

## Town of Jackson Wind Turbine Ordinance

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## **TOWN OF JACKSON WIND TURBINE ORDINANCE**

### **1.0 Title**

This Ordinance shall be known as the Town of Jackson Wind Turbine Ordinance (Ordinance).

### **2.0 Purpose**

The purpose and intent of this Ordinance is to protect the public safety, health and welfare of the residents and property owners of the Town of Jackson who may be affected by the development and operation of a Wind Turbine or Wind Turbine Project, and to support and promote appropriate wind energy development consistent with the goals of the Jackson Comprehensive Plan.

### **3.0 Authority**

This Ordinance is adopted pursuant to the enabling provisions of Article VIII, Part 2, Section 1 of the Maine Constitution (Municipal Home Rule), the provisions of Title 30-A M.R.S.A. Section 3001 (Home Rule), and the provisions of the Planning and Land Use Regulation Act, Title 30-A M.R.S.A. Section 4312, etc. seq. (*Comprehensive Planning and Land Use Regulation, or "Growth Management Act"*). This Ordinance is based on and pursuant to the Jackson Comprehensive Plan and the Jackson Land Use Ordinance.

### **4.0 Conflicts with Other Ordinances, Laws and Regulations**

Whenever a provision of this Ordinance conflicts with or is inconsistent with another provision of this Ordinance or of any other ordinance, regulation or statute from any jurisdiction, the more restrictive provision shall control.

### **5.0 Validity and Severability**

Should any section or provision of this Ordinance be declared by the courts to be invalid, such decision shall not invalidate any other section or provision of the Ordinance.

### **6.0 Effective Date**

This Ordinance shall become effective upon the date of its passage.

## 7.0 Applicability

- 7.1 This Ordinance applies to any wind turbine that is the subject of a permit or Operational License application pending before, or filed with the Town of Jackson after, the effective date of the Ordinance.
- 7.2 Wind turbines already constructed and in operation prior to the effective date of this Ordinance are exempt from this Ordinance, including upgrades or changes to the tower, nacelle, or rotors that would not otherwise affect the classification of the turbine under this Ordinance, and including minor changes to siting if the changes are in compliance with the setback provisions of this Ordinance.

## 8.0 Definitions

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

Blade Reflection – means the intermittent reflection of the sun off the surface of the blades of a Wind Turbine.

Community Owned Wind – means a Wind Turbine Project that meets any one of the following criteria: 1) Town of Jackson owning 51% or more of the project, 2) Town of Jackson owning less than 51% of the project but in which the Town of Jackson serves as the managing partner, 3) the majority of the direct financial benefits of the project accruing to all of the residents of the Town of Jackson, exclusive of any tax considerations. Community Owned Wind may include or incorporate consumer-owned transmission and distribution utilities, rural electric cooperatives, municipal electric districts, or other electrical generation and transmission models established by State law to facilitate and encourage local electrical generation. Community Owned Wind does not include partial or minority municipal ownership of Wind Turbine Projects without the Town of Jackson or Town of Jackson being the managing partner, and does not include Wind Turbine Projects located in Jackson having majority ownership or control by private individuals, private businesses, or non-profit organizations not under direct control of the Town of Jackson.

DEP Certification means a certification issued by the Department of Environmental Protection pursuant to Title 35-A M.R.S.A. §3456 for a Wind Turbine Project that is subject to this Ordinance.

Enforcing Authority: means the individual or group delegated by the Town of Jackson to be responsible for enforcing the standards of this Ordinance after a permit is granted to a Wind Turbine Project.

Good Utility Practice means any of the practices, methods and acts with respect to the safe operation of the Wind Turbine or Wind Turbine Project engaged in or approved by a significant portion of the electric utility industry and, in particular, those portions of the industry with experience in the construction, operation, and maintenance of wind turbines during the relevant period; or any of the practices, methods and acts which, in the exercise of reasonable judgment

in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability and safety.

Ice Throw – means accumulated ice buildup on the blades of a Wind Turbine that is or can be thrown during normal spinning or rotation.

Meteorological Tower (MET Tower) means a meteorological tower used for the measurement of wind speed.

Mitigation Waiver means a legally enforceable, written agreement between the Applicant and a Non-participating Landowner in which the non-participating landowner waives certain setback, noise or other protections afforded in the Ordinance.

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

Nameplate Capacity means the electrical power rating of an individual wind turbine as certified by the manufacturer and normally expressed in watts, kilowatts (kW), or megawatts (MW).

Noise means any sound produced by a Wind Turbine Project. Noise does need to be loud to constitute an interference with the health and well-being of residents.

Non-participating Landowner means any landowner other than a Participating Landowner.

Occupied Building means any structure that is, or is likely to be, occupied by persons or livestock. This includes, but is not limited to dwellings, places of business, places of worship, schools, and barns.

Operational License means a license or a license renewal issued by the Enforcing Authority to operate a Type 3, or Type 4 Wind Turbine Project in accordance with this Ordinance.

Owner/operator means the person or entity with legal ownership of the Wind Turbine Project, including successors and assigns, that has the authority and responsibility to operate the Wind Turbine Project on a day-to-day basis. An Owner/operator must have the legal authority to represent and bind.

Participating Landowner means one or more persons that hold title in fee to the property on which the Wind Turbine Project is proposed to be located pursuant to an agreement with the development Owner/operator.

Permit means a permit granted by the Planning Board to construct a Wind Turbine Project. A permit does not authorize operation of a Type 3 or Type 4 Wind Turbine Project. For Type 3 and Type 4 Wind Turbine Projects, an Operational License must be obtained after completion of construction.

Permitting Authority means the Code Enforcement Officer or Planning Board, designated as responsible for conducting the review of a particular Wind Turbine application

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

Scenic or Special Resource means a scenic resource of state or national significance, as defined in Title 35-A M.R.S.A. §3451(9), any site registered in the National Registry of Historic Places, or a scenic or special resource of local significance identified as such in the Jackson Comprehensive Plan, or listed on the Visual Resource Inventory of the Jackson Comprehensive Plan.

Setback means the minimal allowable horizontal distance as measured from the center of a Wind Turbine to a defined point (i.e., a property line or an Occupied Building).

Setback Area means the entire land base that falls within a specified setback.

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.

Shadow Flicker Receptor means any Occupied Building on a Non-participating Landowner's property plus an additional 100 foot boundary surrounding the exterior of the Occupied Building, the entire outdoor public area surrounding schools, churches and public buildings, and public roads with a posted speed limit greater than 25 mph.

Sight Line Representation means a line depicted in profile extending from an observer's eye to the lowest point of a viewed tower.

Sound is a fluctuation of air pressure which is a propagation as a wave through air

Structure has the same meaning as in 38 MRSA § 482.

Tower means the freestanding structure on which the 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.

Utility Commission means the body created and authorized by the Town of Jackson to serve as the Enforcing Authority for Type 3 and Type 4 Wind Turbine Projects.

Wind Turbine means a wind energy conversion system that converts wind energy into electricity through the use of a wind turbine generator, and includes the nacelle, rotor, tower and pad transformer if any.

Wind Turbine Project means one or more Wind Turbines and all related and supporting items including but not limited to all buildings, structures, electrical equipment, substations, transmission lines, access roads, parking lots, areas to be stripped or graded, and areas to be landscaped or screened.

## 9.0 Classification of Wind Turbines and Meteorological Towers

For the purpose of administering the permitting process, all Wind Turbines and Wind Turbine Projects will be classified and permitted according to the following definitions:

### 9.1 Wind Turbine Classifications:

Type 1 – Small Wind Turbine means a single wind turbine with a nameplate capacity less than 10 kW, and a turbine height less than 150 feet.

Type 2 – Intermediate Wind Turbine means a single wind turbine with a nameplate capacity less than 100 kW, and a turbine height less than 150', and not requiring a Site Location of Development permit from the Maine Department of Environmental Protection (DEP) pursuant to Title 35-A M.R.S.A. §3456.

Type 3 – Large Wind Turbine means up to three wind turbines with a nameplate capacity less than 1 MW, and a turbine height less than 300', regardless of whether approval is required by the Department of Environmental Protection under 35-A M.R.S.A. §3451, et seq. (Expedited Permitting of Grid-Scale Wind Energy) or Title 38 M.R.S.A § 481, et seq. (Site Location of Development Act).

Type 4 – Industrial Wind Turbine means one or more wind turbines with a nameplate capacity of greater than or equal to 1 MW, or a turbine height greater than or equal to 300', regardless of whether approval is required by the Department of Environmental Protection under 35-A M.R.S.A. §3451, et seq. (Expedited Permitting of Grid-Scale Wind Energy) or Title 38 M.R.S.A § 481, et seq. (Site Location of Development Act).

Multiple Wind Turbines within the same Classification shall be referred to as a Type 1, 2, 3, or 4 Wind Turbine Project.

### 9.2 Meteorological Towers (MET Towers)

MET towers shall be permitted under the same standards as a Type 1 Wind Turbine for MET towers less than 100 feet and Type 2 for MET towers greater than or equal to 100 feet. A permit for a temporary MET tower shall be valid for a maximum of one year after which a single extension of up to one year may be granted. The MET tower shall be removed within 90 days of the expiration of the permit.

These classifications are summarized in Table 1 below.

**Table 1: Classification of Wind Turbines**

<b>Type/Scale</b>	<b>Nameplate Capacity</b>	<b>Turbine Height</b>	<b>Maximum No. of Turbines</b>	<b>Special Conditions</b>
Type 1, Small Wind Turbine	<= 10 kW	and <150'	1	N/A
Type 2, Intermediate Wind Turbine/	<= 100 kW	and < 150'	1	N/A
Type 3, Large Wind Turbine/ Development	< 1 MW	and < 300'	<= 3	N/A
Type 4, Industrial Wind Turbine/ Development	>=1 MW	or <= 300'	N/A	Or > 3 Large Wind Turbines

**10.0 Permit Requirement**

- 10.1 A permit is required for all Wind Turbines and Wind Turbine Projects built in the Town of Jackson after the effective date of this Ordinance.
- 10.2 The Planning Board will aggregate, to the fullest and most practical extent possible, and pursuant to Section 27.0, all Wind Turbines held under common or related ownership into a single Wind Turbine Project. With the exception of Projects owned by the Town of Jackson, separate corporate legal structures under common or joint ownership or under common or joint control will be deemed to be a single project for purposes of permit and licensing notwithstanding separate corporate legal ownership.
- 10.3 Receipt of a permit under this Ordinance does not relieve the Owner/operator from the responsibility to obtain any other such permits or approvals as required under the Town of Jackson Land Use Ordinance or pursuant to other State or Federal law.

**11.0 Permitting Authority**

- 11.1 The Town of Jackson Code Enforcement Officer (CEO) is authorized to review all Type 1 Wind Turbine applications and may approve, reject or approve such applications with conditions in accordance with the standards of the Ordinance.
- 11.2 The Town of Jackson Planning Board (Planning Board, or “PB”) is authorized to review all Type 2, 3 and 4 Wind Turbine applications and may approve, reject or approve such applications with conditions in accordance with the standards of the Ordinance.



- 11.3 Maine Department of Environmental Protection (DEP) approval may be required for a Wind Turbine Project. The Planning Board shall consider, at a minimum and to the extent applicable, pertinent findings in the DEP certification when making its determination.
- 11.4 The applicant is to provide evidence of Town approval to use Town property and evidence of approval of the Town:
- Any Wind Turbine or Wind Turbine Project to be built on property owned by the Town
  - Any Type 2, 3 or 4 Wind Turbine to be partially or totally owned by the Town.

**Table 2: Summary of Permitting Review and Authority**

<b>Type</b>	<b>CEO</b>	<b>PB</b>	<b>Town</b>
1	Yes	N/A	If Town Property or Ownership
2	N/A	Yes	If Town Property or Ownership
3	N/A	Yes	If Town Property or Ownership
4	N/A	Yes	If Town Property or Ownership

**12.0 Operational License**

- 12.1 An Operational License is required for the operation of all Type 3 and Type 4 Wind Turbine Projects.
- 12.2 Applications for an Operational License shall be submitted to the Enforcing Authority.
- 12.3 An Operational License shall be valid for five years.
- 12.4 The granting of an Operational License is conditional upon the following criteria:
- 12.4.1 Demonstration by the Applicant of compliance with performance standards of the Ordinance. For a new Operational License, the granting of the permit by the Planning Board shall be accepted as a demonstration of compliance.
- 12.4.2 For the initial Operational License, the Wind Turbine Project must successfully pass an inspection for structural and operational integrity conducted by a Maine licensed professional engineer. The inspection shall be conducted after construction is completed but before operations begin. Success will be demonstrated by submission of a copy of the engineer’s inspection report to the Enforcing Authority. If the report specifies that repairs, maintenance or changes

to safety procedures are necessary, the owner shall provide the Enforcing Authority with proof that the repairs have been completed, a written schedule for any recommended maintenance, and documentation of any updated safety procedures.

