility is proposed to be located. The notice shall state the date, time and place of the meeting and the proposed location and the classification of the proposed Wind Energy Facility.

9.6 Public Hearings

The Planning Board shall have notice of the date, time, and place of any public hearing and the proposed location and the classification of the proposed Wind Energy Facility:

1. Published at least once in a newspaper having general circulation within the municipality. The date of the first publication shall be at least 10 days before the hearing.

2. Mailed by first class mail to the Applicant and to owners of property within 500 feet of the property on which the Wind Energy Facility is proposed to be located, at least 10 days before the public hearing. The Planning Board shall maintain a list of property owners to whom notice is mailed in the application file. Failure of any of these property owners to receive a notice shall not invalidate the public hearing, nor shall it require the Planning Board to schedule another hearing.

9.7 Professional Services

In reviewing the application for compliance with this Ordinance, the Planning Board may retain professional services, including but not limited to those of an attorney or consultant, to verify information presented by the Applicant. The attorney or consultant shall first estimate the reasonable cost of such review and the Applicant shall deposit, with the municipality, the full estimated cost, which the municipality shall place in an escrow account. The municipality shall pay the attorney or consultant from the escrow account and reimburse the Applicant if funds remain after payment.

9.8 Expiration of Permits

Permits shall expire: 1) two years after the date of approval unless a substantial start on construction has occurred and; 2) three years after the date of approval unless construction of the Wind Energy Facility has been completed. If a permit for a Type 2 or Type 3 Wind Energy Facility expires, the Applicant shall implement pertinent provisions of the approved decommissioning plan. Upon the Applicant's written request, the municipal entity responsible for review and approval of the application under section 9.1 may extend either or both expiration time limits by one year.

9.9 Access

The Code Enforcement Officer shall have access to the site at all times to review the progress of the work and shall have the authority to review all records and documents directly related to the design, construction and operation of the facility.

9.10 Enforcement

1. It shall be unlawful for any Person to violate or fail to comply with or take any action that is contrary to the terms of the Ordinance, or to violate or fail to comply with any permit issued under the Ordinance, or to cause another to violate or fail to comply or take any action which is contrary to the terms of the Ordinance or any permit under the Ordinance.

2. If the Code Enforcement Officer or other Person charged with enforcement of municipal laws determines that a violation of the Ordinance or the permit has occurred, the Code Enforcement Officer shall provide written notice to any Person alleged to be in violation of this Ordinance or permit. If the alleged violation does not pose an immediate threat to public health or safety, the Code Enforcement Officer and the alleged violator shall engage in good faith negotiations to resolve the alleged violation. Such negotiations shall be conducted within thirty (30) days of the notice of violation and, with the consent of the alleged violator, may be extended.

3. If, after thirty (30) days from the date of notice of violation or further period as agreed to by the alleged violator, the Code Enforcement Officer determines, in the Officer's reasonable discretion, that the parties have not resolved the alleged violation, the Code Enforcement Officer may institute civil enforcement proceedings or any other remedy at law to ensure compliance with the Ordinance or permit.

9.11 Appeals

Any Person aggrieved by a decision of the Code Enforcement Officer or the Planning Board under this Ordinance may appeal the decision to the Board of Appeals, as provided by Chapter 37, Board of Appeals.

Section 10. Application Submission Requirements.

10.1 General Submission Requirements

1. A completed application form including:

   a. The Applicant and Participating Landowner(s') name(s) and contact information.

   b. The address, tax map number, zone and owner(s) of the proposed facility site and any contiguous parcels owned by Participating Landowners.

   c. The tax map number, zone, current use, owner(s) and addresses of owner(s) of parcels that abut the proposed facility site or abut parcels of Participating Landowners that are contiguous with the proposed facility site (Not required for Type 1A applications)

   d. An affirmation, signed and dated by the Applicant, that the information provided in the application is correct and that the proposed Wind Energy Facility, if approved and built, shall be constructed and operated in accordance with the standards of this ordinance and all conditions of approval, if any

2. Receipt showing payment of application fee in accordance with the *Schedule of License, Permit and Application Fees.*

3. A copy of a deed, easement, purchase option or other comparable documentation demonstrating that the Applicant has right, title or interest in the proposed facility site.

4. Location map showing the boundaries of the proposed facility site and all contiguous property under total or partial control of the Applicant or Participating Landowner(s) and any Scenic Resource or Historic Site within 2500 feet of the proposed development.

5. Description of the proposed Wind Energy Facility that includes the number and aggregate generating capacity of all Wind Turbines, the Turbine Height and manufacturer's specifications for each Wind Turbine (including but not limited to the make, model,

maximum generating capacity, sound emission levels and types of overspeed controls) and a description of Associated Facilities.

6. Site plan showing the proposed location of each Wind Turbine and Associated Facilities and any of the following features located within 500 feet of any Wind Turbine: parcel boundaries, required setbacks, topographic contour lines (maximum 20-foot interval), roads, rights-of-way, overhead utility lines, buildings (identified by use), land cover, wetlands, streams, water bodies and areas proposed to be re-graded or cleared of vegetation.

   a. In addition to the information in 6, above, site plans for Type 1B, Type 2 and Type 3 Wind Energy Facilities shall show the location and average height of tree cover to be retained and the location, variety, planting height and mature height of proposed trees, if any.

7. Written evidence that the Environmental Coordinator of the Maine Department of Inland Fisheries and Wildlife (MDIFW) and that the Maine Natural Areas Program (MNAP) have both been notified of the pending application and the location and Turbine Height of all proposed Wind Turbines.

8. Written evidence that the provider of electrical service to the property has been notified of the intent to connect an electric generator to the electricity grid, if such connection is proposed.

9. Description of emergency and normal shutdown procedures.

10. Photographs of existing conditions at the site.

11 An application for a Type 1A or 1B Wind Energy Facility shall include structural drawings of the Tower foundation and anchoring system: a) prepared by the Wind Turbine or Tower manufacturer, b) prepared in accordance with the manufacturer's specifications or, c) prepared and stamped by a Maine-licensed professional engineer.

12. An application for a Type 1A or Type 1B Wind Energy Facility shall include:

   a. a written statement, signed by the Applicant, that certifies that the proposed facility is designed to meet the applicable noise control standards under section 13.1.3 and acknowledges the Applicant's obligation to take remedial action in accordance with section 13.1.6 if the Code Enforcement Officer determines those standards are not being met or;

   b. a written request for review under section 14.1 along with information required under Section 15, subsection 15.2 (Submissions).

