Wind Energy Facility Ordinance for Town of Moscow, Maine

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1.0
Title
This Ordinance shall be known as the Wind Energy Facility Ordinance for Town of Moscow .

2.0
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.

3.0
Purpose
The purpose of the Ordinance is to provide for the construction and operation of Wind Energy Facilities in theTown of Moscow , subject to reasonable conditions that will protect the public health, safety, and welfare.

4.0
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 35A 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 the Town of Moscow.

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. § 480B 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.

5.0
Applicability
5.1
This Ordinance applies to any Wind Energy Facility proposed for construction in Town of Moscow after the effective date of this Ordinance. This Ordinance does not apply to Associated Facilities unless the Generating Facilities are located withinTown of Moscow, in which case this Ordinance applies to both the Generating Facilities and the Associated Facilities.
5.1
A Wind Energy Facility that is the subject of an application determined to be complete by the Moscow 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.
6.0
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 Town of Moscow 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.
7.0
Effective Date
This Ordinance becomes effective on _____ .

8.0
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 Aggregate Turbine Max. # of DEP Site Location Local Review

Type Capacity Height Turbines Permit Required and Approval

1A <100 kW < 80’ 1 No Codes
Moscow Planning Board

1B <100 kW > 80’ NA No Moscow
Planning Board
2 =100 kW NA NA No 1 Moscow
Planning Board
3 = 100 kW NA NA Yes 2 Moscow
Planning Board
1 Per 35-A MRS §3456. DEP Certificate required if energy generated is for sale or use by a Person other than the generator.
2 Per 38 MRS §482(2)

9.0
Administration
9.1
Review and Approval Authority
1.
The Moscow Planning Board 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 Moscow 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 Town of Moscow 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 Appendix A of this Ordinance.

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 Moscow Planning Board 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 Moscow 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 Moscow Planning Board determines tht the proposed changes do, the Moscow Planning Board shall consider whether the 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 Moscow 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 Moscow Planning Board may waive any submission requirement if the Moscow Planning Board 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 Moscow 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 the decision, the Moscow Planning Board 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 Moscow Planning Board 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 Moscow Planning Board before submitting an application. At this pre-application meeting, the Moscow Planning Board 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 Moscow 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 Moscow Planning Board , the Moscow 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 Moscow 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 Moscow 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 Moscow 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 Moscow 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 Moscow 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 Moscow 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 Moscow 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 Moscow 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 Moscow Planning Board and the Codes 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 Moscow 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 Moscow 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 Moscow 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 Moscow Planning Board to schedule another hearing.

9.7
Professional Services
In reviewing the application for compliance with this Ordinance, the Moscow 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 Codes 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 Codes 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 Codes 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 Codes Enforcement Officer determines, in the officer's reasonable discretion, that the parties have not resolved the alleged violation, the Codes 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 Codes Enforcement Officer or the Moscow Planning Board under this Ordinance may appeal the decision to the Board of Appeals.

10.0
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 Appendix A.

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 Codes 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 Appendix B, subsection B (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 Appendix C.

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 Moscow 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 Moscow Planning Board to ensure compliance with this Ordinance.
11.0
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 Moscow Planning Board 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.

12.0
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.

a. WT will be setback 2,500 feet from any occupied building or scenic resource.

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.

13.0
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:
45 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:
55dBA 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.

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 13.1.4.

The Codes 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.
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 Codes 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 Moscow Wind Energy Facility Ordinance and in consultation with the Codes Enforcement Officer, take remedial action deemed necessary by the Codes Enforcement Officer to ensure compliance with those limits. Remedial action that the Codes 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 Codes Enforcement Officer may require removal of the Wind Turbine(s) only if the Codes 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 Codes Enforcement Officer, unless the Applicant provides information that the Moscow 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 Moscow Planning Board for release of the surety when the Wind Energy Facility has been removed to the satisfaction of the Codes Enforcement Officer.

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 Appendix B

If there is a conflict between a provision of Appendix B and another provision of this ordinance, the provision of Appendix B shall apply.

14.2
Use of Public Roads

1.

The Applicant shall identify all state and local public roads to be used within Town of Moscow 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 Moscow 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 Moscow Planning Board, that it has financial resources sufficient to comply with subsection 4, below, and theMoscow 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 Moscow 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 Moscow 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 Moscow 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 Moscow Planning Board by any interested Person within 30 days of acceptance of the application as complete. The Moscow Planning Board shall determine if the presumption is rebutted based on a preponderance of evidence in the record.