12.4.3 For a renewal of an Operational License, the inspection procedure and criteria specified in Section 12.4.2 shall be completed six months prior to the expiration of the current Operational License.

12.5 Applications for Operational License renewals shall be submitted to the Enforcing Authority 6 months prior to their expiration.

12.6 Failure to comply with the provisions of this Ordinance may result in the suspension or revocation of the Operational License pursuant to Section 23.

12.7 An Operational License shall be deemed abandoned if its operation has ceased for twelve consecutive months. An Operational License expires immediately upon abandonment.

12.8 An Operational License shall automatically terminate upon transfer of ownership or operation of the Wind Turbine Project. The proposed new owner or operator shall be required to obtain a new Operational License, which must be in place prior to the transfer of ownership or operation of the Wind Turbine Project.

12.9 An Operational License shall automatically terminate upon any amendment to a permit.

12.10 Fees

12.14.1 The application fee for an Operational License is \$1,000.

12.14.2 The annual fee for an existing Operational License is \$250.00.

### **13.0 Standards for Setbacks, Noise, Shadow Flicker, and Mitigation Waivers<sup>1</sup>**

This section addresses the interrelated standards of setbacks, shadow flicker and mitigation waivers and applies to all Wind Turbines.

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Noise setbacks in this ordinance for Type 2, 3, and 4 wind turbines are based on a recommendation of a minimum one-mile setback from property line, assuming a 1.5 MW industrial wind turbine with a turbine height of approximately 390 - 400 feet. This is the size of turbine currently installed at Mars Hill and Freedom, Maine as of 2009

A setback from the property line of 13x the turbine height for a 400' turbine is 5200 feet, approximately one mile.

Setbacks for public roads are based on an approximation of a 1680-foot debris field for ice throw. Four times the turbine height for a 400' Wind Turbine is equal to 1600 feet.

Setbacks provide a number of important Ordinance functions, including but not limited to: 1) working in conjunction with noise standards as a primary means of mitigating potential and unforeseen noise complaints; 2) providing for public safety in the event of a catastrophic turbine failure or ice throw; 3) mitigating the effects of shadow flicker from larger turbines; and 4) mitigating perceived negative impacts of affected view sheds of abutters.

In general, the taller the turbine the greater the setback needed to mitigate noise, debris hazards, shadow flicker and view sheds. However, setbacks for noise must also be implemented in conjunction with specific wind turbine noise limits (see Section 12.2 - Noise Standards). Although larger wind turbines appear to generate the highest proportion of published noise complaints, poorly designed smaller turbines can also cause serious nuisance noise.

### 13.1 Setback Standards

#### 13.1.1 Setback standards for Type 1 Wind Turbines:

- a. Non-participating Landowner Property Lines –Type 1 Wind Turbines less than or equal to 100' will be set back from the property line of any Non-participating Landowner a distance of no less than 1.5 times the turbine height. Type 1 Wind Turbines greater than 100' and less than 150' will be set back from the property line of any Non-participating Landowner a distance of no less than 3 times the turbine height. Non-participating property owners may waive this setback with a written Mitigation Waiver. (See Section 13.4 -Mitigation Waiver).
- b. Public Roads - Type 1 Wind Turbines will be set back from any public road a distance no less than 1.5 times the turbine height.

#### 13.1.2 Setback standards for Type 2,3,and 4 wind turbines:

- a. Non-participating Landowner Property Lines – Type 2, 3 and 4 Wind Turbines will be set back from the property line of any non-participating landowner a distance of no less than 13 times the turbine height. Non-participating property owners may waive this setback with a written Mitigation Waiver (see Section 13.4 - Mitigation Waiver).
- b. Public Roads - Type 2, 3 and 4 Wind Turbines will be set back from any public road a distance no less than 4 times the turbine height.

#### 13.1.3 Setbacks from Scenic or Special Resources

All Wind Turbines exceeding 80 feet or tree height on site, whichever is greater, must be set back a minimum of 2,500 feet from any Scenic or Special Resource

as defined in Section 8.

**Table 3: Summary of Setback Standards**

<b>Turbine Type</b>	<b>Non-participating Property Line</b>	<b>Public Roads</b>	<b>Scenic or Special Resources</b>
Type 1 <=100'	1.5x Turbine Height	1.5x Turbine Height	2500' if greater than 80' or tree height
Type 1 >100' and < 150'	3x Turbine Height	3x Turbine Height	2500' if greater than 80' or tree height
Type 2,3&4	13x Turbine Height	4x Turbine Height	2500' if greater than 80' or tree height

### 13.2 Noise Standards

#### 13.2.1 Noise Limits at Non-participating Property Lines

For Type 1 and Type 2 Wind Turbines, audible at the property line, exclusive of background noise, shall not exceed 35 dB(A) from 6 AM (8 AM on Sundays) to 8:30 PM and 30 dB(A) from 8:30 PM to 6 AM (8 AM on Sundays). Property owners may waive this noise restriction with a written Mitigation Waiver. (see Section 13.4 -Mitigation Waiver).

#### 13.2.2 Noise Standards for Type 3 and 4 wind turbines:

- a. Audible noise levels (dBA) due to wind turbine operation will not exceed:

The pre-construction ambient noise level by more than 5dBA as measured at any property line. Pre-ambient studies shall be conducted, by the applicant, for all properties located within 2 times the setback of proposed wind turbine site.

Non-participating property owners may waive these noise restrictions with a written Mitigation Waiver. (see Section 13.4 -Mitigation Waiver).

- b. Low frequency noise levels (dBC) due to wind turbine operation as measured inside an occupied building or at any property line will not exceed:
- i. 20 decibels (measured as dBC) above the pre-construction ambient noise level (measured as dBA). Pre-ambient studies shall be conducted, by the applicant, for all properties located within 2 times the setback of proposed wind turbine site.

- ii. 50 dBC.

Property owners may waive these noise restrictions with a written Mitigation Waiver. (see Section 13.4 Mitigation Waiver)

- c. Noise measurement standards and procedures that must be used are contained in Appendix A.

### 13.2.3 Violations and Enforcement

13.2.3.1 A serious noise violation is defined as three (3) verified noise complaints as verified by the Enforcing Authority attributed to the operation of a Wind Turbine within a period of one month or less with a measurable noise level greater than: 1) 10 dBA above the noise limits listed in section 13.2.1 for Type 1 and Type 2 Turbines; or 2) 10 dBA above pre-construction ambient noise levels or 50 dBC inside or at an Occupied Building. For serious violations the Owner/operator will respond within five (5) days of the complaint. Testing, if necessary, will be paid for by the Owner/operator and hired independently by the Town, and will commence within ten working days of the complaint. Testing will be conducted for a minimum of a one-month period according to the measurement standards and procedures in Appendix A. The Owner/operator is responsible for mitigating the problem within ten (10) days from a final determination of any cause attributed to the operation of the Wind Turbine. Failure to mitigate the problem will result in the Wind Turbine being declared unsafe and emergency shutdown procedures will be implemented per Section 23.5 of this Ordinance.

13.2.3.2 Noise violations not determined to be an emergency pursuant to Sections 23.5, or not determined to be a serious violation pursuant to Section 13.2.3.1, shall be managed pursuant to Section 23.7. Testing, if necessary, will be hired by the Enforcing Authority and will be paid for from the testing escrow account. Testing will be conducted for an appropriate period of time and conducted according to the measurement standards and procedures set forth in Appendix A. The Owner/operator is responsible for mitigating the problem within 30 days from a final determination of any cause attributed to the operation of the Wind Turbine Project. Mitigation involving significant construction or physical modification may have up to 90 days to be completed pursuant to Section 17.4.1.

### 13.3 Shadow Flicker and Blade Reflection

13.3.1 Wind Turbines shall be designed and sited so that shadow flicker and/or blade reflection will not fall on a shadow flicker receptor as defined in Section 8. The flicker or reflection shall not exceed 10 hours per year for any given shadow flicker receptor.

### 13.3.2 Violations and Enforcement

13.3.2.1 A serious shadow flicker or blade reflection violation is defined as: 1) three (3) days of shadow flicker or blade reflection, in any one month falling on an Occupied Building receptor that, if annualized, will be estimated to be more than 20 hours per year; or 2) any complaint of shadow flicker or blade reflection from vehicles on Route 7. The predictive annualized calculation for Occupied Buildings shall assume clear weather, but take into account seasonal tracking of the sun. For serious violations the Owner/operator will respond within five (5) days of the complaint. The Owner/operator is responsible for mitigating the problem within ten (10) days from a final determination of any cause attributed to the operation of the Wind Turbine. Failure to mitigate the problem will result in the Wind Turbine being declared unsafe and emergency shutdown procedures will be implemented per Section 23.5 of this Ordinance.

13.3.2.2 Shadow flicker and blade reflection not determined to be a serious violation pursuant to Section 13.3.3.1, shall be managed pursuant to Section 23.7. Field verification and modeling, if necessary, will be hired by the Enforcing Authority and paid for from the testing escrow account. The Owner/operator is responsible for mitigating the problem within 30 days from a final determination of any cause attributed to the operation of the Wind Turbine Project. Mitigation involving significant construction or physical modification may have up to 90 days to be completed pursuant to Section 17.4.1.

### 13.4 Mitigation Waiver

Non-participating Landowners may waive certain specified protections in this Ordinance using a written, legally enforceable Mitigation Waiver negotiated between the wind turbine Applicant and the Non-participating Landowner. Copies of executed Mitigation Waivers must be included with the submission of the wind turbine application. The Mitigation Waiver must be recorded in the Waldo County Register of Deeds, describe the benefited and burdened properties and run with the land. The deed must advise all subsequent owners of the burdened property.

## 14.0 **General Standards**

All Wind Turbine Projects shall comply with the appropriate Standards of this Ordinance. No wind turbine shall cause unreasonable health or safety conditions. The Town of Jackson reserves the right to impose additional standards as circumstances warrant.

## **15.0 Standards for all Wind Turbines (Type 1, 2, 3, and 4)**

### **15.1 Building Codes**

All components of the Wind Turbine Project shall conform to relevant and applicable local, state and national building codes.

### **15.2 Electrical Components and Interconnections**

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

### **15.3 Signal Interference**

Wind Turbine Projects will be designed and sited to prevent the disruption or loss of radio, telephone, television, or similar signals. Additional standards must be met for Type 3 and 4 Wind Turbines (See section 17.7)

### **15.4 Guide wires**

Bird flight diverters must be installed on any tower with guide wires.

## **16.0 Additional Standards for Type 2, 3 and 4 Wind Turbines**

### **16.1 Appearance and Visibility Standards**

16.1.1 Wind Turbines shall be a non-reflective, 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 Turbine Project.

16.1.2 The design of the buildings and related structures shall, to the extent possible, use materials, colors, textures, screening and landscaping that will blend the site to the natural setting and existing environment.

16.1.3 Wind Turbines shall not be artificially lighted, 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 Turbine Project. Additional lighting standards must be met for Type 3 and Type 4 Wind Turbines (see Section 17.2.7).

16.1.4 Wind Turbines 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 any appropriate warnings.

16.1.5 Each Wind Turbine shall be located to reasonably maximize the effectiveness of existing vegetation, structures and topographic features to screen views of the

Wind Turbine(s) from Occupied Buildings of Non-participating Land Owners, Scenic Resources and public roads.

- 16.1.6 When existing features do not screen views of a Wind Turbine from Occupied Buildings, Scenic Resources and public roads, screening shall be provided, where feasible and effective, through the planting of trees and/or shrubs. Generally, such plantings should be of native varieties. 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 Occupied Buildings, Scenic Resources and/or public roads.

## 16.2 Safety Standards

### 16.2.1 Design

The design of the Wind Turbines and Wind Turbine Project shall conform to applicable industry standards, including those of the American National Standards Institute, and shall comply with standards promulgated by Underwriters Laboratories, Det Norske Veritas, Germanischer Lloyd Wind Energies or other similar certifying organizations appropriate for the turbines' size and classification. If two standards are in conflict, then the most restrictive would apply.

### 16.2.2 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 fifteen (15) feet above ground surface.

### 16.2.3 Warnings

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

### 16.2.4 Controls and Brakes

Each Wind Turbine shall be equipped with a redundant braking system that includes both aerodynamic over-speed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall operate in fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over-speed protection.

### 16.2.5 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.

## 16.3 Liability Insurance

The Applicant shall maintain a current general liability policy for the Wind Turbine and/or Wind Turbine Project that covers bodily injury and property damage with limits in an amount commensurate with the scope and scale of the Turbine or Project as



determined by the Planning Board. The Planning Board amount may not be unreasonable as determined by industry standards. The Applicant or its designee shall provide certificates of insurance to the Planning Board, and provide a copy of each annual renewal to the Enforcing Authority. The Enforcing Authority amount may not be unreasonable as determined by industry standards.