13. An Application for Type 1B, Type 2 or Type 3 Wind Energy Facility shall include the following site line, photographic and, if applicable, screening information, provided that an Applicant for a Type 3 Wind Energy Facility may provide this information as part of a visual assessment if required pursuant to section 14.5:

a. Sight Line Representations of each Wind Turbine from the nearest Occupied Building and from at least one other representative location within 500 feet of the Wind Turbine, such as a Scenic Resource or another Occupied Building. Each Site Line Representation shall be drawn at a scale sufficiently large to make it legible. If screening is proposed, the proposed screening device, such as trees, shrubs or fencing, shall be depicted on the drawing along with the sight line as altered by the screening.

b. A current four-inch by six-inch color photograph of the proposed site of the Wind Turbine(s) taken from viewpoints corresponding to each of the Site Line Representations.

c. One copy of each of the photographs described in b, above, onto which is superimposed an accurately-scaled and sited representation of the Wind Turbine(s).

14. An application for a Type 2 Wind Energy Facility that generates energy primarily for sale or use by a Person other than the generator, shall include, if issued at the time of application, certification from the Department of Environmental Protection pursuant to 35-A M.R.S. § 3456 that the Wind Energy Facility:

a. Will meet the requirements of the noise control rules adopted by the Board of Environmental Protection pursuant to the Site Location of Development Act, 38 M.R.S. § 481, *et seq.*;

b. Will be designed and sited to avoid unreasonable adverse Shadow Flicker effects; and

c. Will be constructed with setbacks adequate to protect public safety.

If such certification has not been issued at the time of application, the Applicant shall include written evidence that the Applicant has applied for certification.

10.2 Additional Submission Requirements for an Application for a Type 2 and 3 Wind Energy Facility

1. Certificates of design compliance obtained by the equipment manufacturers from Underwriters Laboratories, Det Norske Veritas, or other similar certifying organizations.

2. Decommissioning plan in conformance with Section 16.

3. Written summary of operation and maintenance procedures for the Wind Energy Facility and a maintenance plan for access roads, erosion and sedimentation controls and storm water management facilities.

4. Standard boundary survey of the subject property stamped by a Maine-licensed surveyor. The Planning Board may waive this requirement if it determines that the Applicant has provided information sufficient to identify property boundaries to the extent necessary.

5. Visual impact assessment, if required pursuant to section 14.5.

6. Stormwater management plan stamped by a Maine-licensed professional engineer.

7. Sound level analysis, prepared by a qualified engineer, which addresses the standards of section 14.1.

8. Shadow Flicker analysis based on WindPro or other modeling software approved by the Department of Environmental Protection.

9. Foundation and anchoring system drawings that are stamped by a Maine-licensed professional engineer.

10. Other relevant studies, reports, certifications and approvals as may be reasonably requested by the Planning Board to ensure compliance with this Ordinance.

Section 11. Meteorological Towers (MET Towers).

Applications for Meteorological (MET) Towers shall be subject to the submission and review standards for a Type 1A Wind Energy Facility, as applicable, except that no height limitation shall apply. A permit for a MET Tower shall be valid for 2 years and 2 months from the date of issuance. The Code Enforcement Officer may grant one or more one-year extensions of this permit period. Within 30 days following removal of a MET Tower, the Applicant shall restore the site to its original condition to the extent practicable. The provisions of this section do not apply to permanent MET Towers included as Associated Facilities in approved Wind Energy Facility applications.

Section 12. General Standards.

12.1 Safety Setbacks

Wind Turbines shall be set back a horizontal distance equivalent to 150% of the Turbine Height from property boundaries, public and private rights-of-way and overhead utility lines that are not part of the proposed Generating Facility except that the entity responsible for review and approval of the application may allow a reduced setback if the Applicant submits, in writing: 1) a waiver of the property boundary setback signed by the pertinent abutting landowner or; 2) evidence, such as operating protocols, safety programs, or recommendations from the manufacturer or a licensed professional engineer with appropriate expertise and experience with Wind Turbines, that demonstrates that the reduced setback proposed by the Applicant is appropriate.

12.2 Natural Resource Protection

A Wind Energy Facility shall not have an unreasonable adverse effect on rare, threatened, or endangered wildlife, significant wildlife habitat, rare, threatened or endangered plants and rare and exemplary plant communities. In making its determination under this subsection, the municipal entity responsible for review and approval of the permit application under section 9.1 shall consider pertinent application materials and the written comments and/or recommendations, if any, of the Maine Department of Inland Fisheries and Wildlife (MDIFW) Environmental Coordinator and the Maine Natural Areas Program (MNAP).

12.3 Building Permit

All components of the Wind Energy Facility shall. comform to relevant and applicable local and state building codes

12.4 Overspeed Controls and Brakes

Each Wind Turbine shall be equipped with an overspeed control system that: 1) includes both an aerodynamic control such as stall regulation, variable blade pitch, or other similar system, and a mechanical brake that operates in fail safe mode; or 2) has been designed by the manufacturer or a licensed civil engineer and found by the municipal entity responsible for review and approval of the application under 9.1, based on its review of a written description of the design and function of the system, to meet the needs of public safety.

12.5 Electrical Components and Interconnections

All electrical components of the Wind Energy Facility shall conform to relevant and applicable local, state, and national codes.

12.6 Access

All ground-mounted electrical and control equipment and all access doors to a Wind Turbine shall be labeled and secured to prevent unauthorized access. A Wind Tower shall not be climbable up to a minimum of fifteen (15) feet above ground surface.

12.7 Blade Clearance

The minimum distance between the ground and all blades of a Wind Turbine shall be 25 feet as measured at the lowest arc of the blades.

12.8 Signal Interference

The Applicant shall make reasonable efforts to avoid and mitigate to the extent practicable any disruption or loss of radio, telephone, television, or similar signals caused by the Wind Energy Facility.

12.9 Structure Type

With the exception of Meteorological (MET) Towers, Towers shall be monopoles with no guy wires. This requirement may be waived if the Applicant demonstrates to the satisfaction of the municipal entity responsible for review and approval of the permit application under section 9.1, that there is no practicable alternative. Bird flight diverters must be installed on any guy wires that are permitted.

12.10 Erosion Control

Erosion of soil and sedimentation shall be minimized by employing "best management practices" in the "*Maine Erosion Control Handbook for Construction: Best Management Practices*", March 2003.

12.11 Building-Mounted Wind Turbines

Building-mounted Wind Turbines are not permitted.

12.12 Visual Appearance

1. A Wind Turbine shall be a non-obtrusive color such as white, off-white or gray, or as may otherwise be required by another governmental agency with jurisdiction over the Wind Energy Facility.

2. A Wind Turbine shall not be lighted artificially, except to the extent consistent with Federal Aviation Administration recommendations or other applicable authority that regulates air safety or as is otherwise required by another governmental agency with jurisdiction over the Wind Energy Facility.

3. A Wind Turbine shall not be used to support signs and shall not display advertising except for reasonable and incidental identification of the turbine manufacturer, facility owner and operator, and for warnings.

12.13 Visibility of Wind Turbine

The following requirements apply, to the extent practicable, to Type 1B and Type 2 Wind Energy Facilities:

1. To the extent that doing so does not inhibit adequate access to the wind resource, each Wind Turbine shall be located to maximize the effectiveness of existing vegetation, structures and topographic features in screening views of the Wind Turbine from Occupied Buildings and Scenic Resources.