2.

The Moscow 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.

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 Moscow 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 Moscow 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 Moscow 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 Moscow 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 Moscow 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 Moscow 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 Moscow Planning Board.

14.9

Liability Insurance

The Applicant or an Applicant's designee acceptable to the Moscow 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 Moscow 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 Codes Enforcement upon request.

14.12 Decommissioning

The Applicant shall prepare a decommissioning plan in conformance with Appendix C.

APPENDIX

A

Application Fees

1. Preliminary Cost Agreement. At the time an Application for a WEF Site Permit is filed with the Town of Moscow, the Applicant shall execute for the benefit of the Town an agreement to pay and provide adequate surety guaranteeing payment of the cost of the investigation, review and processing of the Application, including without limitation by way of enumeration, legal, engineering, acoustical, planning, environmental, and staff administrative costs as provided in this Ordinance. The agreement shall provide for the establishment of an escrow account and cash deposit to be provided by the Applicant in an amount deemed sufficient by the Planning Board to begin review under this Ordinance. The Town may use the funds in the escrow account in connecition with the application review as all owed by this Ordinance. In the event that the cash deposit in escrow is insufficient to complete the review, the Town shall notify the Applicant that additional funds are necessary and of the amount reasonably believed necessary to complete the review, and the Applicant shall provide the additional funds. The Planning Board shall not begin processing, or in the case of where additional funds are requested, shall not continue processing, the Applicaition until the preliminary cost agreement is approved and signed and until the required surety, or additional surety, and/or funds are provided to the Town.

2.The applilcation fee for a Site Permit shall consist of a base application fee of $2,500.00, plus $100.00 for every WT included in the project.

3.The application fee for an Operational Lilcense is $1,000.00.

4.The annual fee for an Operational License is $250.00.

APPENDIX
B
Control of Noise

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:

A.
Sound Level Limits
(1)
Sound from Routine Operation of Facility.
(a) Except as noted in subsections (b) and (c) below, the hourly sound levels resulting from routine operation of the facility and measured in accordance with the measurement procedures described in subsection F shall not exceed the following limits:
(i)
At any property line of the facility site or contiguous property owned by the Applicant or Participating Land Owner(s), whichever is farther from the proposed facility’s regulated sound sources:
75 dBA at any time of day.

(ii)
At any Protected Location in an area for which the zoning, or, if unzoned, the existing use or use contemplated under a comprehensive plan, is not predominantly commercial, transportation, or industrial;
60 dBA between 7:00 a.m. and 7:00 p.m.
(the "daytime hourly limit"), and
50 dBA between 7:00 p.m. and 7:00 a.m.
(the "nighttime hourly limit")
.

(iii) At any Protected Location in an area for which the zoning, or, if unzoned, the existing use or use contemplated under a comprehensive plan, is predominantly commercial, transportation, or industrial:
70 dBA between 7:00 a.m. and 7:00 p.m.
(the "daytime hourly limit"), and
60 dBA between 7:00 p.m. and 7:00 a.m.
(the 'nighttime hourly limit')
.

(iv) For the purpose of determining whether the use of an unzoned area is predominantly commercial, transportation, or industrial (e.g. non-residential in nature), the Codes Enforcement Officer shall consider the municipality's comprehensive plan, if any. Furthermore, the usage of properties abutting each Protected Location shall be determined, and the limits applied for that Protected Location shall be based upon the usage occurring along the greater portion of the perimeter of that parcel; in the event the portions of the perimeter are equal in usage, the limits applied for that Protected Location shall be those for a Protected Location in an area for which the use is not predominantly commercial, transportation, or industrial.

(v)
When a proposed facility is to be located in an area where the daytime pre-development ambient hourly sound level at a Protected Location is equal to or less than 45 dBA and/or the nighttime pre-development ambient hourly sound level at a Protected Location is equal to or less than 35 dBA, the hourly sound levels resulting from routine operation of the facility and measured in accordance with the measurement procedures described in subsection F shall not exceed the following limits at that Protected Location:
55 dBA between 7:00 a.m. and 7:00 p.m.
(the "daytime hourly limit"), and
45 dBA between 7:00 p.m. and 7:00 a.m.
(the "nighttime hourly limit")
.

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

NOTE: Highway traffic noise can be predicted using the nomograph method of FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108, December, 1978.

