

TOWN OF UNITY WIND TURBINE GENERATOR ORDINANCE

~~Proposed for community consideration~~ March 2011

ADOPTED

1.0 Title

This Ordinance shall be known as the Town of Unity Wind Turbine Generator (WTG) Ordinance.

2.0 Purpose

The purpose of this Ordinance is to regulate Wind Turbine Generators to protect and safeguard the health, safety, and general welfare of the citizens of Unity by establishing reasonable and uniform regulations.

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"*).

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 decisions 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

This Ordinance applies to any wind turbine classified as a Type 3 or Type 4 turbine in Section 10 that is the subject of a permit or license application pending before, or filed with the Town of Unity, after the effective date of the Ordinance. NOTE: Type 1 and Type 2 turbines are covered separately under Unity's Land Use Ordinance.

8.0 Definitions

Aerodynamic Sound – a noise that is caused by the flow of air over and past the blades of a WTG.

Ambient Sound – Ambient sound encompasses all sound present in a given environment, being usually a composite of sounds from many sources near and far. It includes intermittent noise events, such as, from aircraft flying over, dogs barking, wind gusts, mobile farm or construction machinery, and the occasional vehicle traveling along a nearby road. The ambient also includes insect and other

nearby sounds from birds and animals or people. The nearby and transient events are part of the ambient sound environment but are not to be considered part of the long-term background sound.

American National Standards Institute (ANSI) – Standardized acoustical instrumentation and sound measurement protocol shall meet all the requirements of the following ANSI Standards:

- ANSI S1.43 Integrating Averaging Sound Level Meters: Type-1 (or IEC 61672-1)
- ANSI S1.11 Specification for Octave and One-third Octave-Band Filters (or IEC 61260)
- ANSI S1.40 Verification Procedures for Sound Calibrators
- ANSI S12.9 Part 3 Procedures for Measurement of Environmental Sound
- ANSI S12.18 Measurement of Outdoor Sound Pressure Level
- IEC 61400-11 WTG systems –Part 11: Acoustic noise measurements

Anemometer – a device for measuring the speed and direction of the wind.

Applicant – the legal entity, which includes an individual or business entity that seeks to secure a Permit or Operating License under this Ordinance.

A-Weighted Sound Level (dBA) – A measure of over-all sound pressure level designed to reflect the response of the human ear, which does not respond equally to all frequencies. It is used to describe sound in a manner representative of the human ear's response. It reduces the effects of the low with respect to the frequencies centered around 1000 Hz. The resultant sound level is said to be "A-weighted" and the units are "dBA." Sound level meters have an A-weighting network for measuring A-weighted sound levels (dBA) meeting the characteristics and weighting specified in ANSI Specifications for Integrating Averaging Sound Level Meters, S1.43-1997 for Type 1 instruments, and be capable of accurate readings (corrections for internal noise and microphone response permitted) at 20 dBA or lower. In this document dBA means LAeq unless specified otherwise.

Background Sound (L90) – refers to the sound level present at least 90% of the time. Background sounds are those heard during lulls in the ambient sound environment. That is, when transient sounds from flora, fauna, and wind are not present. Background sound levels vary during different times of the day and night. Because WTGs operate 24/7 the background sound levels of interest are those during the quieter periods which are often the evening and night. Sounds from the WTG of interest, near-by birds and animals or people must be excluded from the background sound test data. Nearby electrical noise from streetlights, transformers and cycling AC units and pumps etc., must also be excluded from the background sound test data.

Background sound level (dBA and dBC (as L90)) is the sound level present 90% of the time during a period of observation that is representative of the quiet time for the soundscape under evaluation and with duration of ten (10) continuous minutes. Several contiguous ten (10) minute tests may be performed in one hour to determine the statistical stability of the sound environment.

Measurement periods such as at dusk when bird and insect activity is high or the early morning hours when the 'dawn chorus' is present are not acceptable measurement times. Longer term sound level averaging tests, such as 24 hours or multiple days are not at all appropriate since the purpose is to define the quiet time background sound level. It is defined by the LA90 and LC90 descriptors. It may be considered as the quietest one (1) minute during a ten (10) minute test. LA90 results are valid only when LA10 results are no more than 10 dB above LA90 for the same period. LC10 less LC90 are not to exceed 10 dB to be valid.

The background noise environment consists of a multitude of distant sources of sound. When a new nearby source is introduced the new background noise level would be increased. The addition of a new source with a noise level 10 dB below the existing background would increase the new background 0.4 dB. If the new source has the same noise level as the existing background then the new background is increased 3.0 dB. Lastly, if the new source is 3.3 dB above the existing background then the new background would have increased 5 dB. For example, to meet the requirement of L90A + 5 dB = 31 dBA if the existing quiet nighttime background sound level is 26 dBA, the maximum wind turbine noise immission contribution independent of the background cannot exceed 29.3 dBA Leq at a dwelling. When adding decibels, a 26 dBA background combined with 29.3 dBA from the turbines (without background) results in 31 dBA.

Further, background L90 sound levels documenting the pre-construction baseline conditions should be determined when the ten (10) minute maximum wind speed is less than 2 m/s (4.5 mph) near ground level/microphone location 1.5 m height.

Blade Passage Frequency (BPF) – the frequency at which the blades of a turbine pass a particular point during each revolution (e.g. lowest point or highest point in rotation) in terms of events per second. A three bladed turbine rotating at 28 rpm would have a BPF of 1.4 Hz. [E.g. (3 blades times 28rpm)/60 seconds per minute = 1.4 Hz BPF]

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

C-Weighted Sound Level (dBC) – Similar in concept to the A-Weighted sound Level (dBA) but C-weighting does not de-emphasize the frequencies below 1k Hz as A-weighting does. It is used for measurements that must include the contribution of low frequencies in a single number representing the entire frequency spectrum. Sound level meters have a C-weighting network for measuring C-weighted sound levels (dBC) meeting the characteristics and weighting specified in ANSI S1.43-1997 Specifications for Integrating Averaging Sound Level Meters for Type 1 instruments. In this document dBC means L_Ceq unless specified otherwise.

Community Owned Wind – a WTG planned with wide community participation that meets any one of the following criteria: 1) a municipality owning 51% or more of the project, 2) the majority of the direct financial benefits of the project accruing to all of the residents of the municipality, 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 WTGs without the municipality or municipalities being the managing partner, and does not include WTGs located in Unity having majority ownership or control by private individuals, private businesses, or non-profit organizations not under direct control of the municipality or municipalities.

Decibel (dB) – A dimensionless unit which denotes the ratio between two quantities that are proportional to power, energy or intensity. One of these quantities is a designated reference by which all other quantities of identical units are divided. The sound pressure level (L_p) in decibels is equal to 10 times the logarithm (to the base 10) of the ratio between the pressure squared divided by the reference pressure squared. The reference pressure used in acoustics is 20 MicroPascals.

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

Emission – Sound energy that is emitted by a noise source (WTG) is transmitted to a receiver (dwelling) where it is immitted (see “immission”).

Enforcing Authority – the Code Enforcement Officer (CEO) designated by the Town of Unity. The CEO is responsible for enforcing the standards of this Ordinance after a permit is granted to a WTG.

Frequency – The number of oscillations or cycles per unit of time. Acoustical frequency is usually expressed in units of Hertz (Hz) where one Hz is equal to one cycle per second.

Good Utility Practice – any of the practices, methods and acts with respect to the safe operation of the Wind Turbine or WTG 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.

Height – the total distance measured from the grade of the property as existed prior to the construction of the wind energy system, facility, tower, turbine, or related facility at the base to its highest point. (See Turbine Height definition below)

Hertz (Hz) – Frequency of sound expressed by cycles per second.

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

Immission – Noise immitted at a receiver (dwelling) is transmitted from noise source (WTG) that emitted sound energy (see “emission”).

Immission spectra imbalance – The spectra are not in balance when the C-weighted sound level is more than 20 dB greater than the A-weighted sound level. For the purposes of this requirement, the A-weighted sound level is defined as the long-term background sound level (LA90) +5 dBA. The C-weighted sound level is defined as the L_{Ceq} measured during the operation of the wind turbine operated so as to result in its highest sound output. A Complaint Test provided later in this document is based on the immission spectra imbalance criteria.