2. When existing features do not screen views of a Wind Turbine from Residences and Scenic Resources, screening may be required, where feasible and effective, through the planting of trees and/or shrubs. In order to maximize the screening effect and minimize wind turbulence near the Wind Turbine, plantings should be situated as near as possible to the point from which the Wind Turbine is being viewed. Such plantings should be of native varieties.

Section 13. Special Standards for Type 1A and Type 1B Wind Energy Facilities.

13.1 Noise emanating from a Type 1A or Type1B Wind Energy Facility shall be controlled in accordance with the provisions of this section or, upon the written request of the applicant, the provisions of section 14.1. If the Applicant chooses review under section 14.1, the provisions of 13.1.1, 13.1.2 and 13.1.6 shall apply, but the provisions of 13.1.3, 13.1.4 and 13.1.5 shall not apply.

1. The sound level limits contained in this section apply only to areas that are defined as Protected Locations and to property boundaries that describe the outer limits of the facility site in combination with any parcel(s) owned by a Participating Land-Owner that are contiguous with the facility site .

2. The sound level limits contained in this section do not apply to the facility site or any parcel(s) owned by a Participating Land-Owner that are contiguous with the facility site.

3. The sound levels resulting from routine operation of a Wind Energy Facility, as measured in accordance with the procedures described in section 13.1.5 shall not exceed the limits specified for the following locations and times:

a. At a Protected Location with no living and sleeping quarters:

55 dBA during the Protected Location's regular hours of operation

b. At a Protected Location with living and sleeping quarters:

1. Area(s) within 500 feet of living and sleeping quarters:

42 dBA between 7:00 p.m. and 7:00 a.m.

55 dBA between 7:00 a.m. and 7:00 p.m.

2. Area(s) more than 500 feet from living and sleeping quarters:

55 dBA at all times.

c. At property boundaries that describe the outer limits of the facility site combined with any parcel(s) owned by a Participating Land-Owner that are contiguous with the facility site:

75 dBA at all times.

4. If the Applicant submits the certification and acknowledgement required by Section 10.1.12(1), the municipal entity responsible for review and approval of the application under Section 9.1 shall determine, for purposes of issuing its approval, that the pertinent sound-level limits under section 13.1.1 have been met, subject to the Applicant's obligation to take remedial action as necessary under section 13.1.6.

5. The Code Enforcement Office may perform measurements of sound levels resulting from routine operation of an installed Type 1A or Type 1B Wind Energy Facility at the officer's own initiative or in response to a noise-related complaint to determine compliance with the pertinent standards in section 13.1.1. Such measurements shall be performed as follows:

   a. Measurements shall be obtained during representative weather conditions when the sound of the Wind Energy Facility is most clearly noticeable. Preferable weather conditions for sound measurements at distances greater than about 500 feet from the sound source include overcast days when the measurement location is downwind of the Wind Turbine and inversion periods (which most commonly occur at night).

   b. Sound levels shall be measured at least four (4) feet above the ground by a meter set on the A-weighted response scale, fast response. The meter shall meet the latest version of American National Standards Institute (ANSI S1.4.) "American Standard Specification for General Purpose Sound Level Meters" and shall have been calibrated at a recognized laboratory within the past year.

   c. 5 dBA shall be added to sound levels of any Short Duration Repetitive Sound measured in accordance with paragraphs a and b.

6. The Applicant shall operate the proposed Wind Energy Facility in conformance with the sound level limits of section 13.1 or section 14.1, as applicable. If, based on post-installation measurements taken in accordance with section 13.1.3 or section 14.1, as applicable, the Code Enforcement Officer determines that the applicable sound-level limits are not being met, the Applicant shall, at the Applicant's expense and in accordance with the Rumford Wind Energy Facility Ordinance and in consultation with the Code Enforcement Officer, take remedial action deemed necessary by the Code Enforcement Officer to ensure compliance with those limits. Remedial action that the Code Enforcement Officer may require, includes, but shall not be limited to, one or more of the following:

   a. modification or limitation of operations during certain hours or wind conditions;

   b. maintenance, repair, modification or replacement of equipment;

   c. relocation of the Wind Turbine(s); and,

d. removal of the Wind Turbine(s) provided that the Code Enforcement Officer may require removal of the Wind Turbine(s) only if the Code Enforcement Officer determines that there is no practicable alternative.

13.2 Discontinued Use

1. A Type 1A or Type 1B Wind Energy Facility that is not generating electricity for twelve (12) consecutive months shall be deemed a discontinued use and shall be removed from the property by the Applicant within 120 days of receipt of notice from the Code Enforcement Officer, unless the Applicant provides information that the Planning Board deems sufficient to demonstrate that the project has not been discontinued and should not be removed. If the Wind Energy Facility is not removed within this time period, the municipality may remove the turbine at the Applicant's expense. The Applicant shall pay all site reclamation costs deemed necessary and reasonable to return the site to its pre-construction condition, including the removal of roads and reestablishment of vegetation.

2. If a surety has been given to the municipality for removal of a Type 1B Wind Energy Facility, the Applicant may apply to the Planning Board for release of the surety when the Wind Energy Facility has been removed to the satisfaction of the Code Enforcement Officer.

Section 14.0. Special Standards for Type 2 and Type 3 Wind Energy Facilities.

14.1 Control of Noise

Noise emanating from a Type 2 Wind Energy Facility, a Type 3 Wind Energy Facility, or, upon written request of the Applicant pursuant to section 13.1, a Type 1A or Type 1B Wind Energy Facility shall be controlled in accordance with the provisions of Section 15.

If there is a conflict between a provision of Setcion 15 and another provision of this ordinance, the provision of Section 15 shall apply.

14.2 Use of Public Roads

1. The Applicant shall identify all state and local public roads to be used within Rumford to transport equipment and parts for construction, operation or maintenance of a Type 2 or Type 3 Wind Energy Facility.

2. The Town Engineer, Road Commissioner or a qualified third-party engineer reasonably acceptable to both the Planning Board and the Applicant and paid for by the Applicant pursuant to Section 9.7 of the Ordinance, shall document road conditions prior to construction. The Town Engineer, Road Commissioner or third-party engineer shall

document road conditions again thirty (30) days after construction is complete or as weather permits.

3. The Applicant shall demonstrate, to the satisfaction of the Planning Board, that it has financial resources sufficient to comply with subsection 4, below, and the Planning Board may require the Applicant to post a bond or other security in order to ensure such compliance.

4. Any road damage caused by the Applicant or its contractors shall be promptly repaired at the Applicant's expense.

14.3 Warnings

A clearly visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.

14.4 Artificial Habitat

To the extent practicable, the creation of artificial habitat for raptors or raptor prey shall be minimized. In making its determination under this subsection the Planning Board shall consider comments and recommendations, if any, provided by the Maine Department of Inland Fisheries and Wildlife.