(vi) Notwithstanding the above, the Applicant need not measure or estimate the pre-development ambient hourly sound levels at a Protected Location if he demonstrates, by estimate or example, that the hourly sound levels resulting from routine operation of the facility will not exceed 50 dBA in the daytime or 40 dBA at night.
(b) If the Applicant chooses to demonstrate by measurement that the daytime and/or nighttime pre-development ambient sound environment at any Protected Location near the facility site exceeds the daytime and/or nighttime limits in subsection 1(a)(ii) or 1(a)(iii) by at least 5 dBA, then the

daytime and/or nighttime limits shall be 5 dBA less than the measured daytime and/or nighttime pre-development ambient hourly sound level at the location of the measurement for the corresponding time period.
(c)
For any Protected Location near an existing facility, the hourly sound level limit for routine operation of the existing facility and all future expansions of that facility shall be the applicable hourly sound level limit of 1(a) or 1(b) above, or, at the Applicant's election, the existing hourly sound level from routine operation of the existing facility plus 3 dBA.
(d) For the purposes of determining compliance with the above sound level limits, 5 dBA shall be added to the observed levels of any tonal sounds that result from routine operation of the facility.
(e) When routine operation of a facility produces short duration repetitive sound, the following limits shall apply:

(i)
For short duration repetitive sounds, 5 dBA shall be added to the observed levels of the short duration repetitive sounds that result from routine operation of the facility for the purposes of determining compliance with the above sound level limits.
(ii)
For short duration repetitive sounds which the municipal entity responsible for review and approval of a pending application under section 9.1 determines, due to their character and/or duration, are particularly annoying or pose a threat to the health and welfare of nearby neighbors, 5 dBA shall be added to the observed levels of the short duration repetitive sounds that result from routine operation of the facility for the purposes of determining compliance with the above sound level limits, and the maximum sound level of the short duration repetitive sounds shall not exceed the following limits:
(a) At any Protected Location in an area for which the zoning, or, if unzoned, the existing use or use contemplated under a comprehensive plan, is not predominantly commercial, transportation, or industrial:
65 dBA between 7:00 a.m. and 7:00 p.m., and
55 dBA between 7:00 p.m. and 7:00 a.m.

(b) At any Protected Location in an area for which the zoning, or, if unzoned, the existing use or use contemplated under a comprehensive plan, is predominantly commercial, transportation, or industrial:
75 dBA between 7:00 a.m. and 7:00 p.m., and
65 dBA between 7:00 p.m. and 7:00 a.m.

(c)
The methodology described in subsection 1(a)(iv) shall be used to determine whether the use of an unzoned area is predominantly commercial, transportation, or industrial.
(d) If the Applicant chooses to demonstrate by measurement that the pre-development ambient hourly sound level at any Protected Location near the facility site exceeds 60 dBA between 7:00 a.m. and 7:00 p.m., and/or 50 dBA between 7:00 p.m. and 7:00 a.m., then the maximum sound level limit for short duration repetitive sound shall be 5 dBA greater than the measured pre-development ambient hourly sound level at the location of the measurement for the corresponding time period.
(e) For any Protected Location near an existing facility, the maximum sound level limit for short duration repetitive sound resulting from routine operation of the existing facility and all future expansions and modifications of that facility shall be the applicable maximum sound level limit of (e)(ii)(a) or (e)(ii)(b) above, or, at the Applicant's election, the existing maximum sound level of the short duration repetitive sound resulting from routine operation of the existing facility plus 3 dBA.

NOTE: The maximum sound level of the short duration repetitive sound shall be measured using the fast response [LAFmax]. See the definition of maximum sound level.

(2)
Sound from Construction of a Facility
(a) The sound from construction activities between 7:00 p.m. and 7:00 a.m. is subject to the following limits:

(i)
Sound from nighttime construction activities shall be subject to the nighttime routine operation sound level limits contained in subsections 1(a) and 1(b).
(ii)
If construction activities are conducted concurrently with routine operation of the facility, then the combined total of construction and routine operation sound shall be subject to the nighttime routine operation sound level limits contained in subsections 1(a) and 1(b).
(iii) Higher levels of nighttime construction sound are permitted when a duly issued permit authorizing nighttime construction sound in excess of these limits has been granted by the Codes Enforcement Officer.
(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 the facility site 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.
(3)
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 1.
(b) Sound from occasional, major, scheduled overhaul activities shall be subject to the construction sound level limits contained in subsection 2. If overhaul activities are conducted concurrently with routine operation and/or construction activities, the combined total of the overhaul, routine operation and construction sound shall be subject to the construction sound level limits contained in subsection 2.
B.
Submissions
(1)
Facilities with Minor Sound Impact.
An Applicant proposing facility with minor sound impact may choose to file, as part of the permit 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 this ordinance, 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 Section A. 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 Applicant's plan and intent to make adequate provision for the control of noise. The applicant's plan shall contain information such as the following, when appropriate:

(a) Maps and descriptions of the land uses, local zoning and comprehensive plans for the area potentially affected by sounds from the facility.
(b) A description of major sound sources, including tonal sound sources and sources of short duration repetitive sounds, associated with the construction, operation and maintenance of the proposed facility, including their locations within the proposed facility.
(c)
A description of the daytime and nighttime hourly sound levels and, for short duration repetitive sounds, the maximum sound levels expected to be produced by these sound sources at Protected Locations near the proposed facility.
(d)
A description of the Protected Locations near the proposed 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 this regulation.
C.
Terms and Conditions
The municipal entity responsible for review and approval of the pending application under 9.1 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 municipal entity responsible for review and approval of the pending application under 9.1 from requiring an Applicant to demonstrate that sound levels from a facility will not unreasonably disturb wildlife or adversely affect wildlife populations in accordance with 12.2. In addition, the sound level limits shall not preclude the municipal entity responsible for review and approval of the pending application under 9.1, 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.

D. Waiver from Sound Level Limits
Town of Moscow recognizes that there are certain facilities or activities associated with facilities for which noise control measures are not reasonably available. Therefore, the municipal entity responsible for review and approval of the pending application under section 9.1 may grant a waiver from any of the sound level limits contained in this ordinance upon (1) a showing by the Applicant that he or she has made a comprehensive assessment of the available technologies for the facility and that the sound level

limits cannot practicably be met with any of these available technologies, and (2) a finding by the municipal entity responsible for review and approval of the pending application under section 9.1 that the proposed facility will not have an unreasonable impact on Protected Locations. In addition, a waiver may be granted by the municipal entity responsible for review and approval of the pending application under section 9.1 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 municipal entity responsible for review and approval of the pending application under section 9.1 that the proposed facility will not have an unreasonable impact on Protected Locations. The municipal entity responsible for review and approval of the pending application under section 9.1 shall consider the request for a waiver as part of the review of a completed permit application. In granting a waiver, the municipal entity responsible for review and approval of the pending application under section 9.1 may, as a condition of approval, impose terms and conditions to ensure that no unreasonable sound impacts will occur.

E. Definitions
Terms used herein are defined below for the purpose of this noise regulation.

(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 facility or expansion of the 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 F(4.2).]
(6) EXISTING FACILITY: A Wind Energy Facility legally constructed before the effective date of this ordinance or a proposed Wind Energy Facility for which the Application is found complete on or before the effective date of this ordinance. Any facility with an approved permit application which has been remanded to the municipal entity responsible for review and approval of the application under 9.1 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 the 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.)

(9) HISTORIC AREAS: Historic sites administered by the Bureau of Parks and Lands of the Maine Department of Conservation, 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 Moscow for passive recreation that is open and maintained for public use and which:

(a) has fixed boundaries,
(b) is owned in fee simple by Moscow or is accessible by virtue of public easement,
(c) is identified and described in Moscow comprehensive plan, and
(d) has been identified and designated at least nine months prior to submission of the Applicant's Wind Energy Facility 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: LAFmax.

(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 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 facility site at the time an application for a Wind Energy Facility permit is submitted under this ordinance; or

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.

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.

Transient living accommodations are generally not considered Protected Locations; however, in certain special situations where it is determined by the municipal entity responsible for review and approval of the application under 9.1 that the health and welfare of the guests or the economic viability of the establishment will be unreasonably impacted, the municipal entity responsible for review and approval of the application under 9.1 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)ROUTINE OPERATION: Regular and recurrent operation of regulated sound sources associated with the purpose of the facility and operating on the facility site.

(18)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 facility and are foreseeable.

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

(20)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.

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.