Infra-Sound – sound with energy in the frequency range of 0-20 Hz is considered to be infra-sound. It is normally considered to not be audible for most people unless in relatively high amplitude. However, there is a wide range between the most sensitive and least sensitive people to perception of sound and perception is not limited to stimulus of the auditory senses. The most significant exterior noise induced dwelling vibration occurs in the frequency range between 5 Hz and 50 Hz. Moreover, levels below the threshold of audibility can still cause measurable resonances inside dwelling interiors. Conditions that support or magnify resonance may also exist in human body cavities and organs under certain conditions. Although no specific test for infrasound is provided in this document, the test for immission spectra imbalance will limit low frequency sound and thus, indirectly limit infrasound. See low-frequency noise (LFN) for more information.

Low Frequency Noise (LFN) – refers to sounds with energy in the lower frequency range of 20 to 200 Hz. LFN is deemed to be excessive when the difference between a C-weighted sound level and an

A-weighted sound level is greater than 20 decibels at any measurement point outside a residence or other occupied structure.

Measurement Point (MP) – location where sound measurements are taken such that no significant obstruction blocks sound from the site. The Measurement Point should be located so as to not be near large objects such as buildings and in the line-of-sight to the nearest turbines. Proximity to large buildings or other structures should be twice the largest dimension of the structure, if possible. Measurement Points should be at quiet locations remote from street lights, transformers, street traffic, flowing water and other local noise sources.

Measurement Wind Speed – For measurements conducted to establish the background noise levels (LA90 10 min, LC90 10 min, and etc.) the maximum wind speed, sampled within 5m of the microphone and at its height, shall be less than 2 m/s (4.5 mph) for valid background measurements. For valid WTG noise measurements conducted to establish the post-construction sound level the maximum wind speed, sampled within 5m of the microphone and at its height, shall be less than 4m/s (9mph). The wind speed at the WTG blade height shall be at or above the nominal rated wind speed and operating in its highest sound output mode. For purposes of enforcement, the wind speed and direction at the WTG blade height shall be selected to reproduce the conditions leading to the enforcement action while also restricting maximum wind speeds at the microphone to less than 4 m/s (9 mph).

For purposes of models used to predict the sound levels and sound pressure levels of the WTG to be submitted with the Application, the wind speed shall be the speed that will result in the worst-case LAeq and LCEq sound levels at the nearest non-participating properties to the WTG. If there may be more than one set of nearby sensitive receptors, models for each such condition shall be evaluated and the results shall be included in the Application.

Mechanical Noise – sound produced as a byproduct of the operation of the mechanical components of a WTG(s) such as the gearbox, generator and transformers.

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

Mitigation Waiver – a legally enforceable, written agreement between the Applicant and a Non-participating Landowner in which the landowner waives certain setback, noise or other protections afforded in the Ordinance. A parcel in which the landowner has entered into such an agreement becomes a Participating Parcel.

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

Nameplate Capacity – 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 – any unwanted sound. Not all noise needs to be excessively loud to represent an annoyance or interference.

Non-participating Landowner – any landowner other than a Participating Landowner or the owner of a Project Parcel.

Notification Area – the entire land base within two (2) miles, measured horizontally from the Project Boundary. All landowners with any part of their property within the notification area, or residents living within the notification area must be notified as specified in the Ordinance.

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

Operational License – a license or a license renewal issued by the Planning Board to operate a WTG in accordance with this Ordinance.

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

Participating Landowner – any person who holds title in fee to a Participating Parcel.

Participating Parcel – any parcel of real estate in which the owner has entered into a Mitigation Agreement. A Project Parcel shall not be considered a Participating Parcel.

Permitting Authority – the Planning Board, designated as responsible for conducting the review of WTG applications.

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

Project Boundary – the external boundary of the WTG development, which would contain all WTG(s) and related equipment that could generate noise, shadow flicker, or ice throw.

Project Parcel – any parcel(s) of real estate lying in part or in whole within the Project Boundary.

Property Line – the recognized and mapped property parcel boundary line.

Qualified Independent Acoustical Consultant – Qualifications for persons conducting baseline and other measurements and reviews related to the application for a WTG or for enforcement actions against an operating WTG include, at a minimum, demonstration of competence in the specialty of community noise testing. An example is a person with Full Membership in the Institute of Noise Control Engineers (INCE). There are scientists and engineers in other professional fields that have been called upon by their local community for help in the development of a WTG Noise Ordinance. Many of these scientists and engineers have recently spent hundreds of hours learning many important aspects of noise related to the introduction of WTG into their communities. Then with field measurement experience with background data and wind turbine noise emission, they have become qualified independent acoustical consultants for WTG siting. Certifications such as Professional Engineer (P.E.) do not test for competence in acoustical principles and measurement and are thus not, without further qualification, appropriate for work under this document. The Independent Qualified Acoustical Consultant can have no financial or other connection to a WTG developer or related company.

Scenic or Special Resource – 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.

Setback – the minimal allowable horizontal distance as measured from the Project Boundary to a defined point (e.g. a property line or a road).

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

Shadow Flicker – alternating changes in light intensity caused by the movement of wind turbine blades casting shadows on the ground or a stationary object.

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

Sound – A fluctuation of air pressure which is propagated as a wave through air

Sound Power – The total sound energy radiated by a source per unit time. The unit of measurement is the watt. Abbreviated as Lw. This information is determined for the WTG manufacturer under laboratory conditions specified by IEC 61400-11 and provided to the local developer for use in computer model construction. There is known measurement error in this test procedure that must be disclosed and accounted for in the computer models. Even with the measurement error correction it cannot be assumed that the reported Lw values represent the highest sound output for all operating conditions. They reflect the operating conditions required to meet the IEC 61400-11 requirements. The lowest frequency is 50 Hz for acoustic power (Lw) requirement (at present) in IEC 61400-11. This Ordinance requires wind turbine certified acoustic power (Lw) levels at rated load for the total frequency range from 6.3 Hz to 10k Hz in one-third octave frequency bands tabulated to the nearest 1 dB. The frequency range of 6.3 Hz to 10k Hz shall be used throughout this Ordinance for all sound level modeling, measuring and reporting.

Sound Pressure – The instantaneous difference between the actual pressure produced by a sound wave and the average or barometric pressure at a given point in space.

Sound Pressure Level (SPL) – 20 times the logarithm, to the base 10, of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micronewtons per square meter. In equation form, sound pressure level in units of decibels is expressed as $SPL (dB) = 20 \log p/p_r$.

Spectrum – The description of a sound wave's resolution into its components of frequency and amplitude. The WTG manufacturer is required to supply a one-third octave band frequency spectrum of the wind turbine sound emission at 90% of rated power. The published sound spectrum is often presented as A-weighted values but C-weighted values are preferred. This information is used to construct a model of the wind farm's sound immission levels at locations of interest in and around the WTG. The frequency range of interest for wind turbine noise is approximately 6 Hz to 10k Hz.

Statistical Noise Levels – Sounds that vary in level over time, such as road traffic noise and most community noise, are commonly described in terms of the statistical exceedance levels LNA, where LNA is the A-weighted sound level exceeded for N% of a given measurement period. For example, L10 is the noise level exceeded for 10% of the time. Of particular relevance, are: LA10 and LC10 the noise level exceeded for 10% of the ten (10) minute interval. This is commonly referred to as the average maximum noise level. LA90 and LC90 are the A-weighted and C-weighted sound levels exceeded for 90% of the ten (10) minute sample period. The L90 noise level is defined by ANSI as the long-term background sound level (i.e. the sounds one hears in the absence of the noise source under consideration and without short term or near-by sounds from other sources), or simply the "background level." Leq is the A or C-weighted equivalent noise level (the "average" noise level). It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.

Structure – the total footprint of all of the physical attributes of the entire WTG as defined in Title 38 M.R.S.A. § 482.