14.5 Effect on Scenic Resources

1. Except as otherwise provided in this subsection, if a Type 2 or Type 3 Wind Energy Facility is proposed for location in or is visible from a Scenic Resource, the Applicant shall provide the Planning Board a visual impact assessment that addresses the evaluation criteria in subsection 14.5.3. There is a rebuttable presumption that a visual impact assessment is not required for those portions of a Type 2 or Type 3 Wind Energy Facility that are located more than 3 miles, measured horizontally, from a Scenic Resource. The Planning Board may require a visual impact assessment for portions of the Type 2 or Type 3 Wind Energy Facility located more than 3 miles and up to 8 miles from a Scenic Resource if it finds that a visual impact assessment is needed to determine if there is the potential for significant adverse effects on the Scenic Resource. Information intended to rebut the presumption must be submitted to the Planning Board by any interested Person within 30 days of acceptance of the application as complete. The Planning Board shall determine if the presumption is rebutted based on a preponderance of evidence in the record.

2. The Planning Board shall determine, based on consideration of the evaluation criteria in subsection 14.5.3, whether the Type 2 or 3 Wind Energy Facility significantly compromises views from a Scenic Resource such that the proposed facility has an unreasonable adverse effect on the scenic character or existing uses related to scenic character of that Scenic Resource.

3. In making its determination pursuant to subsection 14.5.2, and in determining whether an Applicant for a Type 2 or 3 Wind Energy Facility located more than 3 miles from a Scenic Resource must provide a visual impact assessment in accordance with subsection 14.5.1, the Planning Board shall consider:

a. The significance of the potentially affected Scenic Resource;

b. The existing character of the surrounding area;

c. The expectations of the typical viewer;

d. The Type 2 or Type 3 Wind Energy Facility's purpose and the context of the proposed activity;

e. The extent, nature and duration of potentially affected public uses of the Scenic Resource and the potential effect on the public's continued use and enjoyment of the Scenic Resource; and

f. The scope and scale of the potential effect of views of the Wind Energy Facility on the Scenic Resource, including but not limited to issues related to the number and extent of Wind Turbines visible from the Scenic Resource, the distance from the Scenic Resource and the effect of prominent features of the Wind Energy Facility on the landscape.

A finding by the Planning Board that the Type 2 or Type 3 Wind Energy Facility is a highly visible feature in the landscape is not a solely sufficient basis for determination that it has an unreasonable adverse effect on the scenic character and existing uses related to scenic character of a Scenic Resource. In making its determination under subsection 14.5.2, the Planning Board shall consider insignificant the effects of portions of a Type 2 or Type 3 Wind Energy Facility located more than 8 miles, measured horizontally, from a Scenic Resource.

14.6 Shadow Flicker

Type 2 and Type 3 Wind Energy Facilities shall be designed to avoid unreasonable adverse shadow flicker effect at any Occupied Building located on a Non-Participating Landowner's property.

14.7 Relationship to DEP Certification and Permitting

1. For a Type 2 Wind Energy Facility for which a DEP Certification has been submitted in accordance with section 10.1.14, the Planning Board shall consider, to the extent applicable, pertinent findings in that certification when making its determination under sections 12.1, 14.1, and 14.6. There is a rebuttable presumption that a Wind Energy Facility that has obtained DEP Certification meets the requirements of sections 12.1, 14.1, and 14.6. The Planning Board may, as a condition of approval of a Type 2 Wind Energy

Facility that generates energy for sale or use by a person other than the generator, deem DEP's issuance of a certificate for the development sufficient to meet, in whole or in part, as applicable, the requirements of sections 12.1, 14.1, 14.6.

2. If DEP has issued a Site Location of Development Act permit for a Type 3 Wind Energy Facility pursuant to 38 M.R.S. § 484(3), there is a rebuttable presumption that the development meets the requirements of sections 12.1 12.2, 14.1, 14.6, 14.12 and, as it pertains to Scenic Resources of state or national significance as defined by 35-A M.R.S. §3451(9), section 14.5. The Planning Board may, as a condition of approval of a Type 3 Wind Energy Facility, deem DEP's issuance of a permit for the development sufficient to meet, in whole or in part, as applicable, the requirements of sections 12.1, 12.2, 14.1, 14.6, 14.12 and, as it pertains to Scenic Resources of state or national significance, section 14.5.

14.8 Local Emergency Services

1. The Applicant shall provide a copy of the project summary and site plan to local emergency service providers, including paid or volunteer fire department(s).

2. Upon request, the Applicant shall cooperate with emergency service providers to develop and coordinate implementation of an emergency response plan for a Type 2 or Type 3 Wind Energy Facility.

3. A Wind Turbine shall be equipped with an appropriate fire suppression system to address fires within the Nacelle portion of the turbine or shall otherwise address the issue of fire safety to the satisfaction of the Planning Board.

14.9 Liability Insurance

The Applicant or an Applicant's designee acceptable to the Planning Board shall maintain a current general liability policy for the Type 2 or Type 3 Wind Energy Facility that covers bodily injury and property damage with limits in an amount commensurate with the scope and scale of the Facility. The Applicant or its designee shall make certificates of insurance available to the Planning Board upon request.

14.10 Design Safety Certification

Each Wind Turbine shall conform to applicable industry standards including those of the American National Standards Institute (ANSI) and at least one of the following: Underwriters Laboratories, Det Norske Veritas, Germanischer Llloyd Wind Energies, or other similar certifying organization.

14.11 Public Inquiries and Complaints

1. The Applicant or its designee shall maintain a phone number and identify a responsible Person for the public to contact with inquiries and complaints throughout the life of the Wind Energy Facility.

2. The Applicant or its designee shall make reasonable efforts to respond to the public's inquiries and complaints and shall provide written copies of all complaints and the company's resolution or response to the Code Enforcement upon request.

14.12 Decommissioning

The Applicant shall prepare a decommissioning plan in conformance with Section 16.

Section 15.0. Control of Noise.

15.1 Applicability

Pursuant to section 14.1, noise emanating from a Type 2 Wind Energy Facility, a Type 3 Wind Energy Facility or, upon written request of the Applicant pursuant to section 13.1, a Type 1A or Type 1B Wind Energy Facility, shall be controlled in accordance with the following provisions:

15.2 Sound Level Limits

(1) **Sound Level Limits for Routine Operation of Wind Energy Facilities**

The sound levels resulting from routine operation of a wind energy facility measured in accordance with the measurement procedures described in subsection G shall not exceed the following limits:

(a) 75 dBA at any time of day at any property line of the wind energy facility or contiguous property owned or controlled by the wind energy applicant, whichever is farther from the proposed wind energy facility's regulated sound sources; and

(b) 55 dBA between 7:00 a.m. and 7:00 p.m. (the "daytime limit"), and 42 dBA between 7:00 p.m. and 7:00 a.m. (the "nighttime limit") at any protected location.