F.
Measurement Procedures
(1) Scope. These procedures specify measurement criteria and methodology for use, with applications, compliance testing and enforcement. They provide methods for measuring the ambient sound and the sound from routine operation of the facility, and define the information to be reported. The same methods shall be used for measuring the sound of construction and maintenance activities.
(2)
Measurement Criteria
2.1 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 municipal entity responsible for review and approval of the pending application under 9.1.

2.2 Measurement Instrumentation
(a) A sound level meter or alternative sound level measurement system used shall meet all of the Type 1 or 2 performance requirements of American National Standard Specifications for Sound Level Meters, ANSI S1.4-1983.
(b) An integrating sound level meter (or measurement system) shall also meet the Type 1 or 2 performance requirements for integrating/averaging in the International Electrotechnical Commission

Standard on Integrating-Averaging Sound Level Meters, IEC Publication 804 (1985).
(c)
A filter for determining the existence of tonal sounds shall meet all the requirements of-American National Standard Specification for Octave-Band and Fractional Octave-Band Analog and Digital Filters, ANSI S1.11-1986 for Order 3, Type 3-D performance.
(d) An acoustical calibrator shall be used of a type recommended by the manufacturer of the sound level meter and that meets the requirements of American National Standard Specification for Acoustical Calibrators, ANSI S1.40-1984.
(e) A microphone windscreen shall be used of a type recommended by the manufacturer of the sound level meter.
2.3 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 Bureau of Standards.
(b) Field calibrations shall be recorded before and after each measurement period and at shorter intervals if recommended by the manufacturer.
2.4 Measurement Location, Configuration and Environment

(a) Except as noted in subsection (b) below, measurement locations shall be at nearby Protected Locations that are most likely affected by the sound from routine operation of the facility.
(b) For determining compliance with the 75 dBA property line hourly sound level limit described in subsection A(l)(a)(i), measurement locations shall be selected at the property lines of the proposed facility or contiguous property owned by the Applicant, as appropriate.
(c)
The 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.
(d) Measurement locations should be selected so that no vertical reflective surface exceeding the microphone height is located within 30 feet. When this is not possible, the measurement location may be closer than 30 feet to the reflective surface, but under no circumstances shall it be closer than 6 feet.
(e) When possible, measurement locations should be at least 50 feet from any regulated sound source on the facility.
(f)
Measurement periods shall be avoided when the local wind speed exceeds 12 mph and/or precipitation would affect the measurement results.
2.5 Measurement Plans. Plans for measurement of pre-development ambient sound or post-facility sound may be discussed with the Codes Enforcement Officer.
(3)
Measurement of Ambient Sound
3.1 Pre-development Ambient Sound
Measurements of the pre-development ambient sound are required only when the Applicant elects to establish the sound level limit in accordance with subsections A(1)(b) and A(1)(e)(ii)(d) for a facility in an area with high ambient sound levels, such as near highways, airports, or pre-existing facilities; or when the Applicant elects to establish that the daytime and nighttime ambient hourly sound levels at representative Protected Locations exceed 45 dBA and 35 dBA, respectively.

(a) Measurements shall be made at representative Protected Locations for periods of time sufficient to adequately characterize the ambient sound. At a minimum, measurements shall be made on three different weekdays (Monday through Friday) during all hours that the facility will operate. If the proposed facility will operate on Saturdays and/or Sundays, measurements shall also be made during all hours that the facility will operate.
(b) Measurement periods with particularly high ambient sounds, such as during holiday traffic activity, significant insect activity or high coastline waves, should generally be avoided.
(c)
At any measurement location the daytime and nighttime ambient hourly sound level shall be

computed by arithmetically averaging the daytime and nighttime values of the measured one hour equivalent sound levels. Multiple values, if they exist, for any specific hour on any specific day shall first be averaged before the computation described above.
3.2 Post-Facility Ambient Sound
(a) Measurements of the post-facility ambient one hour equivalent sound levels and, if short duration repetitive sounds are produced by the facility, the maximum sound levels made at nearby Protected Locations and during representative routine operation of the facility that are not greater than the applicable limits of subsection C clearly indicate compliance with those limits.