Tonal sound or tonality – Tonal audibility. A sound for which the sound pressure is a simple sinusoidal function of the time, and characterized by its singleness of pitch. Tonal sound can be simple or complex.

Tower – the freestanding structure on which the wind measuring or energy conversion system is mounted.

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

Wind Turbine Generators (WTG) – equipment that converts and then transfers energy from the wind into usable forms of electrical energy and includes 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.

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

9.0 Classification of Wind Turbines and Meteorological Towers

For the purpose of clarification, all WTGs are classified according to the following definitions:

9.1 Wind Turbine Classifications:

9.1.1 Type 1 – Small Wind Turbine means a single wind turbine with a nameplate capacity less than 10 kW, and a turbine height less than 100 feet. This ordinance does not apply to these.

9.1.2 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 feet.. This ordinance does not apply to these.

9.1.3 Type 3 – Large Wind Turbine means any wind turbine with a nameplate capacity between 100 kW and 1 MW, and with a turbine height of at least 150 feet but less than 300’.

9.1.4 Type 4 – Industrial Wind Turbine means any wind development where one or more wind turbines has a nameplate capacity of greater than or equal to 1 MW, or a turbine height greater than or equal to 300’.

9.2 Meteorological Towers (MET Towers)

MET Towers shall be permitted under Unity’s Land Use Ordinance.

10.0 Permit and Operational License Requirement

10.1 Permit Requirement

10.1.1 A permit is required for each WTG built in the Town of Unity after the effective date of this Ordinance. However, single phase WTGs of less than 150 feet and less than 100 kW name plate capacity are not regulated under this Ordinance.

10.1.2 The Planning Board will combine , to the fullest and most practical extent possible, and pursuant to Section 26.0, all Wind Turbines held under common or related ownership into a single WTG. With the exception of Projects owned by the Town of Unity, 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 regardless of separate corporate legal ownership.

10.1.3 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 Unity Land Use Ordinance or pursuant to other State or Federal jurisdiction.

10.2 Operational License

An Operational License is required for the operation of all WTGs. Applications for a WTG Operational License shall be submitted to the Planning Board.

10.2.1 Where an Applicant is applying for a new or amended WTG Permit, the application for a WTG Operating License, or amended license, shall be submitted to the Planning Board in conjunction with the Permit application, and shall include the application form and the separate fee specified in Section 10.2.10.

10.2.2 Where an Applicant is applying for a WTG Operational License renewal, a new License as the result of transfer of ownership or operation, or reinstatement or modification of an Operational License, the Applicant shall submit an application form, a copy of the existing WTG Permit and the fee specified in Section 10.2.10.

10.2.3 An initial Operational License shall be valid for one year. Each Operational License thereafter shall be valid for five years.

10.2.4 The granting of an Operational License is conditional upon the following criteria:

10.2.4.1 Demonstration by the Applicant of compliance with performance standards of the Ordinance.

10.2.4.2 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 chosen by the Permitting Authority, and attended by the Enforcing Authority. 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 Planning Board. 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.

10.2.4.3 Where there is no change of Ownership or operator, the inspection procedure and criteria specified in Section 10.2.4.2 shall be completed three months prior to the expiration of the initial Operational License and six months prior to the expiration of any subsequent Operational License.

10.2.5 Applications for Operational License renewals where there is no change of ownership of operator shall be submitted to the Planning Board three months prior to their expiration of the initial Operational License and six months prior to the expiration of any subsequent Operational License.

- 10.2.6 An Operational License shall automatically terminate upon transfer of ownership or operation of the WTG. 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 WTG. The application for renewal of the Operational License in the case of transfer of ownership or operation shall include the following items:
- 10.2.6.1 The Applicant's name, address and phone number, and the name, address and phone number of the Owner/operator, if different
 - 10.2.6.2 An emergency directory for the Owner/operator sufficient to allow the Town to contact the Owner/operator at any time
 - 10.2.6.3 Evidence of the Applicant's technical and financial ability to operate the WTG in accordance with this Ordinance, the Site Permit, and the Operational License
 - 10.2.6.4 For any Project Parcel that is not owned by the Applicant, a copy of any agreement(s) between the owner of the Project Parcel and the Applicant
 - 10.2.6.5 An updated safety plan in accordance the requirements of Section 14.2 .
 - 10.2.6.6 An updated fire prevention and emergency response plan in accordance with the requirements of Section 15.6.1;
 - 10.2.6.7 An updated emergency shutdown plan in accordance with the requirements of Section 21.4;
 - 10.2.6.8 An updated decommissioning and site restoration plan in accordance with the requirements of Section 22.0;
 - 10.2.6.9 Updated liability insurance information in accordance with the requirements of Section 14.4;
 - 10.2.6.10 Updated Real Estate Property Value Assurance Plan in accordance with the requirements of Section 23.0;
 - 10.2.6.11 A signed statement from the Applicant that the Applicant agrees to assume full responsibility for complying with the provisions of this Ordinance and the Site Permit, including agreeing to continue or complete any duties and obligations of the former Operational License holder under this Ordinance or former Operational License, including, but not limited to, the requirement for post-construction sound measurements, post-construction stray voltage testing, wind turbine inspections, and submission to inspections.
- 10.2.7 An Operational License shall automatically terminate upon any amendment to a permit.
- 10.2.8 Failure to comply with the provisions of this Ordinance may result in the suspension or revocation of the Operational License pursuant to Section 21.0;.
- 10.2.9 An Operational License shall be deemed abandoned if the WTGs operation has ceased for twelve consecutive months. An Operational License expires immediately upon abandonment.
- 10.2.10 Fees.
- 10.2.10.1 The application fee for an Operational License is \$1,000.00.

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

11.0 Permitting Authority

- 11.1 The Town of Unity Planning Board is authorized to review all WTG applications and may approve, reject or conditionally approve such applications in accordance with the standards of the Ordinance.
- 11.2 The Maine Department of Environmental Protection (DEP) may be required to review WTG applications. The Planning Board shall consider, at a minimum and to the extent applicable, pertinent findings in the DEP certification when making its determination.
- 11.3 The following types of permits require final approval by a vote of the residents of the Town of Unity:
- 11.3.1 Any WTG to be built on property owned by the Town
 - 11.3.2 Any WTG partially or totally owned by the Town.

12.0 Standards for Setbacks, Noise, Shadow Flicker, and Mitigation Waivers

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

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

12.1 Setback Standards

- 12.1.1 Setback to Non-participating Landowner Property Lines – WTGs shall not be located any closer than 5,280 feet (or one mile) from the property lines of non-participating landowners. Land owners may waive this setback with a written Mitigation Waiver. (See Section 12.4).
- 12.1.2 Setback to Utility Lines - WTGs shall not be located any closer than 1,600 feet from any above ground utility lines, excluding those erected to serve the WTG, unless agreed to in writing by the affected utility companies.
- 12.1.3 Setback to Public Roads - WTGs shall not be located any closer than 1,600 feet from any public road.
- 12.1.4 Setback to Scenic or Special Resource - WTGs shall not be located any closer than 2,400 feet from any scenic or special resource.
- 12.1.5 Setback to Occupied Building of Participating Landowner - WTGs shall not be located any closer than 1,600 feet from any occupied building owned by a Participating Landowner.

12.2 Noise Standards

For all wind turbines, the primary guiding principle is that their operation must not be disruptive at any time of day or night. Current sound limitations in the state of Maine regulating noise from WTG reflect sound limits applicable to urban residential and urban mixed neighborhoods instead of the deep quiet of rural areas such as Unity to which this Ordinance pertains.

12.2.1 Principles Governing Sound Measurements

- 12.2.1.1 Section 27.0 applies in addition to relevant paragraphs of Section 28.0. Procedures in Section 27.0 and Section 28.0 are mandatory and additional to the relevant application procedures.
- 12.2.1.2 Sound measurements must be made to all non-participating property lines within and up to two (2) miles measured horizontally from the Project Boundary.
- 12.2.1.3 All sound measurements will be filtered for both dBA and dBC.
- 12.2.1.4 All sound measurements before construction, and after will be made by a Professional Engineer who is a Full Member of the Institute of Noise Control Engineering (INCE).
- 12.2.1.5 This engineer must be an independent contractor to the Town of Unity, and have no conflicts of interest with the applicant.