(2) **Tonal Sounds**

For the purposes of this subsection, a tonal sound exists if, at a protected location, the 10 minute equivalent average one-third octave band sound pressure level in the band containing the tonal sound exceeds the arithmetic average of the sound pressure levels of the two contiguous one-third octave bands by 5 dB for center frequencies at or between 500 Hz and 10,000 Hz, by 8 dB for center frequencies at or between 160 and 400 Hz, and by 15 dB for center frequencies at or between 25 Hz and 125 Hz.

(a) When routine operation of a wind energy facility produces tonal sounds, a 5 dBA penalty shall be arithmetically added to each average 10 minute sound level ($Leq_{A\ 10\text{-}min}$) measurement interval in which a tonal sound occurs.

(3) **Short Duration Repetitive Sounds ("SDRS")**

For the purposes of this subsection, SDRS is defined as a sequence of repetitive sounds that occur within a 10-minute measurement interval, each clearly discernible as an event resulting from the facility and causing an increase in the sound level of 5 dBA or greater on the fast meter response above the sound level observed immediately before and after the event, each typically ±1 second in duration, and which are inherent to the process or operation of the facility.

(a) When routine operation of a wind energy facility produces short duration repetitive sound, a 5 dBA penalty shall be arithmetically added to each average 10-minute sound level ($Leq_{A\ 10\text{-}min}$) measurement interval in which greater than 5 SDRS events are present.

(4) **Sound from Construction of Facilities**

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

(1) Sound from nighttime construction activities shall be subject to the nighttime routine operation sound level limits contained in subsections B(1 through 3).

(2) 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 B(1 through 3).

(3) 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:

a. the Code Enforcement Officer when the duration of the nighttime construction activity is less than or equal to 90 days,

b. the Code Enforcement Officer and the Planning 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 facility 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.

(5) **Sound from Maintenance Activities**

(a) Sound from routine, ongoing maintenance activities shall be considered part of the routine operation of the facility and the combined total of the routine maintenance and operation sound shall be subject to the routine operation sound level limits contained in subsection B(1 through 3).

(b) Sound from occasional, major, scheduled overhaul activities shall be subject to the construction sound level limits contained in subsection B(4). 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 B(4).

(6) **Compliance with the Sound Level Limits**

Compliance of a wind energy facility with the sound level limits set forth in subsection B(1 through 3) shall be determined in accordance with the following:

(a) Sound level data shall be aggregated in 10-minute measurement intervals within a given compliance measurement period (daytime: 7:00 am to 7:00 pm or nighttime: 7:00 pm to 7:00 am) under the conditions set forth in subsection G.

(b) Compliance will be demonstrated when the arithmetic average of the sound level of, at a minimum, twelve, 10-minute measurement intervals in a given compliance measurement period is less than or equal to the sound level limit set forth in subsection B(1through 3).

(c) Alternatively, if a given compliance measurement period does not produce a minimum of twelve, 10-minute measurement intervals under the atmospheric and site conditions set forth in subsection G, the wind energy facility may combine six or more contiguous 10-

minute measurement intervals from one 12-hour (7:00 am to 7:00 pm daytime or 7:00 pm to 7:00 am nighttime) compliance measurement period with six or more contiguous 10-minute intervals from another compliance measurement period. Compliance will be demonstrated when the arithmetic average of the combined 10-minute measurement intervals is less than or equal to the sound level limit set forth in subsection B(1 through 3).

15.3 Submissions

(1) **Facilities with Minor Sound Impact**

An applicant for a proposed facility with minor sound impact may choose to file as part of the wind energy facility application a statement attesting to the minor nature of the anticipated sound impact of their facility. An applicant proposing an expansion or modification of an existing facility with minor sound impact may follow the same procedure as described above. For the purpose of these standards, a facility or an expansion or modification of an existing facility with minor sound impact means a facility where the applicant demonstrates, by estimate or example, that the regulated sound from routine operation of the facility will not exceed 5 dBA less than the applicable limits established under subsection B. It is the intent of this subsection that an applicant need not conduct sound level measurements to demonstrate that the facility or an expansion or modification of an existing facility will have a minor sound impact.

(2) **Other Facilities**

Technical information shall be submitted describing the wind energy applicant's plan and intent to make adequate provision for the control of sound. The wind energy applicant's plan shall contain the following:

(a) A map depicting the location of all proposed sound sources associated with the wind energy facility, property boundaries for the proposed wind energy facility, property boundaries of all adjacent properties within one mile of the proposed wind energy facility, and the location of all protected locations located within one mile of the proposed wind energy facility;

(b) A description of the major sound sources, including tonal sound sources and sources of short duration repetitive sounds, associated with the construction, operation and maintenance of the proposed wind energy facility;

(c) A description of the equivalent noise levels expected to be produced by the sound sources at protected locations located within one mile of the proposed wind energy facility. The description shall include a full-page isopleths map depicting the modeled decay rate of the predicted sound pressure levels expected to be produced by the wind energy facility at each clearly identified protected location within one mile of the proposed wind energy facility.

The predictive model used to generate the equivalent noise levels expected to be produced by the sound sources shall be designed to represent the "predictable worst case" impact on adjacent properties and shall include, at a minimum, the following:

1. The maximum rated sound power output (IEC 61400-11) of the sound sources operating during nighttime stable atmospheric conditions with high wind shear above the boundary layer and consideration of other conditions that may affect in-flow airstream turbulence;

2. Attenuation due to geometric spreading, assuming that each turbine is modeled as a point source at hub height;

3. Attenuation due to air absorption;

4. Attenuation due to ground absorption/reflection;

5. Attenuation due to three dimensional terrain;

6. Attenuation due to forestation;

7. Attenuation due to meteorological factors such as but not limited to relative wind speed and direction (wind rose data), temperature/vertical profiles and relative humidity, sky conditions, and atmospheric profiles;

8. Inclusion of an "uncertainty factor" adjustment to the maximum rated output of the sound sources based on the manufacturer's recommendation; and

9. Inclusion, at the discretion of the Planning Board, of an addition to the maximum rated output of the sound sources to account for uncertainties in the modeling of sound propagation for wind energy facilities. This discretionary uncertainty factor of up to 3 dBA may be required by the Planning Board based on the following conditions: inland or coastal location, the extent and specificity of credible evidence of meteorological operating conditions, and the extent of evaluation and/or prior specific experience for the proposed wind turbines. Subject to the Planning Board's discretion based on the information available, there is a rebuttable presumption of an uncertainty factor of 2 to 3 dBA for coastal facilities and of 0 to 2 dBA for inland facilities.

(d) A description of the protected locations near the proposed wind energy facility.

(e) A description of proposed major sound control measures, including their locations and expected performance.

(f) A comparison of the expected sound levels from the proposed facility with the sound level limits of these standards.

(g) A comparison of the expected sound levels from the proposed facility with any quantifiable noise standards of any neighboring municipality which may be affected by the noise.