## **17.0 Additional Standards for Type 3 and 4 Turbines**

### **17.1 Financial Performance Standards**

The Applicant must demonstrate that the Wind Turbine Project is financially viable and that the Owner/operator has the financial ability to complete the project. Proof of financial viability shall include but not be limited to:

1. A copy of the Business Plan for the Wind Turbine Project
2. Relevant wind data for the Wind Turbine Project.
3. Proof of financing.

### **17.2 Environmental Impact Standards**

#### **17.2.1 Comprehensive Plan**

Proposed Wind Turbine and Wind Turbine Projects shall comply with the Jackson Land Use Ordinance.

#### **17.2.2 Environmentally Sensitive Area**

The plan for the Wind Turbine Project will reflect the natural capabilities of the site to support development. Environmentally sensitive areas, including but not limited to wetlands, steep slopes, watersheds, floodplains, significant wildlife habitats, fisheries, habitat for rare or endangered plants and animals, unique natural communities and natural areas, sand and gravel aquifers will be maintained and preserved to the maximum extent. The Applicant shall demonstrate appropriate measures for protecting these resources, including both during construction and post construction.

#### **17.2.3 Wildlife Protection**

- 17.2.3.1 The Applicant will demonstrate that the Wind Turbine or Wind Turbine Project will not have a significant adverse effect on area wildlife and wildlife habitat. Such analysis shall include but not be limited to adverse effects to birds, bats, game animals, and habitat fragmentation. In addition, the Applicant must demonstrate that the Wind Turbine Project will have no undue adverse effect on rare, threatened or endangered wildlife. The wildlife and habitat analysis must include appropriate pre-construction field studies and at least three sets of corresponding post-construction field studies conducted at periodic intervals within 3 years after the Wind Turbines become

operational. These studies will be conducted by a qualified wildlife biologist hired by the Town of Jackson and paid for by the Applicant. In making its determination under this section the Planning Board shall also consider the written comments and/or recommendations, if any, of the Maine Department of Inland Fisheries and Wildlife (MDIFW) and the Maine Natural Areas Program (MNAP).

- 17.2.3.2 If the post-construction field studies demonstrate substantive harm to birds, bats, game animals or habitat fragmentation, the Town, and the Owner/operator shall develop an appropriate mitigation plan. The Owner/operator will be responsible for the full cost of implementing the mitigation plan.

#### 17.2.4 Raptor Habitat

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

#### 17.2.5 Erosion Control

The Wind Turbine Project will be designed, constructed and maintained in accordance with accepted erosion and sedimentation control methods. The acceptability of the proposed methods will be judged utilizing the “Maine Erosion Control Handbook for Construction: Best Management Practices”, March 2003. Whenever sedimentation is caused by stripping vegetation or grading it shall be the responsibility of the Owner/operator to remove it from all adjoining surfaces, drainage systems and watercourses and to repair any damage at the Owner/operator’s expense as quickly as possible.

#### 17.2.6 Groundwater Protection

The Wind Turbine Project will not adversely affect the quality or quantity of groundwater. The Applicant shall have to demonstrate to the Planning Board’s satisfaction that there are no unusual risks to the groundwater created by the project. The Board may require as a condition of permit approval, that spill prevention and control measures be installed, and that all activities involving potentially permeable pollutants, including at delivery and transfer points, be conducted under cover and over an impervious surface surrounded by dikes. If a Wind Turbine foundation is proposed in a bedrock area, a baseline of all wells, springs and certified public water sources within a half-mile radius of the foundation shall be established. If degradation or contamination occurs, permanent remedies shall be the responsibility of the Owner/operator.

#### 17.2.7 Light Pollution

The Wind Turbine Project shall be designed to minimize the amount of nighttime light pollution. The Applicant shall provide a plan showing lighting on and around all Wind Turbines and Associated Facilities. Lighting on Wind Turbines shall be illuminated to Federal Aviation Administration (FAA) minimal standards

using only red rather than white lights, if possible. The minimum number of Wind Turbines will be illuminated, per FAA rules. . Lighting shall be shielded from ground view to FAA maximum standards.

#### 17.2.8 Relation to DEP Certification and Permitting

If DEP has issued a Site Location of Development Act permit for a Type 3 Wind Turbine or Wind Turbine Project there is a rebuttable presumption that the development meets the requirements of section 17.2.2 and 17.2.3. If a DEP Site Location of Development permit is required for a Type 4 Wind Turbine or Wind Turbine Project, the Planning Board may take the recommendations under advisement to determine compliance with Section 17.2.2 and 17.2.3.

### 17.3 Scenic or Special Resource Standards

#### 17.3.1 Comprehensive Plan

Proposed Wind Turbine and Wind Turbine Projects shall comply with the Jackson Land Use Ordinance.

17.3.2 Except as otherwise provided in this subsection, if a Type 3 or Type 4 Wind turbine is proposed for location in, or is visible from, a Scenic or Special Resource, the Applicant shall provide the Planning Board with a visual impact assessment that addresses the evaluation criteria in subsection 17.3.4. There is a rebuttable presumption that a visual impact assessment is not required for those portions of a Type 3 or Type 4 Wind Turbine that are located more than 3 miles, measured horizontally, from a Scenic or Special Resource. The Planning Board may require a visual impact assessment for portions of the Type 3 or Type 4 Wind Turbine 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 or Special Resource. Any interested Person must submit information intended to rebut the presumption to the Planning Board within 30 days of acceptance of the application as complete. The Planning Board shall determine if the presumption is rebutted based on a preponderance of evidence in the record.

17.3.3 The Planning Board shall determine, based on consideration of the evaluation criteria in subsection 17.3.4, whether the Type 3 or Type 4 Wind Turbine has an unreasonable adverse effect on the scenic character or existing uses related to scenic character of that Scenic or Special Resource.

17.3.4 In making its determination pursuant to subsection 17.3.3, and in determining whether an Applicant for a Type 3 or 4 Wind Turbine located more than 3 miles from a Scenic Resource must provide a visual impact assessment in accordance with subsection 17.3.2, the Planning Board shall consider:

- a. The significance of the potentially affected Scenic or Special Resource;

- b. The existing character of the surrounding area;
- c. The expectations of the typical viewer;
- d. The Type 3 or Type 4 Wind Turbine Project's purpose and the context of the proposed activity;
- e. The extent, nature and duration of potentially affected public uses of the Scenic or Special Resource and the potential effect on the public's continued use and enjoyment of the Scenic or Special Resource; and
- f. The scope and scale of the potential effect of views of the Wind Turbine Project on the Scenic or Special Resource, including but not limited to issues related to the number and extent of Wind Turbines visible from the Scenic or Special Resource, the distance from the Scenic or Special Resource and the effect of prominent features of the Wind Turbine Project on the landscape.

#### 17.3.5 Relation to DEP Certification and Permitting

If DEP has issued a Site Location of Development Act permit for a Type 3 Wind Turbine or Wind Turbine Project, there is a rebuttable presumption that the development meets the requirements of Sections 17.3.2, 17.3.3 and 17.3.4. If a DEP Site Location of Development permit is required for a Type 4 Wind Turbine or Wind Turbine Project, the Planning Board may take the recommendations under advisement to determine compliance with Sections 17.3.2, 17.3.3 and 17.3.4.

#### 17.4 Construction/Design Standards

##### 17.4.1 General Construction Standards

All Wind Turbines shall be constructed in compliance with Good Utility Practice for Wind Turbines. In the event that, after inspection by a qualified expert in Good Utility Practice, the Town concludes that any of the Wind Turbines were not constructed in compliance with Good Utility Practice or constitutes a danger to persons or property, then upon notice being provided, Owner/operator shall have 90 days to bring the non-compliant Wind Turbine(s) into compliance with such standards. If 90 days is insufficient time to cure the non-compliance, the Owner/operator shall present a plan to the Town describing the reason for the delay and the time frame for the cure to be put in place.

#### 17.4.2 Electrical Design Standards

On-site power and transmission lines shall be placed underground. Wind Turbines shall be engineered according to Good Utility Practice to absolutely prevent transient ground currents and stray voltage. The Applicant shall demonstrate how these standards will be met prior to permit approval.

#### 17.4.3 Transmission Line Standards

The Applicant must, in conjunction with the Maine Public Utility Commission (PUC), prepare a written report documenting all anticipated changes, modifications or upgrades to the public utility grid within the Town of Jackson due to the Wind Turbine Project. The written report must include necessary approvals from the PUC, proof of leases or required right of ways for transmission lines, and any alternatives to the final plan considered. The report must document the residual capacity remaining in the local utility grid that is available for use by other local electrical generating projects.

#### 17.4.4 Geological Stability

Wind Turbines shall not be constructed on areas of geological instability. The Applicant shall demonstrate that this standard is met.

### 17.5 Operational Performance Standards

#### 17.5.1 General Performance Standards

All Wind Turbines shall be operated and maintained consistent with Good Utility Practice for comparable facilities.

#### 17.5.2 Repairs and Maintenance

The Owner/operator shall be required to repair and replace the wind turbine generator and associated equipment consistent with Good Utility Practice as needed to keep the Wind Turbine and Associated Facilities in good repair and operating condition.

#### 17.5.3 Inspections

Wind Turbines shall be inspected after construction is completed but before becoming operational, and at least every five years thereafter, for structural and operational integrity by a Maine licensed professional engineer, and the Owner/operator shall submit a copy of the inspection report to the Enforcing Authority. If such report recommends that repairs or maintenance are to be conducted, the owner shall provide the Enforcing Authority a written schedule for the repairs or maintenance. Failure to complete the repairs or maintenance in accordance with the schedule shall be deemed a violation of this Ordinance.

#### 17.5.4 Operational License

All Type 3 and Type 4 Wind Turbine Projects require a valid Operational License to operate as per Section 12.

### 17.6 Public Safety and Health Standards

#### 17.6.1 Fire Protection

The Applicant shall prepare a plan in consultation with the Town of Jackson fire department as part of the permitting process. The plan shall address all activities at the Wind Turbine Project from the start of construction through the end of power generation and the final removal and restoration of the site, and shall describe a response plan to address all identified potential fire, rescue and hazardous materials scenarios. The Owner/operator shall ensure that the Wind Turbine Project complies with the following control and prevention measures and assumes responsibility for all associated incremental costs:

- a. Use of fire proof or fire resistant building materials and buffers or fire retardant landscaping around Wind Turbines and Wind Turbine Projects as appropriate.
- b. Incorporation of a self contained fire protection system to address nacelle fires or a written explanation of why this standard would create an undue hardship.
- c. Maintenance of firebreak areas as appropriate, cleared of vegetation and maintained as a fire/fuel break as long as the Wind Turbine is in operation.
- d. All road access to the Wind Turbine Project shall be brought up to Town of Jackson minor roads standards, as per the Jackson Land Use Ordinance Section 7, to accommodate fire and rescue vehicles. [Per Don Nickerson]
- e. Provision for any additional fire fighting or rescue personnel, services, training, materials, or vehicles as may be required to address any emergency related to the Wind Turbine Project that is beyond the current capabilities and duties of the local fire department.

#### 17.6.2 Hazardous Wastes:

The Owner/operator shall be responsible for compliance with all ordinances, state regulations and laws applicable to the generation, storage, cleanup, and disposal of hazardous wastes generated during any phase of the project's life.

#### 17.6.3 Blasting

Owner/operator shall not undertake any blasting in connection with the construction of the Wind Turbine Project unless Applicant has notified the Town and submitted a blasting plan consistent with applicable laws and regulations. The

plan must be reviewed and approved by the Enforcing Authority before any blasting may take place.

#### 17.7 Communications and Electromagnetic Interference Standards

- 17.7.1 Wind Turbine Projects shall be sited and operated so that they do not interfere with emergency (fire, police/sheriff, ambulance) radio two way communications (base stations, mobile, and hand held radios, including digital) and/or paging, television, telephone (including cellular and digital), microwave, satellite (dish), navigational, internet or radio reception to neighboring areas. The Owner/operator of the project shall be responsible for the full cost of any remediation necessary to provide equivalent alternate service or correct any problems, including relocation or removal of the Wind Turbine, and any and all related transmission lines, transformers, and other components related to the interference.
- 17.7.2 The Owner/operator of the Wind Turbine Project shall respond within one day to any request for communications interference investigation by any emergency agency (fire, police/sheriff, ambulance). Testing will commence within two days of the request. The Owner/operator is responsible for mitigating within two days from the determination of interference attributed to the operation of the Wind Turbine.
- 17.7.3 The Owner/operator of the Wind Turbine Project shall respond within five business days to any request for communications interference investigation by a property owner or resident within a three-mile radius of the Wind Turbine Project. Testing will commence within ten business days of the request. The owner/operator is responsible for mitigating within ten business days from the determination of interference attributed to the operation of the Wind Turbine.