12.2.2 Noise Limits on Property of Non-participating Landowners

- 12.2.2.1 Post-construction audible noise levels (dBA) on any property belonging to a Non-participating Landowner will not exceed 40 dBA at night (7 pm to 7 am) and 50 dBA during the day (7 am to 7 pm) Property owners may waive this noise restriction with a written Mitigation Waiver. (See Section 12.4.)
- 12.2.2.2 Post-construction low frequency noise levels (dBC) on any property belonging to a Non-participating Landowner will not exceed:
 - 1. 20 decibels (measured as dBC) above the pre-development ambient noise level (measured as dBA).
 - 2. A maximum of 50 dBC.Property owners may waive this noise restriction with a written Mitigation Waiver. (See Section 12.4.)
- 12.2.2.3 Noise measurement standards and procedures are described in Section 27.0 .

12.2.3 Violations and Enforcement

- 12.2.3.1 Sound Regulations Compliance. A WTG shall be considered in violation of its permit unless the applicant demonstrates that the project complies with all sound level limits using the procedures specified in this ordinance. Sound levels in excess of the limits established in this ordinance shall be grounds for the Town of Unity to order immediate shut down of all non-compliant Wind Turbine units.
- 12.2.3.2 A serious noise violation is defined as three (3) verified noise complaints attributed to the operation of a Wind Turbine within a period of one month or less with a measurable noise level greater than 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 Section

27.0. 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 21.4 .

12.2.3.3 Noise violations not determined to be an emergency pursuant to Sections 12.2.3.1 and 21.4, or not determined to be a serious violation pursuant to Section 12.2.3.2 , shall be managed pursuant to Section 21.6 . Testing, if necessary, will be paid for by the Owner/operator and hired independently by the Town. Testing will be conducted for an appropriate period of time and conducted according to the measurement standards and procedures set forth in Section 27.0 . 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 WTG. Mitigation involving significant construction or physical modification may have up to 90 days to be completed pursuant to Section 15.4.1.

12.3 Shadow Flicker and Blade Reflection

12.3.1 WTGs shall be designed and sited so that the amount of shadow flicker and/or blade reflection that falls on the property of a landowner shall not exceed 10 hours per year for any given receptor. Property owners may waive the Shadow Flicker and Blade Reflection restriction with a written Mitigation Waiver. (See Section 12.4.)

12.3.2 Violations and Enforcement

12.3.2.1 A serious shadow flicker or blade reflection violation is defined as: 1) three (3) days of significant nuisance shadow flicker or blade reflection, in any one month falling on a receptor that, if annualized, will be estimated to be more than 10 hours per year; or 2) any complaint of shadow flicker or blade reflection from vehicles on a public road. The predictive annualized calculation 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 WTG. Failure to mitigate the problem will result in the WTG being declared unsafe and emergency shutdown procedures will be implemented per Section 21.4.

12.3.2.2 Shadow flicker and blade reflection not determined to be a serious violation pursuant to Section 12.3.2.1, shall be managed pursuant to Section 21.6 . Field verification and modeling, if necessary, will be paid for by the Owner/operator and hired independently by the Town. 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 WTG. Mitigation involving significant construction or physical modification may have up to 90 days to be completed pursuant to Section 15.4.1.

12.4 Mitigation Waivers

Non-participating Landowners may modify or waive certain specified protections in this Ordinance using a written, legally enforceable Mitigation Waiver negotiated between the Applicant and the Non-participating Landowner. Copies of executed Mitigation Waivers must be included with the application. The Mitigation Waiver must be recorded in the Register of Deeds

office appropriate for the affected property. The deed must advise all subsequent owners of the burdened property.

12.4.1 The requirements permitted in Mitigation Waivers are:

12.4.1.1 Property line setbacks – Section 12.1.1.

12.4.1.2 Audible noise levels – Section 12.2.2.1 .

12.4.1.3 Low frequency noise levels – Section 12.2.2.2 .

12.4.1.4 Shadow Flicker and Blade Reflection – Section 12.3.1.

12.4.1.5 No Mitigation Waivers on other requirements set forth in this Ordinance are permitted.

12.4.2 The Mitigation Waiver must contain a separate paragraph for each specific requirement being modified or waived. Each paragraph must specify:

12.4.2.1 The requirement as set forth in this ordinance.

12.4.2.2 The modified requirement to which the affected property owner is now agreeing.

13.0 General Standards

All WTGs shall comply with the appropriate Standards of this Ordinance. No WTG shall cause unreasonable health or safety conditions.

13.1 Building Codes. All components of the WTG shall conform to local, state and national building codes.

13.2 Electrical Components and Interconnections. All electrical components of the Wind Turbine and WTG shall conform to relevant and applicable local, state, and national codes.

13.3 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.

13.4 Blade Clearance. The minimum distance between the ground and all blades of a Wind Turbine shall be 100 feet as measured at the lowest arc of the blades.

13.5 Signal Interference. WTGs will be designed and sited to prevent the disruption or loss of radio, telephone, television, or similar signals. (See Section 15.7 .)

13.6 Guy Wires, Blade Feathering and Bird Sensing Radar. Monopole towers with no guy wires are preferred to minimize bat and migratory bird fatalities, and bird fatalities in general. To further minimize such fatalities, wind turbines will be designed so that turbine blades are feathered. In addition, wind turbines will be equipped with bird sensing radar, and bird flight diverters will be installed on any tower with guy wires.

14.0 Appearance and Safety Standards

14.1 Appearance and Visibility Standards

- 14.1.1 Wind Turbines shall be a non-obtrusive color such as white, off-white or gray, or as may otherwise be required by another governmental agency with jurisdiction over the WTG.
- 14.1.2 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.
- 14.1.3 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 WTG. Additional lighting standards must be met for Wind Turbines (see Section 15.2.7).
- 14.1.4 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, emergency contact information, and for any appropriate warnings.
- 14.1.5 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 the property Non-participating Landowners, Scenic Resources and public roads.
- 14.1.6 When existing features do not screen views of a Wind Turbine from the property of Non-participating Landowners, 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.

14.2 Safety Standards

- 14.2.1 Design. The design of the Wind Turbines and WTG shall conform to applicable industry standards, including those of the American National Standards Institute, (ANSI) 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.
- 14.2.2 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.
- 14.2.3 Warnings. A clearly visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.

14.3 Inspections

Wind Turbines shall be inspected after construction is completed but before becoming operational, and at least every year thereafter, for structural and operational integrity by a Maine licensed professional engineer chosen by the Permitting Authority, 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. The Enforcing Authority shall participate in each inspection.

14.4 Liability Insurance

The Applicant shall maintain a current general liability policy for the WTG that covers bodily injury and property damage in an amount commensurate with the scope and scale of the Turbine or Project. The Applicant or its designee shall provide certificates of insurance to the Planning Board, and provide a copy of each annual renewal to the Planning Board. (See Section 28.2.35)

15.0 Financial, Environmental and Operational Standards

15.1 Financial Performance Standards

The Applicant must demonstrate that the WTG is financially viable and that the Owner/operator has the financial ability to complete the project.

15.2 Environmental Impact Standards

15.2.1 Unity Site Plan Review Ordinance. Proposed WTGs shall meet the applicable standards of the Unity Site Plan Review Ordinance

15.2.2 Environmentally Sensitive Area. The plan for the WTG 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.

Given that areas within the Town of Unity are wildlife-management areas and that protected bird species and migratory birds are regularly observed within the boundaries of the Town, the applicant must comply with the "Guidelines for Wind Project Ecological Study" by the Maine Department of Environmental Protection and Maine Department of Inland Fisheries and Wildlife.

15.2.3 Wildlife Protection

15.2.3.1 The Applicant will demonstrate that the WTG 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 WTG will have no significant 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 Unity and paid for by the Applicant.