(b) Compliance with the limits of subsection A(l)(b) may also be demonstrated by showing that the post-facility ambient hourly sound level, measured in accordance with the procedures of subsection 3.1 above during routine operation of the facility, does not exceed the pre-development ambient hourly sound level by more than one decibel, and that the sound from routine operation of the facility is not characterized by either tonal sounds or short duration repetitive sounds.
(c)
Compliance with the limits of subsection A(1)(e)(ii)(d) may also be demonstrated by showing that the post facility maximum sound level of any short duration repetitive sound, measured in accordance with the procedures of subsection 3.1 above, during routine operation of the facility, does not exceed the pre-development ambient hourly sound level by more than five decibels.
(d) .If any of the conditions in (a), (b) or (c) above are not met, compliance with respect to the applicable limits must be determined by measuring the sound from routine operation of the facility in accordance with the procedures described in subsection 4.
(4)
Measurement of the Sound from Routine Operation of Facility.
4.1 General
(a) Measurements of the sound from routine operation of facilities are generally necessary only for specific compliance testing purposes in the event that community complaints result from operation of the facility, for validation of an Applicant's calculated sound levels when requested by the municipal entity responsible for review and approval of the pending application under 9.1, for determination of existing hourly sound levels for an existing facility or for enforcement by the Codes Enforcement Officer.
(b) Measurements shall be obtained during representative weather conditions when the facility sound 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 facility and inversion periods (which most commonly occur at night).
(c)
Measurements of the facility sound shall be made so as to exclude the contribution of sound from facility equipment that is exempt from this regulation.
4.2 Measurement of the Sound Levels Resulting from Routine Operation of the Facility.
(a) When the ambient sound levels are greater than the sound level limits, additional measurements can be used to determine the hourly sound level that results from routine operation of the facility. These additional measurements may include diagnostic measurements such as measurements made close to the facility and extrapolated to the Protected Location, special checkmark measurement techniques that include the separate identification of audible sound sources, or the use of sound level meters with pause capabilities that allow the operator to exclude non-facility sounds.
(b) For the purposes of computing the hourly sound level resulting from routine operation of the facility, sample diagnostic measurements may be made to obtain the one hour equivalent sound levels for each sound component.
(c)
Identification of tonal sounds produced by the routine operation of a facility for the purpose of adding the 5 dBA penalty in accordance with subsection A(l)(d) requires aural perception by the measurer, followed by use of one-third octave band spectrum analysis instrumentation. If one or more of the sounds of routine operation of the facility are found to be tonal sounds, the hourly sound level component for tonal sounds shall be computed by adding 5 dBA to the one hour equivalent sound

level for those sounds.

(d) Identification of short duration repetitive sounds produced by routine operation of a facility requires careful observations. For the sound to be classified as short duration repetitive sound, the source(s) must be inherent to the process or operation of the facility and not the result of an unforeseeable occurrence. If one or more of the sounds of routine operation of the facility are found to be short duration repetitive sounds, the hourly sound level component for short duration repetitive sounds shall be computed by adding 5 dBA to the one hour equivalent sound level for those sounds. If required, the maximum sound levels of short duration repetitive sounds shall be measured using the fast response [LAFmax]. The duration and the frequency of occurrence of the events shall also be measured. In some cases, the sound exposure levels of the events may be measured. The one hour equivalent sound level of a short duration repetitive sound may be determined from measurements of the maximum sound level during the events, the duration and frequency of occurrence of the events, and their sound exposure levels.
(e) The daytime or nighttime hourly sound level resulting from routine operation of a facility is the energy sum of the hourly sound level components from the facility, including appropriate penalties, (see (c) and (d) above). If the energy sum does not exceed the appropriate daytime or nighttime sound level limit, then the facility is in compliance with that sound level limit at that Protected Location.
(5)
Reporting Sound Measurement Data. The sound measurement data report should include the following:
(a)
The dates, days of the week and hours of the day when measurements were made.
(b)
The wind direction and speed, temperature, humidity and sky condition.
(c)
Identification of all measurement equipment by make, model and serial number.
(d)
The most recent dates of laboratory calibration of sound level measuring equipment.
(e)
The dates, times and results of all field calibrations during the measurements.
(f)
The applicable sound level limits, together with the appropriate hourly sound levels and the measurement data from which they were computed, including data relevant to either tonal or short duration repetitive sounds.
(g) A sketch of the site, not necessarily to scale, orienting the facility, the measurement locations, topographic features and relevant distances, and containing sufficient information for another investigator to repeat the measurements under similar conditions.
(h)
A description of the sound from the facility and the existing environment by character and location.

APPENDIX C

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 Codes Enforcement Officer.]

3.
An estimate of the total cost of decommissioning 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 Moscow 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.