#### 17.8 Ground Transportation Standards

- 17.8.1 The Applicant shall identify all public ways to be used within the Town of Jackson to transport equipment and parts for construction, operation or maintenance of the Wind Turbines.
- 17.8.2 A qualified third party engineer, hired by the Planning Board and paid for by the Applicant, shall document road conditions prior to construction. The engineer shall document road conditions again thirty (30) days after construction is complete or as weather permits.
- 17.8.3 The Town of Jackson may bond the road(s) in compliance within state regulations.
- 17.8.4 Any road damage caused by the Applicant or its contractors shall be promptly repaired at the Owner/operators expense.
- 17.8.5 The Applicant shall demonstrate that it has appropriate financial insurance to ensure the prompt repair of damaged roads.

17.9 Reporting Requirements:

17.9.1 Extraordinary Events.

The Owner/operator shall notify the Enforcing Authority of any extraordinary event within 24 hours of that event. "Extraordinary events" shall include but not be limited to tower collapse, catastrophic turbine failure, fires, leakage of hazardous materials, unauthorized entry to the tower base, thrown blade or hub, any serious injury to a Facility worker or other person that requires emergency medical treatment, or other event that impacts the public health and safety of the Town or its residents.

17.9.2 Change of Owner/operator

The Owner/operator will notify the Town of Jackson of a pending change of ownership in writing 90 days before the effective change.

17.9.3 The Owner/operator must provide copies of reports from safety inspections required by Section 17.5.3 within 30 days of each inspection.

17.9.4 The Owner/operator must provide copies of liability insurance required by Section 16.3 annually prior to relicensing .

**18.0 Application Submission Requirements and Procedural Time Frames for Type 1, 2, 3, and 4**

18.1 Type 1 Application

18.1.1 Pre-application Meeting

The Applicant will schedule a pre-application meeting with the CEO. The meeting will be used to review the scope of the proposed project and submission requirements. The meeting may be scheduled up to six months prior to submission of the application.

18.1.2 Application Submission

The Applicant will submit an application to the CEO. The CEO will conduct an on site inspection and collect any required fees associated with the application. Submission requirements and fees for a Type 1 Application are outlined in Appendix B. The Town Clerk will establish a file for the application. The Town Clerk will notify, in writing, all abutters .

18.1.3 Completeness Review



The CEO will notify the Applicant within 30 days from the date of submission whether the application is complete. If the application is deemed to be incomplete the CEO shall indicate the additional information needed. The application shall be deemed abandoned unless the Applicant provides the information requested, or submits in writing the reason for any delay within 30 days from the date of notice indicating the application is incomplete.

#### 18.1.4 Final Determination:

A decision to approve or reject the application, or to approve the application with conditions, will be made by the CEO within 30 days from the date of completion. The CEO's decision must be based on whether the application complies with the requirements of the Ordinance.

#### 18.1.5 Public Hearings

Public hearings for Type 1 Wind Turbines are not required. Non-participating landowners within 1.5x Turbine Height may request a meeting with the CEO to review compliance with the applicable standards.

### 18.2 Type 2 Applications

#### 18.2.1 Pre-application Meeting

A pre-application meeting with the Planning Board will be scheduled at a regularly scheduled public Planning Board meeting. At the meeting the Applicant will review the type and scope of the project and the Planning Board will review Ordinance Standards and submission requirements. The Planning Board will establish an application file at this time.

#### 18.2.2 Site Inspection

The Planning Board and Applicant will set a mutually agreeable time for the Planning Board to inspect the site. The inspection will be scheduled within 30 days of the pre-application meeting unless rendered impractical due to seasonal conditions. Site visits will normally be postponed if there is more than one foot of snow on the ground. The site inspection is a public meeting of the Planning Board with appropriate notices given to the community. While the Planning Board may set additional requirements related to the ordinance for the site inspection at the pre-application meeting, the Applicant shall, at minimum, flag the location of the proposed Wind Turbine and relevant property boundaries. The Applicant or a representative will accompany the Planning Board on the site inspection to describe the project and answer any questions.

#### 18.2.3 Notice to Abutters

In addition to any required public notices, the Planning Board will prepare a notice to abutting property owners and property owners within a distance of 2x the setback of the Wind Turbine. The notice will briefly describe the proposed

Wind Turbine Project and notify the recipient of the date, time and place of the site inspection. The notice will be sent by certified mail with mailing costs paid for by the Applicant.

#### 18.2.4 Determine Submission Requirements

Within 30 days of the site inspection the Planning Board shall inform the Applicant in writing of the submission requirements for the application. The submission requirements for Type 2 Wind Turbine Projects are listed in Appendix C. The Planning Board may add to or modify any of the submission requirements if additional information is needed to protect the general health, safety, and welfare of the Town or its residents. The Planning Board may, independently and without influence or petition from the Applicant or Applicants representative, modify or waive submission requirements that would not be applicable and would not adversely affect abutting property owners or the general health, safety and welfare of the Town or its residents. The reasoning supporting changes to submission requirements must be substantiated in Board minutes and filed with the Applicant.

#### 18.2.5 Application Submission

The Applicant has up to 120 days after the determination of submission requirements to submit a completed application with the required fees to the Town Clerk. The application shall be deemed abandoned unless the application has been received within 120 days of the determination of submission requirements. The Town Clerk will forward the application to the Planning Board.

#### 18.2.6 Completeness Review

The Planning Board will notify the Applicant within 30 days from the date of submission whether the application is complete. If the application is deemed to be incomplete the Planning Board shall indicate the additional information needed. The application shall be deemed abandoned unless the Applicant provides the information requested, or submits in writing the reason for any delay within 30 days from the date of notice indicating the application is incomplete.

#### 18.2.7 Public Hearing

The Planning Board will schedule a public hearing to be held within 30 days of the determination of completeness on the Wind Turbine Project.

#### 18.2.8 Final Planning Board Determination

A decision to approve or reject the application, or to approve the application with conditions, will be made by the Planning Board within 30 days from the date of the public hearing.

### 18.3 Type 3 Applications

#### 18.3.1 Pre-application Meeting

A pre-application meeting with the Planning Board will be scheduled at a regularly scheduled public Planning Board meeting. At the meeting the Applicant will review the type and scope of the project and the Planning Board will review Ordinance Standards and submission requirements. The Planning Board will establish an application file at this time.

#### 18.3.2 Site Inspection

Planning Board and Applicant will set a mutually agreeable time for the Planning Board to inspect the site. The inspection will be scheduled within 30 days of the pre-application meeting unless rendered impractical due to seasonal conditions. Site visits will normally be postponed if there is more than one foot of snow on the ground. The site inspection is a public meeting of the Planning Board with appropriate notices given to the community. While the Planning Board may set additional requirements related to the ordinance for the site inspection at the pre-application meeting, the Applicant shall, at minimum, flag the location of the proposed Wind Turbine(s) and relevant property boundaries. The Applicant or a representative will accompany the Planning Board to describe the project and answer any questions.

#### 18.3.3 First Public Hearing

The Planning Board will schedule a public hearing to be held within 30 days of the site inspection on the Wind Turbine Project.

#### 18.3.4 Notice to Abutters

In addition to any required public notices for the site inspection and first public hearing, the Planning Board will prepare a notice to abutting property owners and property owners within a distance of 2x the setback of the Wind Turbine Project. The notice will briefly describe the proposed Wind Turbine Project and notify the recipient of the dates, times and places of the site inspection and first public hearing. The notice will be sent by certified mail with mailing costs paid for by the Applicant.

#### 18.3.5 Determine Submission Requirements

Within 30 days of the site inspection the Planning Board shall inform the Applicant in writing of the submission requirements for the application. The submission requirements for Type 3 Wind Turbine Projects are listed in Appendix

D. The Planning Board may add to, or modify any of the submission requirements if additional information is needed to protect the general health, safety, and welfare of the Town or its residents. The Planning Board may, independently and without influence or petition from the Applicant, modify or waive submission requirements that would not be applicable and would not adversely affect abutting property owners or the general health, safety and welfare of the Town or its residents. The reasoning supporting changes to submission requirements must be substantiated in Board minutes and filed with the Applicant.

#### 18.3.6 Application Submission

The Applicant has up to 180 days after the determination of submission requirements to submit a completed application with the required fees to the Town clerk. The application shall be deemed abandoned unless the application has been received within 180 days of the determination of submission requirements. The Town Clerk will forward the application to the Planning Board.

#### 18.3.7 Completeness Review

The Planning Board will notify the Applicant within 60 days from the date of submission whether the application is complete. Specific studies may be required for a consideration of completeness including but not limited to noise studies, DEP certification and permitting, and environmental impact studies. If the application is deemed to be incomplete the Planning Board shall indicate the additional information needed. The application shall be deemed abandoned unless the Applicant provides the information requested, demonstrates that additional time is need to complete required studies, or submits in writing the reason for any delay within 30 days from the date of notice indicating the application is incomplete.

#### 18.3.8 Second Public Hearing

The Planning Board will schedule a second public hearing to be held within 60 days of the determination of completeness on the Wind Turbine Project.

#### 18.3.9 Notice to Town of Jackson

In addition to any required public notices for the second public hearing, the Planning Board will prepare a notice to all residents and property owners in the Town of Jackson. The notice will briefly describe the proposed Wind Turbine Project and notify the recipient of the date, time and place of the second public hearing. The notice will be sent by certified mail with mailing costs paid for by the Applicant.

#### 18.3.10 Final Planning Board Determination

A decision to approve or reject the application in accordance with the provisions of this Ordinance, or to approve the application with conditions, will be made by the Planning Board within 60 days from the date of the public hearing.

## 18.4 Type 4 Applications

### 18.4.1 Pre-application Meeting

A pre-application meeting with the Planning Board will be scheduled at a regularly scheduled public Planning Board meeting. At the meeting the Applicant will review the type and scope of the project and the Planning Board will review Ordinance Standards and submission requirements. The Planning Board will start a Project File at this time.

### 18.4.2 Site Inspection

Planning Board and Applicant will set a mutually agreeable time for the Planning Board to inspect the site. The inspection will be scheduled within 30 days of the pre-application meeting unless rendered impractical due to seasonal conditions. Site visits will normally be postponed if there is more than one foot of snow on the ground. The site inspection will be treated as a public meeting of the Planning Board with appropriate notices given to the community. While the Planning Board may set additional requirements for the site inspection at the pre-application meeting, the Applicant shall, at minimum, flag the location of the proposed Wind Turbine and relevant property boundaries. The Applicant or a representative will accompany the Planning Board to describe the project and answer any questions.

### 18.4.3 First Public Hearing

The Planning Board will schedule a public hearing to be held within 30 days of the site inspection on the Wind Turbine Project.

### 18.4.4 Public Notice

In addition to any required public notices for the site inspection and first public hearing, the Planning Board will prepare a notice to all Jackson residents and to all property owners within a distance of 2x the required setback distance of the proposed Wind Turbines which will offer a brief description of the proposed Wind Turbine Project and notify the recipient of the dates, times and places of the site inspection and first public hearing. The notice will be sent by certified mail with mailing costs paid for by the Applicant.

### 18.4.5 Determine Submission Requirements

Within 30 days of the site inspection the Planning Board shall inform the Applicant in writing of the submission requirements for the application. The

submission requirements for Type 4 Wind Turbine Projects are listed in Appendix E. The Planning Board may add to, or modify any of the submission requirements if additional information is needed to protect the general health, safety, and welfare of the Town. The reasoning supporting changes to submission requirements must be substantiated in Board minutes and filed with the Applicant.

#### 18.4.6 Application Submission

The Applicant has up to 180 days after the determination of submission requirements to submit a completed application with the required fees to the Town clerk. The application shall be deemed abandoned unless the application has been received within 180 days of the determination of submission requirements. The Town Clerk will forward the application to the Planning Board.

#### 18.4.7 Completeness Review:

The Planning Board will notify the Applicant within 60 days from the date of submission whether the application is complete. Specific studies may be required for a consideration of completeness including but not limited to noise studies, DEP certification and permitting, and environmental impact studies. If the application is deemed to be incomplete the Planning Board shall indicate the additional information needed. The application shall be deemed abandoned unless the Applicant provides the information requested, demonstrates that additional time is need to complete required studies, or submits in writing the reason for any delay within 30 days from the date of notice indicating the application is incomplete.

#### 18.4.8 Second Public Hearing

Within 60 days of the determination of completeness the Planning Board will schedule a second public hearing on the Wind Turbine Project.

#### 18.4.9 Public Notice

In addition to any required public notices for the second public hearing, the Planning Board will prepare a notice to all residents and property owners in the Town of Jackson and to all property owners within a distance of 2x the required setback distance of the proposed Wind Turbines in neighboring communities. The notice will briefly describe the proposed Wind Turbine Project and notify the recipient of the date, time and place of the second public hearing. The notice will be sent by certified mail with mailing costs paid for by the Applicant.

#### 18.4.10 Final Planning Board Determination

A decision to approve or reject the application in accordance with the provisions of this Ordinance, or to approve the application with conditions, will be made by

the Planning Board within 60 days from the date of the public hearing.