15.2.3.2 If the post-construction field studies demonstrate significant adverse effect to birds, bats, game animals or habitat fragmentation, the Town, the Owner/operator and the Maine Department of Inland Fisheries and Wildlife (MDIFW) shall develop an appropriate mitigation plan. The Owner/operator will be responsible for the full cost of implementing the mitigation plan under the supervision of MDIFW.

15.2.4 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.

15.2.5 Erosion Control. The WTG 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.

15.2.6 Groundwater Protection. The WTG 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, including underground rivers, 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 two-mile radius of the foundation shall be established. If degradation or contamination occurs, permanent remedies shall be the responsibility of the Owner/operator.

15.2.7 Light Pollution. The WTG 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.

15.2.8 Relation to DEP Certification and Permitting. If DEP has issued a Site Location of Development Act permit for a WTG there is a rebuttable presumption that the development meets the requirements of Sections 15.2.2 and 15.2.3. If a DEP Site Location of Development permit is required, the Planning Board will require the permit to be issued before the application is deemed complete and may take the recommendations under advisement to determine compliance with Sections 15.2.2 and 15.2.3.

15.3 Scenic or Special Resource Standards

15.3.1 Except as otherwise provided in this subsection, if a WTG is proposed for a 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 15.3.3. There is a rebuttable presumption that a visual impact assessment is not required for those portions of a WTG 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 WTG 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.

15.3.2 The Planning Board shall determine, based on consideration of the evaluation criteria in subsection 15.3.3, whether the WTG significantly compromises views from or of a designated Scenic or Special Resource such that the proposed facility has an unreasonable adverse effect on the scenic character or existing uses related to scenic character of that Scenic or Special Resource.

15.3.3 In making its determination pursuant to subsection 15.3.2, and in determining whether an Applicant for a WTG located more than 3 miles from a Scenic Resource must provide a visual impact assessment in accordance with the Unity Land Use Ordinance, the Planning Board shall consider:

15.3.3.1 The significance of the potentially affected Scenic or Special Resource;

15.3.3.2 The existing character of the surrounding area;

15.3.3.3 The expectations of the typical viewer;

15.3.3.4 The WTG Project's purpose and the context of the proposed activity;

15.3.3.5 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

15.3.3.6 The scope and scale of the potential effect of views of the WTG 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 WTG Project on the landscape.

15.4 Construction/Design Standards

15.4.1 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, the 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.

15.4.2 Electrical Design Standard. On-site power and transmission lines shall be placed underground to a depth consistent with Good Utility Practice. Wind Turbines shall be engineered according to Good Utility Practice to prevent transient ground currents and stray voltage. The Applicant shall demonstrate that there will be no significant adverse effect upon the environment or individuals from transient ground currents and stray voltage.

15.4.3 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 Unity due to the WTG. 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.

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

15.5 Operational Performance Standards

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

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

15.6 Public Safety and Health Standards

15.6.1 Fire Protection. The Applicant shall prepare a plan in consultation with the Town of Unity fire department as part of the permitting process. The plan shall address all activities at the WTG 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 WTG complies with the following control and prevention measures and assumes responsibility for all associated incremental costs:

15.6.1.1 Use of fireproof or fire resistant building materials and buffers or fire retardant landscaping around WTGs as appropriate.

15.6.1.2 Incorporation of a self-contained fire protection system to address nacelle fires including but not limited to redundant fire quenching systems in the nacelle.

15.6.1.3 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.

15.6.1.4 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 WTG that is beyond the current capabilities and duties of the local fire department.

15.6.2 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. The Town of Unity may require that a plan be submitted by the Applicant demonstrating the ability and intent to meet such compliance.

15.6.3 Blasting. Owner/operator shall not undertake any blasting in connection with the construction of the WTG 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 Planning Board before any blasting may take place. No blasting shall be undertaken without 48 hour notification to all residents within a two mile radius, measured horizontally, from the blasting area. All blasting operations will cover the blasting area with mattresses to prevent debris from falling on nearby properties.

15.7 Communications and Electromagnetic Interference Standards

15.7.1 WTGs 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.

15.7.2 The Owner/operator of the WTG 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.

15.7.3 The Owner/operator of the WTG shall respond within five business days to any request for communications interference investigation by a property owner or resident within a three-mile radius, measured horizontally, of the WTG. Testing will commence within five 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.

15.8 Ground Transportation Standards

15.8.1 The Applicant shall identify all public ways to be used within the Town of Unity to transport equipment and parts for construction, operation or maintenance of the Wind Turbines.

15.8.2 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.

15.8.3 The Town of Unity may bond the road(s) in compliance within state regulations.

15.8.4 Any road damage caused by the Applicant or its contractors shall be promptly repaired at the Owner/operator's expense.

15.8.5 The Applicant shall demonstrate that it has appropriate financial insurance to ensure the prompt repair of damaged roads.

15.9 Plan and Risk Assessment for Road and Property Use

15.9.1 An Application for a WTG Site Permit shall include a road and property use and risk assessment plan containing the following information and meeting the following requirements.

- 15.9.1.1 A description and map of all public ways, and other property, in the Town to be used or affected in connection with the construction of the WTG, including a description of how and when such ways and property will be used or affected.
- 15.9.1.2 A description of the type and length of vehicles and type, weight and length of loads to be conveyed on all public ways in the Town.
- 15.9.1.3 A complete assessment of the proposed use of public ways in the Town in connection with the construction of the WTG, including: the adequacy of turning radii; the ability of the public ways to sustain loads without damage; the need to remove or modify (permanently or temporarily) signs, trees, utilities, or anything else; any reasonably foreseeable damage to public ways or other property, public or private; any reasonably foreseeable costs that the Town may incur in connection with the use of property in the Town, including but not limited to costs relating to traffic control, public safety, or damage to public ways, or to other public or private property.
- 15.9.1.4 A traffic control and safety plan relating to the use of public ways in the Town in connection with the construction of the WTG.
- 15.9.1.5 Any additional relevant information that the Planning Board may request relating to the use of public ways or other effects on public and private property that may occur in connection with the construction and operation of the WTG.
- 15.9.2 The Planning Board will evaluate the risk assessment plan with assistance from such consultants that it deems appropriate, including without limitation a third-party engineer chosen by the Planning Board, the cost to be solely borne by the Applicant. The Planning Board may document the condition of public ways and other property to be used in connection with the construction of the WTG in such manner as it deems appropriate. The Planning Board may require changes to the risk assessment plan that it deems to be appropriate to protect public safety, to protect public and private property, and to address anticipated costs to the Town associated with construction of the WTG.
- 15.9.3 If the Applicant requires the temporary closure of any public way, the Planning Board may require the Applicant to enter into an agreement relating to the use of the public way.
- 15.9.4 The Applicant shall be responsible for paying for any damage to any public way. If the risk assessment anticipates damage to any public way, the Planning Board may require the Applicant to provide a surety in an amount that the Planning Board determines appropriate to secure any obligation under the agreement, including but not limited to any obligation relating to alterations or modifications to public ways made in connection with the Applicant's activities.
- 15.10 Reporting Requirements:
- 15.10.1 Extraordinary Events. The Owner/operator shall notify the Town 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 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.

Additionally, the Owner/Operator will provide the Town and its residents with a hotline phone number for reporting of any such extraordinary events to a manned facility on call 24 hours a day, 365 days a year.

15.10.2 Change of Owner/operator. The Owner/operator will notify the Town of Unity of a pending change of ownership in writing 30 days before the effective change. New owners will apply for a transfer of permits to be reviewed by the Town Of Unity and will assume all the obligations of the selling Owner/operator.

15.10.3 Reports from annual safety inspections pursuant to Section 14.3.

15.10.4 Annual proof of liability insurance pursuant to Section 14.4.

16.0 Application Submission Requirements and Procedural Time Frames

16.1 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.

16.2 Site Inspection

The Planning Board reserves the right to establish a time for a site inspection at any time during the application process. Planning Board and Applicant will set a mutually agreeable time for the Planning Board to inspect the site. 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 WTG and relevant property boundaries. The Applicant or a representative will accompany the Planning Board to describe the project and answer any questions.