(h) A description and map identifying one or more compliance testing locations on or near the proposed wind energy facility site. The identified compliance testing locations shall be selected to take advantage of prevailing downwind conditions and be able to meet the site selection criteria outlined in subsection G(4)(b).

(i) A description of the compliance measurement protocol as required by subsection G below.

(j) A description of the complaint response protocol proposed for the wind energy facility. The complaint response protocol shall adequately provide for, at a minimum:

1. A 24-hour contact for complaints;

2. A complaint log accessible by the Planning Board;

3. For those complaints that include sufficient information to warrant an investigation, the protocol must provide for an analysis as set forth in (a) through (c) below. Sufficient information includes, at a minimum: the name and address of the complainant; the date, time and duration of the sound event; a description of the sound event, indoor or outdoor, specific location and a description of any audible sounds from other sources outside or inside the building of the complainant. Analysis of the complaint by the permit holder must include:

   (a) documentation of the location of the nearest turbines to the complaint location and ground conditions in the area of the complaint location;

   (b) weather conditions at the time of the complaint and surface and hub height wind speed and direction;

   (c) power output and direction of nearest turbines; and

   (d) notification of complaint findings to the Planning Board and the complainant;

4. A plotting of complaint locations and key information on a project area map to evaluate complaints for a consistent pattern of site, operating and weather conditions; and

5. A comparison of these patterns to the compliance protocol to determine whether testing under additional site and operating conditions is necessary and, if so, a testing plan that addresses the locations and the conditions under which a pattern of complaints had occurred.

15.4 Terms and Conditions

The Planning Board may, as a term or condition of approval, establish any reasonable requirement to ensure that the applicant has made adequate provision for the control of noise from the facility and to reduce the impact of noise on protected locations. Such conditions may include, but are not limited to, enclosing equipment or operations, imposing limits on hours of operation, or requiring the employment of specific design technologies, site design, modes of operation, or traffic patterns.

The sound level limits prescribed in this ordinance shall not preclude the Planning Board from requiring an applicant to demonstrate that sound levels from a facility will not unreasonably disturb wildlife or adversely affect wildlife populations. In addition, the sound level limits shall not preclude the Planning Board, as a term or condition of approval, from requiring that lower sound level limits be met to ensure that the applicant has made adequate provision for the protection of wildlife.

15.5 Waiver from Sound Level Limits

A waiver may be granted by the Planning Board if: (1) a facility is deemed necessary in the interest of national defense or public safety and the applicant has shown that the sound level limits cannot practicably be met without unduly limiting the facility's intended function, and (2) a finding is made by the Planning Board that the proposed facility will not have an unreasonable impact on protected locations. The Planning Board shall consider the request for a waiver as part of the review of a completed wind energy facility application. In granting a waiver, the Planning Board may, as a condition of approval, impose terms and conditions to ensure that no unreasonable sound impacts will occur.

15.6 Definitions

Terms used herein are defined below for the purpose of this noise ordinance.

(1) **AMBIENT SOUND**: At a specified time, the all-encompassing sound associated with a given environment, being usually a composite of sounds from many sources at many directions, near and far, including the specific facility of interest.

(2) **CONSTRUCTION**: Activity and operations associated with the development or expansion of a facility or its site.

(3) **EMERGENCY**: An unforeseen combination of circumstances which calls for immediate action.

(4) **EMERGENCY MAINTENANCE AND REPAIRS**: Work done in response to an emergency.

(5) **ENERGY SUM OF A SERIES OF LEVELS**: Ten times the logarithm of the arithmetic sum of the antilogarithms of one-tenth of the levels. [Note: See Section B(1 through 3).]

(6) **EXISTING FACILITY**: A facility constructed or approved under a pertinent ordinance prior to the effective date of this ordinance or a proposed facility for which the permit application is complete for processing on or before the effective date of this ordinance. Any development with a permit approval which has been remanded to the Planning Board by a court of competent jurisdiction for further proceedings relating to noise limits or noise levels prior to the effective date of this ordinance shall not be deemed an existing facility and this ordinance shall apply to the existing noise sources at that facility.

(7) **EXISTING HOURLY SOUND LEVEL**: The hourly sound level resulting from routine operation of an existing facility prior to the first expansion that is subject to this ordinance.

(8) **EQUIVALENT SOUND LEVEL**: The level of the mean-square A-weighted sound pressure during a stated time period, or equivalently the level of the sound exposure during a stated time period divided by the duration of the period.

NOTE: For convenience, a one-hour equivalent sound level should begin approximately on the hour.

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(9) **HISTORIC AREAS**: Historic sites administered by the Bureau of Parks and Recreation of the Maine Department of Agriculture, Conservation and Forestry, with the exception of the Arnold Trail.

(10) **HOURLY SOUND LEVEL**: The equivalent sound level for one hour measured or computed in accordance with this ordinance.

(11) **LOCALLY-DESIGNATED PASSIVE RECREATION AREA**: Any site or area designated by Rumford for passive recreation that is open and maintained for public use and which:

(a) has fixed boundaries,
(b) is owned in fee simple by Rumford or is accessible by virtue of public easement,
(c) is identified and described in the Rumford comprehensive plan, and
(d) has been identified and designated at least nine months prior to the filing of the applicant's permit application.

(12) **MAXIMUM SOUND LEVEL**: Ten times the common logarithm of the square of the ratio of the maximum sound to the reference sound of 20 micropascals. Symbol: L_{AFmax}.

(13) **MAXIMUM SOUND**: Largest A-weighted and fast exponential-time-weighted sound during a specified time interval. Unit: pascal (Pa).

(14) **RESIDENCE**: A building or structure, including manufactured housing, maintained for permanent or seasonal residential occupancy providing living, cooking and sleeping facilities and having permanent indoor or outdoor sanitary facilities, excluding recreational vehicles, tents and watercraft.

(15) **PRE-DEVELOPMENT AMBIENT**: The ambient sound at a specified location in the vicinity of a facility site prior to the construction and operation of the proposed facility or expansion.

(16) **PROTECTED LOCATION**: Any location, accessible by foot, on a parcel of land containing a residence or planned residence or approved residential subdivision, house of worship, academic school, college, library, duly licensed hospital or nursing home near the facility site at the time a permit application is submitted; or any location within a State Park, Baxter State Park, National Park, Historic Area, a nature preserve owned by the Maine or National Audubon Society or the Maine Chapter of the Nature Conservancy, The Appalachian Trail, the Moosehorn National Wildlife Refuge, federally-designated wilderness area, state wilderness area designated by statute (such as the Allagash Wilderness Waterway), or locally-designated passive recreation area; or any location within consolidated public reserve lands designated by rule by the Bureau of Public Lands of the Maine Department of Agriculture, Conservation and Forestry as a protected location.

At protected locations more than 500 feet from living and sleeping quarters within the above noted buildings or areas, the daytime hourly sound level limits shall apply regardless of the time of day.