## **19.0 Professional Services**

19.1 In reviewing an application for compliance with this Ordinance for Type 3 or Type 4, the Permitting Authority may retain professional services as necessary to assist with its review, including but not limited to those of an attorney, engineer, biologist, or land use planner. Within fourteen (14) days of filing an application the Applicant shall deposit in a joint escrow account with the Town an amount equal to one half of one percent of the estimated cost of the project. If the amount drops below 25% of the initial escrow amount, the Applicant upon notice shall submit an additional one half of one percent of the estimated cost of the project, as partial payment for the appropriate Town expenses in hiring consultants and experts, as the Permitting Authority shall, at its discretion, deem necessary. If at any time the balance of this fund falls below 25% of the initial escrow amount for a period of 30 days after notification the application shall be considered to have been withdrawn. The balance of the escrow account shall be returned to the Owner/operator after all expenses have been paid, and after a permit is granted or the Applicant has withdrawn.

19.2 After construction, the Applicant shall deposit in a joint escrow account with the Town an amount equal to one quarter of one percent of the estimated cost of the project. This shall be known as the testing escrow account. The funds in this account are available to the Enforcing Authority to use testing mandated by this ordinance. After three years, the balance of the escrow account shall be returned to the Applicant.

## **20.0 Application Changes**

20.1 Throughout the permit process, the Applicant shall promptly notify the Permitting Authority of any changes to the information contained in the permit application.

20.2 Material changes may not be made to a Wind Turbine Project after an application is determined to be complete, without initiating a new application process. Material changes include, but are not limited to, increasing the number of Wind Turbines, increasing Turbine Height, changes to the location of Wind Turbines, or material changes to Associated Facilities. Non-material changes require a permit modification as determined by the Permitting Authority. The Permitting Authority shall have sole discretion for determining what is a material or non-material change.

## **21.0 Cumulative Effect of Multiple Permits**

The Town of Jackson reserves the right to limit the total number of Type 3 and Type 4 permits that are under review for approval at any given time. As a guideline:

1. The Permitting Authority will process no more than 2 Type 3 or Type 4 applications at the same time, or the deadline for submission and review may be modified correspondingly to reflect the increased workload of multiple permits.

## **22.0 Appeals**

- 22.1 The Board of Appeals shall have the power to hear and decide administrative appeals 30 days from approval, on an appellate basis, where it is alleged by an aggrieved party that there is an error in any order, requirement, decision, or determination made by, or failure to act by, the Reviewing Authority.
- 22.2 The Board of Appeals may reverse the decision of the Permitting Authority only upon finding that the decision was contrary to specific provisions of the Ordinance or contrary to the facts presented to the Permitting Authority. The Board of Appeals may only review the record of the proceedings before the Permitting Authority. The Board Appeals shall not receive or consider any evidence that was not presented to the Permitting Authority, but the Board of Appeals may receive and consider written or oral arguments. If the Board of Appeals determines that the record of the Permitting Authority's proceedings is inadequate, the Board of Appeals may remand the matter to the Permitting Authority for additional fact finding.
- 22.3 For the purposes of hearing appeals for Type 1 and Type 2 permits, at a minimum, all property owners and residents within the maximum setback standard shall be deemed to have interested party standing and be granted a reasonable and appropriate amount of time to present information and rebuttals. For Type 3 and Type 4 permits, all property owners and residents of the Town shall be deemed to have interested party standings and be granted a reasonable and appropriate amount of time to present information and rebuttals. The Appeals Board may grant other individuals interested party standing as special circumstances warrant.

## **23.0 Complaints/ Violations/ Enforcement**

### 23.1 General Standard

It shall be unlawful for any person, firm or corporation to violate or fail to comply with or take any action that is contrary to the terms of this Ordinance, or any permit or Operational License issued under this Ordinance, or cause another to violate or fail to comply or take any action which is contrary to the terms of this Ordinance or any permit issued under this Ordinance.

### 23.2 Enforcing Authority

The CEO will serve as the Enforcing Authority for Type 1 and Type 2 Wind Turbine Projects. The Utility Commission, pursuant to Section 23.3, will serve as the Enforcing Authority for Type 3 and Type 4 Wind Turbine Projects. The Enforcing Authority will:

1. The Enforcing Authority will have the authority to issue Operational Licenses and Operational License renewals.
2. Have the authority to conduct investigations, resolve complaints, ensure compliance with and enforce standards and may refer the matter to enforcement by civil complaint.



3. Appoint qualified representatives to investigate complaints. The reasonable costs and fees for the qualified representative will be paid by the Owner/operator and as a condition of licensing and may include engineers, consultants, and other professionals.
4. Recommend to the Planning Board amendments to this Ordinance deemed necessary to address health or safety concerns not currently addressed in this Ordinance.
5. Have access to Town legal counsel as required.

### 23.3 Utility Commission

Prior to permitting any Type 3 and Type 4 Wind Turbine Project, the Town shall establish a Utility Commission to serve as the Enforcing Authority. The Utility Commission will consist of three Commissioners as follows:

1. One chairperson elected by the Town at the annual town meeting to a one year term;
2. One representative from the Planning Board elected by the Planning Board; and
3. The CEO.

Compensation, if any, for serving on the Utility Commission will be set at the annual Town meeting.

### 23.4 Enforcement & Penalties

Standards in this Ordinance will be enforced through a series of enforcement options including but not limited to 1) Emergency shutdown; 2) 5 day response to serious violations with a 10 day mitigation period; 3) 30 day complaint resolution with a 30 day mitigation period; 4) suspension or revocation of Operational License; and 5) 30-A M.R.S.A. § 4452

### 23.5 Emergencies and Emergency Shutdown

The Owner/operator shall be required to immediately cease operations for the duration of any Emergency. Emergency shall mean a proven condition or situation as determined by the Enforcing Authority caused by the Wind Turbine or Wind Turbine Project that present an imminent physical threat of danger to life or significant threat to property. A Wind Turbine Project that is found to present an imminent physical threat of danger to life or significant threat of damage to property shall be immediately shut down and repaired or otherwise made safe and certified so by a professional engineer prior to resumption of operation. The Enforcing Authority shall have the right to access all Wind Turbines to verify conditions and/or repair progress with reasonable notice to the Wind Turbine owner/operator. Within 24 hours of an occurrence of a tower collapse, turbine failure, property damage or contamination, fires, thrown blade or hub, collector or feeder line failure, injured Wind Turbine worker or private person, the Owner/operator shall notify the Enforcing Authority of the occurrence and proposed remedial action.

### 23.6 Serious Violations of Standards

The Owner/operator of the Wind Turbine Project shall respond within five business days to any complaints of serious violations of standards, deemed by the Enforcing Authority to have merit. Serious violations shall include but not be limited to: 1) 3 verified noise complaints within a period of 1 month or less with a measurable noise level greater than a.) for Type 1 and Type 2, greater than 45 dBA daytime and 40 dBA nighttime; b.) for Type 3 and Type 4, 10 dBA above pre-construction ambient noise at an Occupied building or 50 dBC at an Occupied Building; 2) serious violations of Shadow Flicker or Blade Reflection standards projected to be in excess of 20 hours annually at an Occupied Building; 3) any Shadow Flicker or Blade Reflection complaints effecting vehicles on Route 7; 4) contamination of potable groundwater sources used for domestic or livestock water supplies; 5) complaints of communication/electromagnetic interference; and 6) any complaints of hazardous waste spills. Testing, paid for by the Owner/operator, will commence within ten working days of the complaint. Except as noted for interference with emergency communications, the Owner/operator is responsible for mitigating the problem within ten business days from the final determination of any cause attributed to the operation of the Wind Turbine Project. Pursuant to Section 17.7.2, interference with emergency communications must be responded to in one day and mitigated within 2 days.

### 23.7 Other Violations

If the Enforcing Authority determines that a violation of the Ordinance or the permit has occurred, and the violation is determined neither to be an emergency pursuant to Section 23.5, nor a serious violation pursuant to Section 23.6, the Enforcing Authority shall provide written notice to the Owner/operator alleged to be in violation of this Ordinance or permit. The Enforcing Authority and the involved parties shall engage in good faith attempts to resolve the issues. Such attempts shall be conducted within thirty (30) days of the written notice of violation. The Owner/operator shall pay for any necessary testing if the Owner/operator is subsequently determined to be in non-compliance. The Owner/operator is responsible for mitigating the problem within 30 days from the final determination of any cause attributed to the operation of the Wind Turbine Project. Mitigation involving significant construction or physical modification may have up to 90 days to be completed pursuant to Section 17.4.1.

### 23.8 Suspension or revocation of Operational License

Any Person or Applicant who fails to comply with any provision of this Ordinance by failing to reach agreement to resolve a violation with the Enforcing Authority after the expiration of the mitigation periods defined in Section 23.6 and Section 23.7, the Enforcing Authority may suspend or revoke the Operational License. The Person or Applicant has the right to appeal the suspension or revocation of the Operational License as per Section 22.0.

### 23.9 Other Remedies

The Enforcing Authority may require other remedies as it deems necessary to assure the safe operation of the Wind Turbine Project.

### 23.10 Identifying Violations and Registering Complaints

23.10.1 Pursuant to Section 17.9.1, the Owner/operator will report to the Enforcing Authority all extraordinary events within 24 hours of their occurrence.

23.10.2 For Type 1 and 2 Wind Turbines the CEO will receive complaints . Complaints will be forwarded to the CEO in a timely manner.

23.10.3 For Type 3 and Type 4 Wind Turbines the Town will maintain, at the Owner/operator's expense, a system for recording and investigating all complaints related to the Wind Turbine Project. The system must be able to receive complaints 24 hours a day, 365 days a year. A permanent record of all complaints, investigations and outcomes will be maintained. The Owner/operator will designate a representative and method to receive and respond to complaints from the Town 24 hours a day, 365 days a year. Complaints for Type 3 and 4 Wind Turbine Projects will be referred to the Utility Commission in a timely manner.

### **24.0 Decommissioning Standards:**

24.1 The Owner/operator shall, at its expense, complete decommissioning of the Wind Turbine Project within: 1) twelve months (12) after the end of the useful life of the Wind Turbine as determined by the Owner/operator or; 2) as specified in the materials provided at the time of application or; 3) pursuant to remedies described in Section 23.9. The Wind Turbine or Wind Turbine Project will be presumed to be at the end of its useful life if no electricity is generated for a continuous period of twelve (12) months.

24.2 Decommissioning shall include removal of wind turbines and foundations to a depth of 36 inches. All buildings, cabling, electrical components, roads, and any other associated facilities shall be removed unless, at the end of the Turbine or Wind Turbine Project's useful life, as determined in accordance with section 24.1, the Applicant provides written evidence of plans for continued beneficial use of these components of the Wind Turbine Project.

24.3 Except as otherwise provided by section 24.2, disturbed earth shall be graded and re-seeded, unless the Participating Landowner of the affected land requests otherwise in writing. Any alterations to Town roads or property during decommissioning must be approved by the Town.

24.4 Special Decommissioning Standards for Type, 3 and 4 Wind Turbine Projects

24.4.1 An independent and certified Professional Engineer shall be retained to estimate the total cost of decommissioning ("Decommissioning Costs" without regard to salvage value of the equipment, and the cost of decommissioning net salvage value of the equipment ("Net Decommissioning Costs"). Said estimates shall be submitted to the Town of Jackson after the first year of operation and every fifth year thereafter.

- 24.4.2 The Owner /operator shall post and maintain decommissioning funds in an amount equal to Net Decommissioning Costs; provided that at no point shall decommissioning funds be less than twenty five percent (25%) of Decommissioning Costs. The decommissioning funds shall be posted and maintained with a bonding company or Federal or State-chartered lending institution chosen by the Owner/operator and Participating Landowner posting the financial security, provided that the bonding company or lending institution is authorized to conduct such business within the State and is approved by the Town of Jackson, whose approval shall not be unreasonably withheld.
- 24.4.3 Decommissioning funds may be in the form of a performance bond, surety bond or other similar form of financial assurance as may be acceptable to the Town of Jackson, whose approval shall not be unreasonably withheld.
- 24.4.4 If the Owner/operator fails to complete decommissioning within the period prescribed by Section 24.1, then the Participating Landowner shall have an additional six (6) months to complete decommissioning.
- 24.4.5 If neither the Owner/operator, nor the Participating Landowner completes decommissioning within the periods prescribed by Sections 24.4.1 and 24.4.4 the Wind Turbine or Wind Turbine Project shall be deemed to be in violation of this Ordinance and the Town of Jackson may take such measures as necessary, including court action, to ensure the completion of decommissioning.
- 24.4.6 The escrow agent shall release the decommissioning funds when the Owner/operator has demonstrated and the Enforcement Authority concurs that the decommissioning has been satisfactorily completed, or upon written approval of the Town in order to implement the decommissioning plan.