16.3 First Public Hearing

The Planning Board will schedule a public hearing to be held within 60 days of the pre-application meeting process for the WTG.

16.4 Notice to Abutters and residents within the Notification Area

In addition to any required public notices for the site inspection and first public hearing, the Planning Board will prepare a notice to property owners and residents within the Notification Area. The notice will briefly describe the proposed WTG 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. The town will give residents no less than 14 days' notice of such a meeting.

16.5 Determine Submission Requirements

Within 60 days of the pre-application meeting the Planning Board shall inform the Applicant in writing of the submission requirements for the application. The submission requirements for WTGs are listed in Section 28.0. If the Applicant wishes to have any of the submission

requirements waived, the Applicant must make the request in writing to the Planning Board. The Planning Board will notify property owners and residents within the Notification Area. The notice will be sent by certified mail with mailing costs paid for by the Applicant. The Planning Board will send the notice at least 14 days prior to the Planning Board meeting at which the Applicant's request will be considered.

16.6 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 notify the Board of Selectmen and forward the application to the Planning Board.

16.7 Completeness Review

The Planning Board will notify the Applicant within 90 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 needed 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.

16.8 Second Public Hearing

The Planning Board will schedule a second public hearing to be held within 60 days of the determination of completeness of the Application for the WTG.

16.9 Notice to Town of Unity

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 Unity and to property owners and residents within the Notification Area. The notice will briefly describe the proposed WTG 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. The town will give residents no less than 14 days' notice of such a meeting.

16.10 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 60 days from the date of the second public hearing.

16.11 Final Town Approval

Final Town approval is required if the WTG is located on Town property or if the WTG is wholly or partially owned by the Town.

17.0 Professional Services

In reviewing an application for compliance with this Ordinance, 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 the sum listed in Subsection 28.1.2 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 \$5000 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.

18.0 Application Changes

- 18.1 Throughout the permit process, the Applicant shall promptly notify the Permitting Authority of any changes to the information contained in the permit application.
- 18.2 Material changes may not be made to a WTG 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 the nameplate capacity of the 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.

19.0 Cumulative Effect of Multiple Permits

The Town of Unity reserves the right to limit the total number of WTG permits that are under review for approval at any given time. The Permitting Authority will process no more than one application at any one time, or the deadline for submission and review may be modified correspondingly to reflect the increased workload of multiple permits.

20.0 Appeals

- 20.1 The Board of Appeals shall have the power to hear and decide administrative appeals, 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. Any order, requirement, decision or determination made, or failure to act, in the enforcement of this Ordinance is not appealable to the Board of Appeals.
- 20.2 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 of 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.
- 20.3 For the purposes of hearing appeals, at a minimum, all property owners and residents within the Notification Area shall be deemed to have interested party standing. The Appeals Board may grant other individuals interested party standing as special circumstances warrant. All interested parties must be sent notice by certified mail with mailing costs paid for by the Applicant. The

Appeals Board will give interested parties a reasonable and appropriate amount of time to present information and rebuttals.

20.4 A final Town vote as outlined in Section 16.11 shall not be subject to Appeals Board review.

21.0 Complaints/ Violations/ Enforcement

21.1 General Standard. No person, firm or corporation shall 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 or Operational License issued under this Ordinance.

21.2 Enforcing Authority. The CEO will serve as the Enforcing Authority for WTGs. The Enforcing Authority will:

21.2.1 Have the authority to conduct investigations, resolve complaints, ensure compliance with and enforce standards, and levy penalties if required.

21.2.2 Appoint qualified representatives to investigate complaints. The costs and fees for the qualified representative will be paid by the Owner/operator and may include engineers, consultants, and other professionals.

21.2.3 Recommend to the Planning Board amendments to this Ordinance deemed necessary to address health or safety concerns not currently addressed in this Ordinance.

21.2.4 Have access to Town legal counsel as required.

21.3 Enforcement. 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) financial penalties; and 5) other remedies.

21.4 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 caused by the WTG that presents an imminent physical threat of danger to life or significant threat to property. A WTG 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 in good standing prior to resumption of operation. The Town 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 Town of the occurrence and proposed remedial action.

21.5 Serious Violations of Standards

The Owner/operator of the WTG shall respond within five business days to any complaint or complaints deemed by the Enforcing Authority to have merit. 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 WTG. Pursuant to Section 15.7.2, interference with emergency communications must be responded to in one day and mitigated within 2 days.

21.6 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 21.4, nor a serious violation pursuant to Section 21.5, 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 negotiations to resolve the alleged violation. Such negotiations 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 WTG. Mitigation involving significant construction or physical modification may have up to 90 days to be completed pursuant to Section 15.4.1.

21.7 Penalties

Any Person or Applicant who fails to comply with any provision of this Ordinance by failing to reach agreement with the Enforcing Authority, or after the expiration of the mitigation periods defined in Section 21.5 and Section 21.6, shall be fined at least five hundred dollars (\$500) but no more than one thousand dollars (\$1000) for each WTG. A separate offense shall be deemed to be committed on each day during which a violation occurs or continues to occur.

21.8 Other Remedies

If the Owner/operator has not corrected the violation within the timeframes contained in Section 21.5 or Section 21.6, the Enforcing Authority shall order the WTG to cease operation until the WTG can prove compliance with the standards of this Ordinance. At the discretion of the Enforcing Authority, penalties and fines may continue to accrue during this period. If after 6 months of being ordered to cease operations the Owner/operator has not demonstrated good faith and significant effort in resolving the issue, the Enforcing Authority shall initiate the decommissioning procedure pursuant to Section 22.0.

21.9 Identifying Violations and Registering Complaints

21.9.1 Pursuant to Section 15.10.1, the Owner/operator will report to the Town all extraordinary events within 24 hours of their occurrence.

21.9.2 For Wind Turbines the Town will maintain, at the Owner/operator's expense, a system for recording and investigating all complaints related to the WTG. 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 WTGs will be referred to the Enforcing Authority in a timely manner.

22.0 Decommissioning Standards

- 22.1 The Owner/operator shall, at its expense, complete decommissioning of the WTG within: 1) twelve (12) months after the end of the useful life of the WTG, or; 2) as specified in the materials provided at the time of application or; 3) pursuant to remedies described in Section 21.8. The WTG 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.
- 22.2 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 Wind Turbine or WTG's useful life, as determined in accordance with Section 22.1, the Applicant provides written evidence of plans for continued beneficial use of these components of the WTG, and this evidence is approved by the Planning Board.
- 22.3 Except as otherwise provided by Section 22.2, disturbed earth shall be graded and re-seeded, unless the Participating Landowner of the affected land requests otherwise in writing.
- 22.4 An independent and certified Professional Engineer shall be retained to estimate the total cost of decommissioning without regard to salvage value of the equipment ("Decommissioning Costs"), and the cost of decommissioning including the salvage value of the equipment ("Net Decommissioning Costs"). Said estimates shall be submitted to the Town of Unity after the first year of operation and every other year thereafter.
- 22.5 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 one hundred percent (100%) 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 Landowners 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 Unity. No work can begin on the WTG before the decommissioning bond is issued and approved.
- 22.6 Decommissioning funds may be in the form of a performance bond, surety bond, letter of credit, or other form of financial assurance as may be acceptable to the Town of Unity.
- 22.7 If the Owner/operator fails to complete decommissioning within the period prescribed by Section 22.1, then the Participating Landowner shall have an additional six (6) months to complete decommissioning.
- 22.8 If neither the Owner/operator, nor the Participating Landowner completes decommissioning within the periods prescribed by Sections 22.1 and 22.7 the Wind Turbine or WTG shall be deemed to be in violation of this Ordinance and the Town of Unity may take such measures as necessary, including court action, to ensure the completion of decommissioning. The entry into and submission of evidence of a Participating Landowner agreement to the Town of Unity shall constitute agreement and consent of the Parties to the agreement, their respective heirs, successors and assigns that the Town of Unity may take such action as necessary to implement the decommissioning plan.
- 22.9 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.