Houses of worship, academic schools, libraries, State and National Parks without camping areas, Historic Areas, nature preserves, the Moosehorn National Wildlife Refuge, federally-designated wilderness areas without camping areas, state wilderness areas designated by statute without camping areas, and locally-designated passive recreation areas without camping areas are considered protected locations only during their regular hours of operation and the daytime hourly sound level limits shall apply regardless of the time of day.

Transient living accommodations are generally not considered protected locations; however, in certain special situations where it is determined by the Planning Board that the health and welfare of the guests and/or the economic viability of the establishment will be unreasonably impacted, the Planning Board may designate certain hotels, motels, campsites and duly licensed campgrounds as protected locations.

This term does not include buildings and structures located on leased camp lots, owned by the applicant, used for seasonal purposes.

For purposes of this definition, (1) a residence is considered planned when the owner of the parcel of land on which the residence is to be located has received all applicable building and land use permits and the time for beginning construction under such permits has not expired, and (2) a residential subdivision is considered approved when the developer has received all applicable land use permits for the subdivision and the time for beginning construction under such permits has not expired.

(17) **QUANTIFIABLE NOISE STANDARD**: A numerical limit governing noise from developments that has been duly enacted by ordinance by a local municipality.

(18) **ROUTINE OPERATION**: Regular and recurrent operation of regulated sound sources associated with the purpose of the facility and operating on the facility site.

(19) **SHORT DURATION REPETITIVE SOUNDS**: A sequence of repetitive sounds which occur more than once within an hour, each clearly discernible as an event and causing an increase in the sound level of at least 6 dBA on the fast meter response above the sound level observed immediately before and after the event, each typically less than ten seconds in duration, and which are inherent to the process or operation of the development and are foreseeable.

(20) **SOUND COMPONENT**: The measurable sound from an audibly identifiable source or group of sources.

(21) **SOUND LEVEL**: Ten times the common logarithm of the square of the ratio of the frequency-weighted and time-exponentially averaged sound pressure to the reference sound of 20 micropascals. For the purpose of this ordinance, sound level measurements are obtained using the A-weighted frequency response and fast dynamic response of the measuring system, unless otherwise noted.

(22) **SOUND PRESSURE**: Root-mean-square of the instantaneous sound pressures in a stated frequency band and during a specified time interval. Unit: pascal (Pa).

(23) **SOUND PRESSURE LEVEL**: Ten times the common logarithm of the square of the ratio of the sound pressure to the reference sound pressure of 20 micropascals.

(24) **TONAL SOUND**: for the purpose of this ordinance, a tonal sound exists if, at a protected location, the one-third octave band sound pressure level in the band containing the tonal sound exceeds the arithmetic average of the sound pressure levels of the two contiguous one-third octave bands by 5 dB for center frequencies at or between 500 Hz and 10,000 Hz, by 8 dB for center frequencies at or between 160 and 400 Hz, and by 15 dB for center frequencies at or between 25 Hz and 125 Hz.

NOTE: Additional acoustical terms used in work associated with this ordinance shall be used in accordance with the following American National Standards Institute (ANSI) standards:

ANSI S12.9-1988 - American National Standard Quantities and Procedures for Description and Measurements of Environmental Sound, Part 1;

ANSI S3.20-1973 - American National Standard Psychoacoustical Terminology;

ANSI S1.1-1960 - American National Standard Acoustical Terminology.

15.7 Measurement Procedures

These procedures specify measurement criteria and methodology for use with wind energy facility applications, compliance and complaint response. They provide methods for measuring the sound from operation of the wind energy facility and set forth the information to be reported.

(1) **Measurement Criteria**

(a) **Measurement Personnel**

Measurements shall be supervised by personnel who are well qualified by training and experience in measurement and evaluation of environmental sound, or by personnel trained to operate under a specific measurement plan approved by the Planning Board.

(2) **Measurement Instrumentation**

(a) A sound level meter or alternative sound level measurement system used shall meet all of the Type 0 or 1 performance requirements of American National Standard Specifications for Sound Level Meters, ANSI S1.4.

(b) An integrating sound level meter (or measurement system) shall also meet the Type 0 or 1 performance requirements for integrating/averaging in the International Electrotechnical Commission Standard on Integrating-Averaging Sound Level Meters, IEC Publication 61672-1 and ANSI 1.43.

(c) A filter for determining the existence of tonal sounds shall meet all the requirements of the American National Standard Specification for Octave-Band and Fractional Octave-Band Analog and Digital Filters, ANSI S1.11 and IEC 61260, Type 3-D performance.

(d) The acoustical calibrator used shall be of a type recommended by the manufacturer of the sound level meter and one that meets the requirements of American National Standard Specification for Acoustical Calibrators, ANSI S1.40.

(e) The microphone windscreen used shall be of a type recommended by the manufacturer of the sound level meter.

(f) Anemometer(s) used for surface (10 meter (m)) (32.8 feet) wind speeds shall have a minimum manufacturer specified accuracy of ±1 mph providing data in one second integrations and 10 min. average/maximum values for the evaluation of atmospheric stability.

(g) Audio recording devices shall be time stamped (hh:mm:ss) and at a minimum 16 bit digital, recording the sound signal output from the measurement microphone at a minimum sampling rate of 24 thousand (k) samples per second to be used for identifying events. Audio recording and compliance data collection shall occur through the same microphone/sound meter and bear the same time stamp.

(3) **Equipment Calibration**

(a) The sound level meter shall have been calibrated by a laboratory within 12 months of the measurement, and the microphone's response shall be traceable to the National Institute of Standards and Technology.

(b) Field calibrations shall be recorded before and after each measurement period and at shorter intervals if recommended by the manufacturer.

(c) Anemometer(s) and vane(s) shall be calibrated annually by the manufacturer to maintain stated specification.

(4) **Compliance Measurement Location, Configuration, and Environment**

(a) Compliance measurement locations shall be at nearby protected locations that are most likely affected by the sound from routine operation of the wind energy facility subject to permission from the respective property owner(s).

(b) To the greatest extent possible, compliance measurement locations shall be at the center of unobstructed areas that are maintained free of vegetation and other structures or material that is greater than 2 feet in height for a 75-foot radius around the sound and audio monitoring equipment.

(c) To the greatest extent possible, meteorological measurement locations shall be at the center of open flat terrain, inclusive of grass and a few isolated obstacles less than 6 feet in height for a 250-foot radius around the anemometer location. The meteorological data measurement location need not be coincident with the sound and audio measurement

location provided there is no greater than a 5 mile separation between the data collection points and the measurement locations have similar characterization, i.e. same side of the mountain ridge, etc.

(d) Meteorological measurements of wind speed and direction shall be collected using anemometers at a 10-meter height (32.8 feet) above the ground. Results shall be reported, based on 1-second integration intervals, and shall be reported synchronously with hub level and sound level measurements at 10-minute measurement intervals. The wind speed average and maximum shall be reported.