## **25.0 Tax Assessment**

- 25.1 Wind Turbine Projects that have a taxable property value of greater than \$10 million dollars; or, if the project will be qualified as a “designated business” for the purposes of state tax incremental financing as defined in 30-A M.R.S.A. § 5241, are required to have a written agreement between the Town of Jackson and the Owner/operator designating the financial methodology that will be used for tax valuation purposes (“Tax Valuation Agreement”).
- 25.2 The Tax Valuation Agreement must be in a format approved by the Town attorney and comply with all applicable state and federal tax codes and laws.
- 25.3 The Tax Valuation Agreement must include a financial projection of the tax valuation for the useful life of the project and be prepared by a qualified CPA and reviewed by a qualified tax attorney selected by the Town and paid for by the Applicant.
- 25.4 The Tax Valuation Agreement must first be signed by the Owner/operator and then must be approved by a majority vote at a Town meeting.

## **26.0 Community Owned Wind**

26.1 Pursuant to Title 35-A M.R.S.A. §3402, the Town of Jackson encourages the development of appropriately sited Community Owned Wind Turbine Projects.

26.2 Pursuant to Title 35-A M.R.S.A. §3402 and 35-A M.R.S.A. §3451 the Town of Jackson has identified the Town property located on Common Hill, map number 008 and lot number 011, as a potential location for a Community Owned Wind Project. Other locations may also be considered.

26.3 Section 26.0 is governed by the definition of Community Owned Wind pursuant to Section 8 of this Ordinance. Nothing in this definition or in Section 26.0 precludes the Town from entering into Wind Turbine Projects in which the Town is a minority owner or general partner. However, by definition, these types of business models are not considered Community Owned Wind.

26.4 A request to pursue a Community Owned Wind Project can be initiated by:

1. The Planning Board, provided a majority of the Board has so voted;
2. Request of the municipal officers;
3. Written petition of at least 25 voters registered to vote in Jackson; or
4. The majority of the voters at a Town meeting.

26.5 A request or decision to lease Town property to a wind company as part of a Type 4 Industrial Wind Turbine application shall automatically trigger a feasibility study, unless the Town specifically votes to forgo the study.

26.6 After a request is initiated or triggered by Section 2.5, the Planning Board shall be authorized to conduct a feasibility study for the Community Owned Wind Project. Pursuant to Section B “Duties and Powers” of the Jackson Planning Board Ordinance, the Planning Board will establish a steering committee to conduct the feasibility study and will encourage non-board members to participate on the committee. The steering committee shall be authorized to hire appropriate professional consultants to assist with the feasibility study, within financial guidelines established in the Town budget or, if possible, through outside grant funding. The feasibility study shall include but not be limited to:

1. Measuring local wind resources through the use of MET towers or using other methods to identify wind resources
2. Identifying best options for Wind Turbine technology consistent with project scale and local ordinances
3. Identifying best options for financial performance and financial risk management
4. Identifying best options for ownership and legal structure
5. Identifying best options for financing including but not limited to state funding, municipal bonds, equity partners, bank financing, state and federal grants
6. Identifying best options for daily management and governance of the project
7. Identifying opportunities to maximize local financial benefit to both the Town and Town residents, including but not limited to: profit sharing, net metering, tax

incentives, and local ownership and investment

8. Identifying opportunities for public-private partnerships and methods for competitive bidding and issuing requests for proposals (RFP)
9. Identifying a project time line and recommended next steps to be taken.
- 26.7 The feasibility study, including collection of 12 months of wind data, must be completed within 18 months from the date of request. During the feasibility study the Planning Board may vote to place competing Type 3 or Type 4 applications on hold, or suspend taking applications for competing Type 3 or Type 4 Wind Turbines until the study is completed and acted upon by the Town.
- 26.8 The final feasibility study shall be approved by the full Planning Board and presented to the Town at a special Town meeting and made available to all Town residents
- 26.9 Action to pursue a Community Owned Wind Project shall require approval of the Selectmen, ongoing communication with Town residents through newsletters and mailings, appropriate public hearings, and final Community Owned Wind Project approval by majority vote at a Town meeting. The process shall do everything reasonable to maximize open, transparent public participation.
- 26.10 A Community Owned Wind Project, if adopted, shall strongly encourage and give preference to local bidding, local contracts and local employment .The Town reserves the right to accept and or reject any or all bids.
- 26.11 A Community Owned Wind Project, if approved, shall be governed by an elected Local Utility Commission.
- 26.12 The Town of Jackson may partner with other municipalities in creating a Community Owned Wind Turbine Project, if together the municipalities create a legal structure giving the combined municipalities majority ownership or control and that the majority of the direct financial benefits accrue to all of the residents of the municipalities.

## **27.0 Jurisdiction Across Multiple Municipalities**

Section 27.0 addresses issues unique to the geography of the Town of Jackson. Certain prominent ridges in the Town of Jackson share a common boundary with the neighboring Towns of Thorndike and Dixmont and have been identified as potential sites for Type 4 Industrial Wind Turbine Project. Permits for Wind Turbine Projects that share multiple municipal jurisdictions should be coordinated to the fullest extent possible across town boundaries, while at the same time maintaining each individual Town's right to individual Home Rule.

- 27.1 This Ordinance applies to Wind Turbine Projects located wholly or partially in the Town of Jackson to the fullest extent allowable by municipal, state, and federal law.
- 27.2 Approval to build or operate a Wind Turbine or Wind Turbine Project applies only to that portion of the Wind Turbine Project located within the boundaries of the Town of Jackson. However, the application must take into account the entire Wind Turbine Project across municipal boundaries, including but not limited to the total number of Wind Turbines, Turbine Height, Wind Turbine location and all other relevant facts and data that may directly or indirectly effect the operation and viability of that portion of the Wind Turbine Project located in the Town of Jackson.

27.3 Setback, Noise, Shadow Flicker and Mitigation Waiver standards for Wind Turbines and Wind Turbine Projects located and operated in the Town of Jackson shall apply to Occupied Buildings, property lines, and roads irrespective of Town boundaries. For the purpose of this section a resident of Dixmont or Thorndike is afforded the same protections as a resident of Jackson.

27.4 The Town Clerk shall forward notice of Wind Turbine permit applications within 10 days of receipt, and notice of hearings and public meetings 10 days in advance, to the Selectmen and Planning Boards of adjacent communities for all Type 2, 3 and 4 Wind Turbine or Wind Turbine Projects if the neighboring community, or an Occupied Building within the neighboring community, is located within a defined Setback of this Ordinance.

## **28.0 Ethical Standards**

### **28.1 Transparency, Public Participation and Highest Ethical Standards**

All public deliberations and decisions regarding Wind Turbine Projects and Community Owned Wind shall be conducted in an open, transparent manner that encourages the broadest public participation and adherence to the highest ethical standards.

### **28.2 Public Access**

All deliberations concerning Wind Turbine Projects and Community Owned Wind, whether in writing or conducted verbally, by the Planning Board, Selectmen, Appeals Board, and any subcommittees or working groups of the afore mentions bodies shall fully comply with the letter and spirit of State law regarding Freedom of Access pursuant to Title1; Chapter 13; Subchapter 1. Specifically, all deliberations regarding Wind Turbine Projects between members of the Planning Board, Selectmen, Appeals Boards and any subcommittees and working groups shall be conducted at public meetings, which have been duly posted. Exceptions will be made only for: 1) appropriately recorded and executed executive sessions; and 2) communicating the minimal information necessary to set up and facilitate public meetings. Detailed minutes of deliberations and decisions concerning Wind Turbines and Community Owned Wind will be recorded and posted. Copies of all correspondence and e-mails will be made available to the public with the exception of those publically identified and disclosed as being subject to “attorney-client privilege” by the Town attorney. All documents, correspondence and e-mails generated by consultants on behalf of the Planning Board, the Selectmen, Appeals Board, their subcommittees and working groups shall be part of the public record.

### **28.3 Conflicts of Interest**

The process to develop, permit and administer Wind Turbine or Community Owned Wind Projects shall be governed by a strict ethical code for conflicts of interest. No elected or appointed Town official or Town employee, their immediate family members, or their employees, who has a conflict of interest shall be directly or indirectly involved in the planning process or decision-making process for Wind Turbine Projects. Conflicts of interest include but are not limited to: 1) having a lease as a Participating Landowner for a

Wind Turbine or transmission right-of-way; 2) having an identified financial arrangement with a wind development company including a signed Mitigation Waiver with financial remuneration, 3) serving as a paid representative of a wind development company, or a written or verbal promise for future employment or contracts from a wind development company; 4) being directly or indirectly affiliated as an Applicant with a pending application for Type 3 or Type 4 Wind Turbine Project; 5) knowing there is a substantial opportunity to accept bids, receive remuneration, or employment valued at greater than \$10,000 on behalf a wind development company or as a subcontractor or employee of the Community Owned Wind Project; Individuals with a conflict of interest must identify the conflict of interest and recuse themselves from all direct and indirect planning and decision-making regarding Wind Turbine Projects or Community Owned Wind, with the exception of voting and debating as a private citizen at any public meeting and public hearings.

#### 28.4 Bidding and Contracting

All bidding, contracts and employment for Community Owned Wind Projects must be awarded through a process of public notice and competitive bidding. The Town of Jackson reserves the right to accept or reject any or all bids.

#### **29.0 Comprehensive Energy Plan**

The Planning Board shall develop a Comprehensive Energy Plan as part of the Jackson Comprehensive Plan. The Comprehensive Energy Plan shall make recommendations for local energy conservation and strategies to promote local energy generation, independence, security, and sustainability.



## Appendix A - Noise Measurement Standards and Procedures

1. A qualified independent acoustical consultant shall conduct all noise studies. The acoustical consultant shall be hired by and report to the Planning Board or Enforcing Authority.
2. Sound level meters and calibration equipment must comply with the latest version of the American National Standards Institute “ American Standard Specifications for General Purpose Sound Level Meters” (ANSI Standard S1.4) and shall have been calibrated at a recognized laboratory within one month prior to the initiation of the study.
3. Except as specifically noted otherwise, measurements shall be conducted in compliance with ANSI Standard S12.18-1994 “Outdoor Measurements of Sound Pressure.
4. Prior to permit application approval, a pre-construction ambient noise level study shall be conducted at each Occupied Building within 2 miles of any proposed wind turbine.
5. The tests shall be conducted using both an A-weighting scale (dBA) and low frequency C-weighting scale (dBC).
6. Tests shall be reflective of seasonal changes to vegetation and atmospheric conditions. At a minimum one set of tests should be performed during each of the four (4) calendar seasons of the year.
7. All measuring points shall be located in consultation with the property owners and such that no significant obstruction blocks noise and vibration to the site.
8. Outdoor noise level measurements must be taken at 6 feet above the ground and at least 15 feet from any reflective surface.
9. Duration of measurements shall be a minimum of ten continuous minutes for each criteria at each location.
10. Measurements must be made when the wind levels are less than 4.5 mph and with appropriate wind screening for the recording device.
11. Measurements should be obtained during representative weather conditions when the Wind Turbine noise is most noticeable, including periods of temperature inversion most commonly occurring at night.
12. Measurements shall be taken at each of the following three time periods:
  - Day (10 a.m. – 2p.m.)
  - Evening (7p.m. -11 p.m.)
  - Night (12 midnight – 4 a.m.)
13. Each measurement shall be replicated during the same time period over three different days within the same season for a total of 9 measurements per location per season (i.e., three daytime measurements in the winter, three evening measurements in the winter, three night time measurements in the winter). The lowest of the three measurements per time period, per season, will be used to determine the pre-construction ambient noise for that time period and season.

14. For each measurement the following minimum criteria will be recorded:
  - $L_{\max}$ ,  $L_{\text{eq}}$ ,  $L_{10}$  and  $L_{90}$  in dBA<sup>1</sup>
  - $L_{\max}$ ,  $L_{\text{eq}}$ ,  $L_{10}$  and  $L_{90}$  in dBC
  - A narrative description of any intermittent noises registered during each measurement
  - Wind speed and direction at time of measurement
  - Description of weather conditions at time of measurement
  - Description of topography and contours relative to proposed or actual Wind Turbines
15. A 5 dBA and/or a 5 dBC penalty shall be applied for short duration repetitive noise or repetitive impulse noise. This is a characteristic “thumping” or “whooshing” sometimes exhibited by larger Wind Turbines. Per Maine TA Bulletin #4, intermittent noise is a more serious nuisance than constant noise.
16. A 5 dBA penalty shall be applied for tonal noise. This is a single or limited frequency noise (vs. broadband noise) associated with mechanical noise artifacts (i.e. high pitched whining, screeching, buzzing). Per Maine TA Bulletin #4, noise over a narrow frequency is a more serious nuisance than broadband noise.
17. For sites being measured with existing Wind Turbines two sets of measurements are required: 1) one set with the Wind Turbine(s) off and; 2) one set with the Wind Turbine(s) running.
18. For nuisance complaints after the Wind Turbines are operational, the measurement points, season, time, and duration of measurements shall be selected in consultation with the affected property owner. If requested by the property owner, continuous measurements may be taken for longer periods of time to capture intermittent nuisance noise patterns.
19. When conducting their pre-construction noise prediction analysis, the Applicant shall make specific reference to: 1) the unique aspects of the mountainous contours and terrain of the area and its effect on noise predictability and; 2) line source noise predictions (emanating from a line of Wind Turbines) in addition to the traditional single point source predictions.
20. Any noise level falling between two (2) whole decibels shall be deemed the higher of the two.