23.0 Real Estate Property Value Assurance Plan

The WTG Owner/operator must provide the Real Estate Property Value Assurance Plan (REPVAP) to all Non-Participating landowners who: 1) own property within one mile, measured horizontally, from the Project Boundary, and 2) have not signed any mitigation waivers. This is a legally binding contract with the Owner/operator and its successors and the landowners. Each one of these contracts must be submitted with the application.

The elements of the Real Estate Property Value Assurance Plan are as follows:

23.1 Establishing the Current Value of the Home

23.1.1 Three neutral real estate agents will be selected from a list of agents licensed in the State of Maine and conducting business in the general project area.

23.1.2 Each agent shall perform a Comparative Market Analysis (CMA) of the property – in its current state – which will compare the property size and improvements to no less than three similar properties that have sold with the past two years, using generally accepted CMA methods.

23.1.3 The two highest property valuations determined from each CMA will then be averaged to determine the “baseline” property value for REPVAP purposes only. The CMAs will be performed at the Applicant’s expense. The property owner hereby agrees to permit access to the property as required to perform the CMA inspection. Furthermore, the property owner hereby agrees to provide full disclosure of known defects of the property as may be required under Maine State Law.

23.1.4 The agents preparing the CMAs will provide a written copy of their report to both the property owner and the Applicant. Both the Applicant and the land owner reserve the right to reject CMA results only in the instance of a clear mistake by the agent.

23.2 Establishing the Future Value of the Home if Listed for Sale.

23.2.1 If at any time during the three year period after a permit to erect the WTG, the property owner lists the property for sale with a qualified realtor from the Board of Realtors, then an “updated” Comparative Analysis will be prepared, again at the Applicant’s expense, using the same procedure outlined above. The updated CMA will explicitly take into account any changes in local market conditions for comparable properties unaffected by the wind project, as well as any improvements to the home and/or lot.

23.2.2 In the event that the property has been listed for at least 12 months and sells for less than the market value determined by the updated CMA average, the Applicant will pay the difference in value within 30 days after closing of the sale of the property. The 12 month listing requirement may be waived by Applicant if requested by the property owner at the Applicant’s sole discretion.

23.3 Other stipulations

23.3.1 The property owner hereby grants the Applicant the right to purchase the property at the greater amount of the updated CMA average market value or the highest bona fide offer.

23.3.2 In the event the property was offered for sale and did not sell or generate any acceptable bona fide offers within 12 months, the Applicant will pay the difference in value between the updated CMA averaged market value and the highest bona fide offer, but only upon reasonable certification by the property owner's selling agent that the lack of an acceptable offer or sale was attributable solely to the close proximity of the property to the WTG, and not due to any other reason whatsoever including but not limited to market conditions or specific deficiencies related to the property that was otherwise assumed to be satisfactory.

23.3.3 If the property does not sell within an 18 month period, the Applicant will have to purchase the property at the updated CMA average market value..

23.4 Subject to the Applicant's right to waive any or all these exclusions, the plan outlined herein does not cover a sale or transfer of the property under any of the following conditions.

23.4.1 If the property owner does not have clear and marketable title.

23.4.2 If the property has not been listed for sale for at least 12 months as a continuous period.

23.4.3 If the property is gifted or assigned to another person.

23.4.4 If the property is not listed for sale in accordance with Section 23.4.2 at some point.

23.4.5 If the property is not reasonably maintained in its current condition, reasonable wear and tear excepted.

23.5 Additional Conditions:

23.5.1 A property owner can participate voluntarily in this plan, under the terms and conditions established herein, but the benefit is not assignable to new or subsequent property owners.

23.5.2 If the Applicant sells or transfers ownership of the WTG, it must assign, transfer, pledge, or otherwise dispose of its obligations and interests under this agreement in a form acceptable to the contracting landowners, unless released in writing by contracting landowners. If no agreement can be reached, then the Applicant shall, before sale of the WTG, place into an escrow account, in favor of the landowner(s) the full value of the property, to be accessed by the landowner(s) if no sale is finalized within the time allocated in Section 23.4.2.

23.5.3 In the event any landowner experiences health problems directly attributable to the operation of the WTG, such that the home is rendered uninhabitable, and unsellable, the listing period will be waived, and the Applicant will be responsible for all medical expenses incurred, including but not limited to doctor visits, hospital visits and stays, medical procedures, medication and cost of lodging away from the home, up until such time as the Applicant purchases the affected property at its full value before the approval and operation of the WTG reduced the property's worth.

24.0 Tax Valuation Agreement and Tax Impact Statement

24.1 Tax Valuation Agreement

24.1.1 WTGs 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 Title 30-A M.R.S.A. §5241, are required to have a written agreement between the Town of Unity and the Owner/operator designating the financial methodology that will be used for tax valuation purposes (“Tax Valuation Agreement”).

24.1.2 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.

24.1.3 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.

24.2 Tax Impact Statement

A Tax Impact Statement must be prepared and presented to the Town. It will contain year-by-year for 10 years estimates of Unity resident's tax burden using the following data: 1) re-appraised values for all residents within 2 miles of the WTG, 2) State re-assessment for school tax amounts (assume constant school budget and constant contributions from Towns other than Unity), 3) other residents properties are presumed to stay at their same value. This Tax Impact Statement will be prepared by an Accountant hired by the Town at Owner/operator's expense. The Tax Impact Statement will be presented to the Town for information.

25.0 Jurisdiction Across Multiple Municipalities

This section addresses issues unique to the geography of the Town of Unity and its neighboring towns with which it shares a common boundary. In the event that potential sites for WTGs share multiple municipal jurisdictions, project permits 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.

25.1 This Ordinance applies to WTGs located wholly or partially in the Town of Unity to the fullest extent allowable by municipal, state, and federal law.

25.2 Approval to build or operate a WTG applies only to that portion of the WTG located within the boundaries of the Town of Unity. However, the application must take into account the entire WTG 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 WTG located in the Town of Unity.

25.3 Setback, Noise, Shadow Flicker and Mitigation Waiver standards for WTGs located and operated in the Town of Unity shall apply to property lines and roads irrespective of Town boundaries. For the purpose of this section a resident of such abutting towns is afforded the same protections as a resident of Unity.

25.4 This subsection applies to WTGs that are located partially in Unity and partially in neighboring Towns. To receive a permit from the Town of Unity for that portion of the WTG located in the

Town of Unity, the Owner/Operator shall agree in writing that the most protective setback and noise ordinance standard from any Town located within the WTG area shall control. The controlling ordinance must be in effect at the time the permit is granted.

- 25.5 The Town Clerk shall forward notice of WTG permit applications within 10 days of receipt, and notice of hearings and public meetings 14 days in advance, to the Selectmen and Planning Boards of adjacent communities for all WTGs if the neighboring community is located within a defined Setback of this Ordinance.

26.0 Ethical Standards

26.1 Transparency, Public Participation and Highest Ethical Standards

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

26.2 Public Access

All deliberations concerning WTGs, whether in writing or conducted verbally, by the Planning Board, Selectmen, Appeals Board, and any subcommittees or working groups of the aforementioned bodies shall fully comply with the letter and spirit of State law regarding Freedom of Access pursuant to Title 1; Chapter 13; Subchapter 1. Specifically, all deliberations regarding WTGs 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 WTGs will be recorded and posted. Copies of all correspondence and e-mails will be made available to the public with the exception of those publicly 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.

26.3 Conflicts of Interest

The process to develop, permit and administer WTGs 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 WTGs. Conflicts of interest include but are not limited to:

1. having a lease as a Participating Landowner for a Wind Turbine or a lease for a 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 or related to an Applicant with a pending application for a WTG, and,
5. knowing there is a substantial opportunity to accept bids, receive remuneration, or employment valued at greater than \$10,000 on behalf of a wind development company or as a subcontractor or employee .

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 WTGs, with the exception of voting and debating as a private citizen at any public meetings and public hearings.

26.4 Bidding and Contracting for Community Owned Wind Projects

All bidding, contracts and employment for WTGs that are Community Owned Wind projects must be awarded through a process of public notice and competitive bidding. The Town of Unity reserves the right to design the bidding process to favor local contracts and local employment.