(e) The sound microphone shall be positioned at a height of approximately 4 to 5 feet above the ground, and oriented in accordance with the manufacturer's recommendations.

(f) When possible, measurement locations should be at least 50 feet from any sound source other than the wind energy facility's power generating sources.

(5) **Compliance Data Collection, Measurement and Retention Procedures**

(a) Measurements of operational, sound, audio and meteorological data shall occur as set forth in subsections G(5)(g through j).

(b) All operational, sound and meteorological data collected shall be retained by the wind energy facility for a period of 1 year from the date of collection and is subject to inspection by the Planning Board and submission to the Planning Board upon request.

(c) All audio data collected shall be retained by the wind energy facility for a period of four weeks from the date of collection unless subject to a complaint filed in accordance with the complaint protocol approved by the Planning Board and is subject to inspection by the Planning Board and submission to the Planning Board upon request. Specific audio data collected that coincides with a complaint filed in accordance with the approved complaint protocol shall be retained by the wind energy permit holder for a period of 1 year from the date of collection and is subject to inspection by the Planning Board and submission to the Planning Board upon request.

(d) Written notification of the intent to collect compliance data must be received by the Planning Board prior to the collection of any sound level data for compliance purposes. The notification shall state the date and time of the compliance measurement period.

NOTE: *Notice received via electronic mail is sufficient regardless of whether it is received during business hours.*

(e) Compliance data from the operation of a wind energy facility shall be submitted to the Planning Board, at a minimum:

(1) Once during the first year of facility operation;

(2) Once during each successive fifth year thereafter until the facility is decommissioned;

(3) In response to a complaint regarding operation of the wind energy facility as set forth in subsection C(2)(j) and any subsequent enforcement by the Code Enforcement Officer; and

(4) For validation of an applicant's calculated sound levels when requested by the Planning Board.

(f) All sound level, audio and meteorological data collected during a compliance measurement period for which the Planning Board has been notified that meets or exceeds the specified wind speed parameters shall be submitted to the Planning Board for review and approval. All data submittals shall be submitted to the Planning Board within 30 days of notification of intent to collect compliance data.

(g) Measurement shall be obtained during weather conditions when the wind turbine sound is most clearly noticeable, generally when the measurement location is downwind of the wind energy facility and maximum surface wind speeds < 6 miles per hour (mph) with concurrent turbine hub-elevation wind speeds sufficient to generate the maximum continuous rated sound power from the nearest wind turbines to the measurement location. A downwind location is defined as within 45^0 of the direction between a specific measurement location and the acoustic center of the five nearest wind turbines.

NOTE: *These conditions typically occur during inversion periods usually between 11 pm and 5 am.*

(h) In some circumstances, it may not be feasible to meet the wind speed and operations criteria due to terrain features or limited elevation change between the wind turbines and monitoring locations. In these cases, measurement periods are acceptable if the following conditions are met:

(1) The difference between the L_{A90} and L_{A10} during any 10-minute period is less than 5 dBA; and

(2) The surface wind speed (10 meter height) (32.8 feet) is 6 mph or less for 80% of the measurement period and does not exceed 10 mph at any time, or the turbines are shut down during the monitoring period and the difference in the observed L_{A50} after shut down is equal to or greater than 6 dBA; and

(3) Observer logs or recorded sound files clearly indicate the dominance of wind turbine(s).

(i) Measurement intervals affected by increased biological activities, leaf rustling, traffic, high water flow, aircraft flyovers or other extraneous ambient noise sources that affect the

ability to demonstrate compliance shall be excluded from all compliance report data. The intent is to obtain 10-minute measurement intervals that entirely meet the specific criteria.

(j) Measurements of the wind energy facility sound shall be made so as to exclude the contribution of sound from other facility equipment that is exempt from this ordinance.

(6) **Reporting of Compliance Measurement Data**

Compliance Reports shall be submitted to the Planning Board within 30 days of notification of intent to collect compliance data or upon request by the Planning Board and shall include, at a minimum, the following:

(a) A narrative description of the sound from the wind energy facility for the compliance measurement period result;

(b) The dates, days of the week and hours of the day when measurements were made;

(c) The wind direction and speed, temperature, humidity and sky condition;

(d) Identification of all measurement equipment by make, model and serial number;

(e) All meteorological, sound, windscreen and audio instrumentation specifications and calibrations;

(f) All A-weighted equivalent sound levels for each 10-minute measurement interval;

(g) All L_{A10} and L_{A90} percentile levels;

(h) All 10 minute 1/3 octave band linear equivalent sound levels (dB);

(i) All short duration repetitive events characterized by event amplitude. Amplitude is defined as the peak event amplitude minus the average minima sound level immediately before and after the event, as measured at an interval of 50 milliseconds ("ms") or less, A-weighted and fast time response, i.e. 125 ms. For each 10-minute measurement interval short duration repetitive sound events shall be reported by number for each observed amplitude integer above 5 dBA.

(j) Audio recording devices shall be time stamped (hh:mm:ss) and at a minimum 16 bit digital, recording the sound signal output from the measurement microphone at a minimum sampling rate of 24 thousand (k) samples per second to be used for identifying events. Audio recording and compliance data collection shall occur through the same microphone/sound meter and bear the same time stamp. Should any sound data collection be observed by a trained attendant, the attendant's notes and observations may be substituted for the audio files during the compliance measurement period;

(k) All concurrent time stamped turbine operational data including the date, time and duration of any noise reduction operation or other interruptions in operations if present; and

(l) All other information determined necessary by the Planning Board.

Section 16. Decommissioning Plan

Pursuant to section 14.12, the Applicant shall provide a plan for decommissioning a Type 2 or Type 3 Wind Energy Facility. The decommissioning plan shall include, but shall not be limited to the following:

1. 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.

2. 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 re-seeded, 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 Facility. Any changes to the approved decommissioning plan shall be subject to review and approval by the Code Enforcement Officer.]

3. An estimate of the total cost of decommissioning less salvage value of the equipment and itemization of 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.

4. 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 Planning Board that upon the end of the useful life of the Wind Energy 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 Energy Facility.

Explanation: The proposed change will enact the current Model Wind Energy Facility Ordinance for the State of Maine which is less restrictive than the current Town Wind Energy Facility Ordinance. For example, there are fewer setbacks in the Model Ordinance than are in the current ordinance (*e.g.*, the Current Ordinance's 4,000 foot setback from the property line of a non-participating property owner is eliminated) and it also establishes several rebuttable presumptions which the current Ordinance does not have – *e.g.*, that a DEP certificate submitted with a permitting application presumes that the proposed Wind Energy Facility meets the Ordinance's criteria of Shadow Flicker restrictions, Noise Controls and safety setbacks. In addition, the dBa limits are higher in the proposed Ordinance than in the current Ordinance. There are other changes as well which are less restrictive in the proposed Ordinance.