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<sup>1</sup>  $L_{\max}$  - the maximum noise level measured;  $L_{\text{eq}}$  – average noise level for a given period of time;  $L_{10}$  – Sound level exceeded 10% of the time;  $L_{90}$  Sound level exceeded 90 % of the time, generally equivalent to ambient noise.

## **Appendix B – Type 1 Small Wind Turbine Submission Standards and Fees**

Application Fee: \$25

The Applicant shall submit a written application, which shall include:

1. The Applicant's name, contact information and designation of Owner/operator if different from Applicant.
2. Location of the proposed Wind Turbine including tax map lot number.
3. General description of the proposed Wind Turbine Project including nameplate capacity of turbine, turbine height, manufacturer's specifications for turbine and tower, and proposed use of electricity to be generated (i.e., on-site use, net metering, etc.)
4. Written description and map demonstrating that the Wind Turbine meets the setback requirements of this Ordinance. Include a plot sketch showing Wind Turbine, all nearby structures in the Setback Area, all adjacent Occupied Buildings, property lines and public roads.
5. Written description of how the Wind Turbine Project will comply with noise standards. Manufacturer's noise specifications or similar documentation are adequate.
6. Line drawing of electrical components and description of how project will comply with applicable electrical codes.
7. Design of tower, anchoring system and wind rating. If guide wires will be used, provide a declaration that bird diverters will be used (these are inexpensive colored plastic flags that clip to guide wires to increase the wires' visibility to birds).
8. Description of blade clearance and any potential hazards from blade throw or tower collapse.
9. Written description of Wind Turbine braking system.
10. Written description of how Wind Turbine will be designed and/or sited to prevent shadow flicker and electromagnetic interference to adjacent properties.
11. For owner designed, owner built, or owner modified systems the CEO may require field testing to measure Wind Turbine noise, additional electrical design review or tower construction review.
12. Attach executed Mitigation Waiver agreements, if any.
13. Other documentation identified by the Code Enforcement Officer during the pre-application meeting.
14. Signed affidavit that Applicant has read and is familiar with the Town of Jackson Wind Turbine Ordinance and agrees to abide by its provisions, as may be amended from time to time.

## **Appendix C – Type 2 Intermediate Wind Turbine Submission Standards and Fees**

Application Fee: \$100

Decommissioning Funds Required: one half of one percent of the estimated cost of the project

The Applicant shall submit a written application, which shall include:

1. The Applicant's name, contact information and designation of Owner/operator.
2. Location of the proposed Wind Turbine including tax map lot number.
3. General description of the proposed Wind Turbine Project including nameplate capacity of turbine, turbine height, manufacturer's specifications for turbine and tower, and proposed use of electricity to be generated (i.e., on-site use, net metering, etc.)
4. Written description and map demonstrating that the Wind Turbine meets setback requirements. Include a plot sketch showing Wind Turbine, all nearby structures in Setback Area, all adjacent Occupied Buildings, property lines and public roads.
5. Written description of how Wind Turbine Project will comply with noise standards. Manufacturer's noise specifications or similar documentation are adequate.
6. Line drawing of electrical components and description of how project will comply with applicable electrical codes.
7. Design of tower, anchoring system and stability rating. If guide wires will be used, provide a declaration that bird diverters will be used (these are inexpensive colored plastic flags that clip to guide wires to increase the wires' visibility to birds).
8. Description of blade clearance and any potential hazards from blade throw or tower collapse.
9. Written description of Wind Turbine braking system.
10. Written description of how Wind Turbine will be designed and/or sited to prevent shadow flicker and electromagnetic interference to adjacent properties.
11. Written description of how the Wind Turbine Project will comply with Section 16.0 "Appearance and Visibility Standards".
12. Written description of how Wind Turbine Project meets or will meet Section 16.2 "Safety Standards".
13. For owner designed, owner built, or owner modified systems the Permitting Authority may require field-testing to measure Wind Turbine noise, additional electrical design review by a certified electrician, or tower construction review by a certified engineer.
14. Proof of Liability Insurance
15. Contract with Maine licensed professional engineer to conduct post construction structural and operational inspection and written agreement by Applicant to submit proof of successful inspection as a condition of permitting before operating Wind Turbine Project.
16. Other documentation identified by the Permitting Authority during the pre-application meeting.
17. Attach executed Mitigation Waiver agreements, if any.
18. Signed affidavit that Applicant has read and is familiar with the Town of Jackson Wind Turbine Ordinance and agrees to abide by its provisions as may be amended from time to time.

## Appendix D – Type 3 Large Wind Turbine Submission Standards and Fees

Application Fee\* : \$1000

Professional Fees Escrow\* : one half of one percent of the estimated cost of the project

Road Damage Bond\* : The value of the bond will be determined by the Planning Board.

Decommissioning Fund\* : A performance bond or a cash escrow account held by the Town with 5% of the estimated cost of decommissioning to be added by the Owner/Operator on an annual basis shall be acceptable surety, the total amount to be based on the estimated cost of completing the decommissioning and site restoration in accordance with the approved plan, adjusted for inflation, and as approved by the Planning Board.

Other:

All information in this application, unless specified, will become part of the public record. Information submitted by the Applicant must be continuously updated throughout the application process as changes are made or new information becomes available.

The Applicant shall include a written application, which shall include:

1. Applicant's name and contact information.
2. Legal Owner/operator and contact information.
3. Description of the legal structure of the Wind Turbine Project including a corporate organizational chart, ownership and equity structure, and all investors.
4. Description of the proposed Wind Turbine Project that includes the number of Wind Turbines, the nameplate capacity, Turbine Height and manufacturer's specifications for each Wind Turbine, the aggregate generating capacity of the entire project, and a description of associated facilities.
5. Location map of the project showing the location of the each Wind Turbine, associated facilities, all property under partial or total control of the Applicant including easements and those under lease with Participating Landowners, roads, municipal boundaries, proximity to all Scenic or Special Resource features in the Town of Jackson and major geographical features.
6. Detailed site plan showing the location of each Wind Turbine and Associated Facility and any of the following features located within 1.5 x the required setback: property boundaries, required setbacks, topographic contour lines (maximum 20-foot interval), buildings (identify use), roads, driveways, right-of-ways, overhead utility lines, Scenic or Special Resources, tree cover, wetlands, streams, water bodies, areas proposed to be cleared of vegetation or re-graded, and areas proposed to be significantly excavated or blasted.
7. Copies of all Participating Landowner agreements and easement agreements. Only dollar amounts may remain confidential.

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\* May be waived for Community Owned Wind Turbine Projects

8. Copies of any deeds or purchase agreements for land owned or under option by the Owner/operator.
9. Receipt showing payment of application fees and escrow for professional and public hearing fees.\*
10. A copy of the most current business plan for the Wind Turbine Project.
11. A copy of all collected and available relevant wind data for the Wind Turbine Project. This information is a critical indicator of the long-term financial viability of the project.
12. Proof of financing.
13. Reference list of all previous Wind Turbine Projects with which the Owner/operator has been affiliated.\*
14. Proof of compliance with all required setbacks. The Applicant shall work with the Permitting Authority to complete a pre-construction noise study per Appendix A. This study must be completed before the permit can be approved.
15. A detailed noise prediction model for worst-case noise scenarios based on wind speed and wind direction for the Wind Turbine Projected. The study shall be projected onto a contour map for a minimum of two miles from each Wind Turbine. Worst-case scenarios for each Occupied Building within the 2-mile radius shall be reported in table form. The model will address the unique mountainous terrain of the area. Noise predictions will include both single source and line source origination. All underlying assumptions and algorithms in the model will be documented.
16. The Wind Turbine manufacturer's noise emission specifications for each Wind Turbine model.
17. A shadow flicker and blade reflection model for the proposed Wind Turbine Project. The model will provide a worst-case scenario (100%) seasonal representation for each Occupied Building within two miles of any Wind Turbine. The model will calculate maximum hours of shadow flicker and blade reflection in table form for each Occupied Building. A worst-case scenario shall also be constructed for vehicle traffic on Route 7.
18. Copies of all executed Mitigation Waiver agreements concerning Setbacks, Noise and Shadow Flicker/Blade Reflection. Only dollar amounts may remain confidential.
19. Written demonstration that the Wind Turbine Plan is consistent with the Jackson Land Use Ordinance.
20. Documentation showing compliance with Section 17.2.2 "Environmentally Sensitive Areas", both during construction and post construction.\*\*
21. Documentation showing compliance with Section 17.2.3 "Wildlife Protection" and with Section 17.2.4 "Raptor Habitat".
22. Documentation showing compliance with Section 17.2.5 "Erosion Control" Documentation must include a construction site erosion plan and storm water runoff control plan that minimizes potential adverse impacts on streams and wetlands.
23. Documentation showing compliance with Section 17.2.6 "Groundwater Protection".

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\* \* May be waived by the Permitting Authority if a DEP Certification is received.

24. Documentation showing compliance with Section 17.2.7 “Light Pollution”.
25. Written evidence that the Environmental Coordinator of the Maine Department of Inland Fisheries and Wildlife and the Maine Natural Areas Program have both been notified of the pending application and the location and Turbine Height of all proposed Wind Turbines.
26. A Location of Development permit from the Maine Department of Environmental Protection (DEP) pursuant to Title 35-A M.R.S.A. §3451, Title 35-A M.R.S.A. § 3456 and Title 38 M.R.S.A § 482 if required unless the Wind Turbine: 1) does not sell or convert electricity for off site use including net metering; and, 2) does not qualify as a Structure with a total land area in excess of 3 acres for the entire Wind Turbine Project.
27. A visual impact assessment pursuant to Section 17.3.\*\*
28. Photographs of existing conditions of each Wind Turbine and associated facility site.
29. Sight line, photographic, and elevation information shall be provided from: 1) each Occupied Building within the Setback; 2) from Route 7 two miles south of the Dixmont/ Jackson Town line looking north; 3) from Route 7 two miles south of the Dixmont/ Jackson Town line looking north; 4) from Route 7 two miles north of the Dixmont/Jackson Town line looking to the southeast; and 5) from any Scenic or Special Resource location.
  - A Sight Line Representation shall be drawn that shows the lowest point to the Wind Turbine visible from each location. Each sight line shall be depicted in profile, drawn at one-inch equals 40 feet. The profiles shall show all intervening trees and physical structures.
  - Each Sight Line shall be illustrated by one four-inch by six-inch color photograph of the current view.
  - Each of the existing condition photographs shall have the proposed Wind Turbines superimposed on it to accurately simulate the Wind Turbine Project when built.
  - Elevations of the tops of any structures on the subject property relative to the elevation of the Wind Turbines(s)
  - The height and elevation relative to the Wind Turbine(s) of trees, both existing and proposed, that are to provide visual buffering. In the case of trees to be planted, the proposed height at the time of planting as well as the projected mature height is to be provided. [State Model Ordinance]
30. Demonstrate compliance with 14.3 “Controls and Brakes” Provide a written description of emergency and normal shutdown operations.
31. Demonstrates compliance with 15.1 “Appearance and Visibility Standards”.
32. Demonstrates compliance with 15.2 “Safety Standards”.
33. Submit contract with Maine licensed professional engineer to conduct post construction structural and operational inspection and written agreement by Applicant to submit proof of successful inspection as a condition of permitting before operating Wind Turbine Project
34. Proof of Liability Insurance as established by the Permitting Authority.
35. Timeline showing all aspects of the construction.
36. Photographs and detailed drawings of each Wind Turbine, including foundation design.

Details must be provided of all significant excavation and blasting.

37. Demonstrate compliance with Section 17.4.3 “Transmission Line Standards”. A map shall be provided showing all transmission lines and rights-of-way that will need to be built or upgraded to accommodate the Wind Turbine Project. Applicant shall submit copies of signed letters of intent to grant easements, long-term leases or other property rights from involved landowners and any governmental unit responsible for access, approval or construction of electric transmission and distribution lines, whether part of the Wind Turbine Project or part of the local electrical distribution grid. The Applicant shall submit an affidavit stating that no property will need to be taken by eminent domain to facilitate transmission lines necessary to support the project.
38. A geological report from a registered geotechnical engineer demonstrating that the soils can support the Wind Turbines and the underlying ground is geologically stable. The report shall include a slope stability analysis and any underlying fault zones.
39. A written summary of all routine operation and maintenance procedures for the Wind Turbine Project.
40. Demonstrate compliance with Section 17.6 “ Public Safety Standards”. Provide an estimate of required new equipment and training to be provided.
41. Document all potential hazardous wastes that will be used on the Wind Turbine Project, and how these wastes will be transported, handled, stored, cleaned up if spilled, and disposed of during any phase of the project’s life.
42. A communication/electromagnetic interference study prepared by a registered professional engineer showing that the proposed Wind Turbine Project will comply with Section 17.7 “Communication/Electromagnetic Interference Standards”. The Owner/operator will sign an affidavit stating that the Owner/operator shall be responsible for the full cost remediation to remain in compliance with this Section.
43. Demonstrate compliance with Standard 17.8 “Ground Transportation Standards” Before and after photographs or videos of the roadways, in a format approved by the Permitting Authority, shall be submitted as part of the documentation process.
44. An affidavit agreeing to comply with all provisions in Section 17.9 “Reporting Requirements”.\*
45. An affidavit agreeing to comply with all provisions in Section 23.0 “Complaints/Violations/and Standards”.\*
46. A decommissioning plan in compliance with Section 24.0 “Decommissioning Standards”.
47. A copy of the executed tax valuation agreement must be submitted, if required under Section 25.0 “Tax Assessment” before a permit can be issued.
48. If the Wind Turbine Project crosses multiple municipal jurisdictions the Applicant shall demonstrate compliance with Section 27.4.
49. Copies of all written agreements and disclosure of all verbal promises, for contracts, subcontracts, employment, consulting fees, gifts or other remuneration in excess of \$50 (cash or in-kind) to residents or businesses in Jackson, either previously made or contingent on permitting of this project.
50. Applicant shall deliver a letter by certified mail to the owner of any property that the



Applicant proposes to be restricted by the permit. The letter will state that the Applicant has filed an application, list future development that will be restricted, and to what extent it will be restricted, on abutting properties by virtue of the permit being granted. Examples of restrictions include, but are not limited to, building Occupied Buildings within the setback area without a Mitigation Waiver, building structures (i.e. Wind Turbines or cell towers that the Wind Turbine Project would interfere with), zones in which future telecommunication installations can expect interference from the Wind Turbine Project.

51. Proof that the Applicant has notified the following agencies via certified mail and received any necessary permits or permissions for the project:
  - Federal Aviation Administration.
  - U.S. Department of Defense facilities located within 50 miles from the proposed Wind Turbine Project.
52. Other relevant studies, reports, certifications and approvals as may be reasonably requested by the Permitting Authority to ensure compliance with this Ordinance.
53. Signed affidavit from the Owner/operator that Applicant has read the Town of Jackson Wind Turbine Ordinance and agrees to abide by its provisions, as may be amended from time to time.

## Appendix E – Type 4 Industrial Wind Turbine Submission Standards and Fees

Application Fee: \$5000

Professional Fees Escrow: one half of one percent of the estimated cost of the project

Road Damage Bond: The value of the bond will be determined by the Planning Board

Decommissioning Fund: A performance bond or a cash escrow account held by the Town with 5% of the estimated cost of decommissioning to be added by the Owner/Operator on an annual basis shall be acceptable surety, the total amount to be based on the estimated cost of completing the decommissioning and site restoration in accordance with the approved plan, adjusted for inflation, and as approved by the Planning Board.

Other:

All information in this application, unless specified, will become part of the public record. Information submitted by the Applicant must be continuously updated throughout the application process as changes are made or new information becomes available.

The Applicant shall include a written application, which shall include:

1. Applicant's name and contact information.
2. Legal Owner/operator and contact information.
3. Description of the legal structure of the Wind Turbine Project including a corporate organizational chart, ownership and equity structure, and all investors.
4. Description of the proposed Wind Turbine Project that includes the number of Wind Turbines, the nameplate capacity, Turbine Height and manufacturer's specifications for each Wind Turbine, the aggregate generating capacity of the entire project, and a description of Associated Facilities.
5. Location map of the project showing the location of the each Wind Turbine, Associated Facilities, all property under partial or total control of the Applicant including easements and those under lease with Participating Landowners, roads, municipal boundaries, proximity to all scenic or special resource features in the Town of Jackson and major geographical features.
6. Detailed site plan showing the location of each Wind Turbine and Associated Facility and any of the following features located within 1.5 x the required setback: property boundaries, required setbacks, topographic contour lines (maximum 20-foot interval), buildings (identify use), roads, driveways, right-of-ways, overhead utility lines, scenic or special resources, tree cover, wetlands, streams, water bodies, areas proposed to be cleared of vegetation or regraded, and areas proposed to be significantly excavated or blasted.
7. Copies of all Participating Landowner agreements and easement agreements. Only dollar amounts may remain confidential.
8. Copies of any deeds or purchase agreements for land owned or under option by the Owner/operator.
9. Receipt showing payment of application fees and escrow for professional and public hearing

fees.

10. A copy of the most current business plan for the Wind Turbine Project.
11. A copy of all collected and available relevant wind data for the Wind Turbine Project. This information is a critical indicator of the long-term financial viability of the project.
12. Proof of financing.
13. Reference list of all previous Wind Turbine Projects with which the Owner/operator has been affiliated.
14. Proof of compliance with all required setbacks. The Applicant shall work with the Permitting Authority to complete a pre-construction noise study per Appendix A. This study must be completed before the permit can be approved.
15. A detailed noise prediction model for worst-case noise scenarios based on wind speed and wind direction for the Wind Turbine Projected. The study shall be projected onto a contour map for a minimum of two miles from each Wind Turbine. Worst-case scenarios for each Occupied Building within the 2-mile radius shall be reported in table form. The model will address the unique mountainous terrain of the area. Noise predictions will include both single source and line source origination. All underlying assumptions and algorithms in the model will be documented.
16. The Wind Turbine manufacturer's noise emission specifications for each Wind Turbine model.
17. A shadow flicker and blade reflection model for the proposed Wind Turbine Project. The model will provide a worst-case scenario (100%) seasonal representation for each Occupied Building within two miles of any Wind Turbine. The model will calculate maximum hours of shadow flicker and blade reflection in table form for each Occupied Building. A worst-case scenario shall also be constructed for vehicle traffic on Route 7.
18. Copies of all executed Mitigation Waiver agreements concerning Setbacks, Noise and Shadow Flicker/Blade Reflection. Only dollar amounts may remain confidential.
19. Written demonstration that the Wind Turbine Plan is consistent with the Jackson Land Use Ordinance/Comprehensive Plan.
20. Documentation showing compliance with Section 17.2.2 "Environmentally Sensitive Areas", both during construction and post construction.
21. Documentation showing compliance with Section 17.2.3 "Wildlife Protection" and with Section 17.2.4 "Raptor Habitat".
22. Documentation showing compliance with Section 17.2.5 "Erosion Control". Documentation must include a construction site erosion plan and storm water runoff control plan that minimizes potential adverse impacts on streams and wetlands.
23. Documentation showing compliance with Section 17.2.6 "Groundwater Protection".
24. Documentation showing compliance with Section 17.2.7 "Light Pollution"
25. Written evidence that the Environmental Coordinator of the Maine Department of Inland Fisheries and Wildlife and the Maine Natural Areas Program have both been notified of the pending application and the location and Turbine Height of all proposed Wind Turbines.
26. A Location of Development permit from the Maine Department of Environmental Protection

(DEP) pursuant to Title 35-A M.R.S.A. §3451, Title 35-A M.R.S.A. § 3456 and Title 38 M.R.S.A § 482 if required unless the Wind Turbine: 1) does not sell or convert electricity for off site use including net metering; and, 2) does not qualify as a Structure with a total land area in excess of 3 acres for the entire Wind Turbine Project.

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30. Demonstrate compliance with 16.2.4 “Controls and Brakes” Provide a written description of emergency and normal shutdown operations.
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51. Proof that the Applicant has notified the following agencies via certified mail and received any necessary permits or permissions for the project:
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53. Signed affidavit from the Owner/operator that Applicant has read the Town of Jackson Wind Turbine Ordinance and agrees to abide by its provisions, as may be amended.

## Bibliography

(Non-exhaustive; additional reference materials can be provided)

The Acoustic Ecology Institute. AEI Special Report: *Wind Energy Noise Impacts*. AEI, 2008. Regular updates available on-line at [www.acousticecology.org](http://www.acousticecology.org)

Alberts DJ. *Primer for Addressing Wind Turbine Noise*. Lawrence Technological University. November 20, 2005.

American Wind Energy Association. *Wind Energy Siting Handbook*. AWEA, 2008. Available at: [http://www.awea.org/sitinghandbook/downloads/AWEA\\_Siting\\_Handbook\\_Feb2008.pdf](http://www.awea.org/sitinghandbook/downloads/AWEA_Siting_Handbook_Feb2008.pdf)

Bajdek CJ. *Communicating the noise effects of wind farms to stakeholders*. *NOISE-CON 2007*. 2007 October 22-24. (From INCE Noise-con 2007 Proceedings). Available at: [www.hmmh.com/cmsdocuments/Bajdek\\_NC07.pdf](http://www.hmmh.com/cmsdocuments/Bajdek_NC07.pdf)

Bolton RH. *Evaluation of Environmental Shadow Flicker Analysis for "Dutch Hill Wind Power Project"*. January 30, 2007.

Chouard CH. *Le retentissement du fonctionnement des éolines sur la santé de l'homme*. [Repercussions of wind turbine operations on human health.] Académie nationale de médecine [National Academy of Medicine (France)]. Available at: <http://sites.google.com/site/jacksonwindproject/Home/general-information-pages/health-environment/FranceAcademyMedicine.pdf?attredirects=0>

English translation of notice of the report available at: <http://www.windaction.org/news/2218>

Ebbing CE. *Notes for testimony provided to Wind Farm Noise Meeting*, LaFargeville (New York), December 3, 2007.

Kubert C. *Community Wind Financing. A Handbook of Environmental Law & Policy Center*. No date.

Frey BJ, Hadden PJ. *Noise Radiation from Wind Turbines Installed near Homes: Effects on Health*. With an annotated review of the research and related issues. February 2007 v.1. Available at: [www.windturbinenoisehealthhumanrights.com](http://www.windturbinenoisehealthhumanrights.com)

Governor's Task Force on Wind Power Development (Maine). *Finding Common Ground for a Common Purpose. Final Report*. February 2008.

Harry A. *Wind Turbines, Noise and Health*. February 2007. Available at: [www.windturbinenoisehealthhumanrights.com](http://www.windturbinenoisehealthhumanrights.com)

Kamperman GW, James RR. *Simple guidelines for siting wind turbines to prevent health risks*. *NOISE-CON 2008*. 2008 July 28-31. (From INCE Noise-con 2008 Proceedings). Available at: <http://sites.google.com/site/jacksonwindproject/Home/general-information-pages/health->

[environment/simple-guidelines-for-siting-wind-turbines-to-prevent-health-risks.pdf?attredirects=0](http://environment/simple-guidelines-for-siting-wind-turbines-to-prevent-health-risks.pdf?attredirects=0)

Maine State Planning Office. *Noise. Technical Assistance Bulletin #4*. May 2000.

Matilsky T. *Document prepared by Matilsky, Professor of Physics, Rutgers University (State U. of New Jersey)*. (including Analysis of Ice Flows and Rotor Throw from Wind Turbines) Available at: <http://sites.google.com/site/jacksonwindproject/Home/general-information-pages/health-environment/RutgersMatilskynoise%26ice.pdf?attredirects=0>

Mazza P. *Community Wind 101: A Primer for Policymakers*. Harvesting Clean Energy, 25x25, The Energy Foundation. September 2008.

Medical Staff of the Rumford Community Hospital. *Health Concerns Generated by Wind Turbines*. Resolution available at: <http://sites.google.com/site/jacksonwindproject/Home/general-information-pages/health-environment/RumfordHospitalStaffResolution.pdf?attredirects=0>

Nissenbaum M. *Mars Hill Wind Turbine Project Health Effects. Preliminary findings*. Presentation to the Maine Medical Association, March 2009. Available at: <http://www.windaction.org/documents/20497>

The Noise Association (United Kingdom). *Location, Location, Location*. An investigation into wind farms and noise by The Noise Association. July 2006. Available at: [www.countryguardian.net/Location.pdf](http://www.countryguardian.net/Location.pdf)

Pierpont N. *Wind Turbine Syndrome*. In press (2009). K-Selected Books. Full draft manuscript available upon request. Excerpts available at: [www.windturbinesyndrome.com](http://www.windturbinesyndrome.com)

Town of Jackson. *Jackson Comprehensive Plan*. March 1997.

Town of Jackson. *Jackson Land Use Ordinance*. March 20, 1999.

Town of Ridgeville, Wisconsin. *Wind Energy Conversion Systems Ordinance*, August 2008.

World Health Organization. *Guidelines for Community Noise*. Eds: Berglund, Lindvall & Schwela. WHO. 1999.