26.5 Code of Ethics for Wind Companies and Municipal Employees

26.5.1 Wind companies will not hire municipal employees or their relatives, give gifts of more than \$10 during a one-year period, or provide any other form of compensation that is contingent on any action before a municipal agency

26.5.2 Wind companies will not solicit, use, or knowingly receive confidential information acquired by a municipal officer in the course of his or her official duties.

26.5.3 Wind companies will establish and maintain a public Website to disclose the names of all municipal officers or their relatives who have a financial stake in WTG development.

26.5.4 Wind companies will submit, in writing to the municipal clerk for public inspection, and additionally will publish in the local newspaper, the nature and scope of the municipal officer's financial interest.

26.5.5 All wind easements and leases will be in writing and filed with the County Clerk for public inspection.

27.0 **Noise Measurement Standards and Procedures**

27.1 A qualified independent acoustical consultant who is a Full Member of the Institute of Noise Control Engineering (INCE) shall conduct all noise studies. The acoustical consultant shall be hired by and report to the Permitting Authority. The Applicant will pay for the studies.

27.2 The WTG Applicant/Licensee shall provide all technical information and wind farm data required by the qualified independent acoustical consultant before, during, and/or after any acoustical studies required by this document and for acoustical measurements.

27.3 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.

- 27.4 Except as specifically noted otherwise, measurements shall be conducted in compliance with ANSI Standard S12.18-1994 "Outdoor Measurements of Sound Pressure".
- 27.5 Along with information about the make, model, and name plate capacity of all turbine potentially used in the proposed WTG, the Applicant will also supply their sound power levels (Lw) for each 1/3 octave band from 6.3 Hz to 10k Hz.
- 27.6 A sound propagation model predicting the sound levels immitted into the community computed using at minimum 1/1 octave band sound power levels to compute the LCeq and LAeq levels to generate LAeq and LCeq contours in 5 dB increments overlaying an aerial view and property survey map from the WTG property out to a distance to include all residential property lines within two (2) miles measured horizontally from the Project Boundary.
- 27.7 Prior to permit application approval, a pre-construction ambient noise level study shall be conducted at each property line within 2 miles measured horizontally from the Project Boundary.
- 27.8 The tests shall be conducted using both an A-weighting scale (dBA) and low frequency C-weighting scale (dBC).
- 27.9 Predictions shall be made at all property lines within and outward for two (2) miles measured horizontally from the Project Boundary for the wind speed, direction and operating mode that would result in the worst case WTG nighttime sound emissions.
- 27.10 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.
- 27.11 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.
- 27.12 Outdoor noise level measurements must be taken at 6 feet above the ground and at least 15 feet from any reflective surface.
- 27.13 Duration of measurements shall be a minimum of ten continuous minutes for each criterion at each location.
- 27.14 Measurements must be made when the wind levels are less than 4.5 mph and with appropriate wind screening for the recording device.
- 27.15 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.
- 27.16 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.
- 27.17 Measurements shall be taken at each of the following three time periods:
- 27.17.1 Day (10 a.m. – 2p.m.)
 - 27.17.2 Evening (7p.m. -11 p.m.)
 - 27.17.3 Night (12 midnight – 4 a.m.)

- 27.18 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 (e.g., three daytime measurements in the winter, three evening measurements in the winter, and 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.
- 27.19 For each measurement the following minimum criteria will be recorded:
- 27.19.1 L_{max}, Leq, L₁₀ and L₉₀ in dBA
 - 27.19.2 L_{max}, Leq, L₁₀ and L₉₀ in dBC
 - 27.19.3 A narrative description of any intermittent noises registered during each measurement
 - 27.19.4 Wind speed and direction at time of measurement
 - 27.19.5 Description of weather conditions at time of measurement
 - 27.19.6 Description of topography and contours relative to proposed or actual Wind Turbines
- 27.20 A comparison of the expected sound levels from the proposed WTG with the sound level limits of this regulation shall be submitted. Per Maine TA Bulletin #4, a written report comparing the expected sound levels with the pre-development ambient sound levels will help determine compliance with the standard.
- 27.21 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.
- 27.22 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 more serious nuisance than broadband noise.
- 27.23 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.
- 27.24 For noise 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.
- 27.25 Within twelve months of the date when the project is fully operational, and within four weeks of the anniversary date of the pre-construction background noise measurements, repeat the existing sound environment measurements taken before the project approval. Post-construction sound level measurements shall be taken both with all WTGs running and with all WTGs off.
- 27.26 The post-construction measurements will be reported to the Town of Unity (available for public review) using the same format as used for the preconstruction sound studies. Post-construction noise studies shall be conducted by a firm chosen and hired by the Town of Unity. Costs of these studies are to be paid by the Licensee.
- 27.27 Any noise level falling between two (2) whole decibels shall be deemed the higher of the two.

27.28 When testing for WTG noise compliance, all measurements at the test location must be the pre-turbine background noise measurement location nearest to the home of the complainant in line with the WTG and nearer to it. The time of day for the testing and the wind farm operating conditions plus wind speed and direction must replicate the conditions that generated the complaint. Procedures of ANSI S12.9-Part 3 apply. The effect of instrumentation limits for wind and other factors must be recognized and followed.

28.0 WTG Submission Standards and Fees

28.1 Fees and Bonds.

28.1.1 Application Fee: \$5,000.00.

28.1.2 Professional Fees Escrow: one half of one percent of the estimated cost of the project, minimum balance of \$25,000.00 at all times.

28.1.3 Decommissioning Bond: See Section 22.0.

28.1.4 Road Damage Bond: See Section 15.9.4.

28.2 Submission standards.

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:

28.2.1 Applicant's name and contact information.

28.2.2 Legal Owner/operator and contact information.

28.2.3 Description of the legal structure of the WTG including a corporate organizational chart, ownership and equity structure, and all investors.

28.2.4 Description of the proposed WTG that includes the number of Wind Turbines, the nameplate capacity of each Wind Turbine, Turbine Height and manufacturer's specifications for each Wind Turbine, the aggregate generating capacity of the entire project, and a description of associated facilities.

28.2.5 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 Unity and major geographical features.

28.2.6 Detailed site plan showing the location of each Wind Turbine and Associated Facility and any of the following features located within 1.5 times 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.

28.2.7 Copies of all Participating Landowner agreements and easement agreements. Dollar amounts may not remain confidential.

- 28.2.8 Copies of any deeds or purchase agreements for land owned or under option by the Owner/operator.
- 28.2.9 Receipt showing payment of application fees and escrow for professional and public hearing fees.
- 28.2.10 A copy of the most current business plan for the WTG.
- 28.2.11 A copy of all collected and available relevant wind data for the WTG. This information is a critical indicator of the long-term financial viability of the project.
- 28.2.12 Proof of financing.
- 28.2.13 Reference list of all previous WTGs with which the Owner/operator has been affiliated.
- 28.2.14 Proof of compliance with all required setbacks. The Applicant shall work with the Permitting Authority to complete a pre-construction noise study per Section 27.0 . This study must be completed before the permit can be approved.
- 28.2.15 A detailed noise prediction model for worst-case noise scenarios based on wind speed and wind direction for the WTGs. The study shall be projected onto a contour map for a minimum of two miles from each Wind Turbine. Worst-case scenarios for each property line within the 2-mile radius, measured horizontally from the Project Boundary, 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.
- 28.2.16 As part of the review process, the Applicant will, per Maine TA Bulletin #4, provide written demonstration that the noise standards in this Ordinance will be met.
- 28.2.17 The Wind Turbine manufacturer's noise emission specifications for each Wind Turbine model.
- 28.2.18 A shadow flicker and blade reflection model for the proposed WTG. 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 220.
- 28.2.19 Copies of all executed Mitigation Waiver agreements concerning Setbacks, Noise and Shadow Flicker/Blade Reflection. Dollar amounts may not remain confidential.
- 28.2.20 Written demonstration that the Wind Turbine Plan is consistent with the Unity Site Plan Review Ordinance.
- 28.2.21 Documentation showing compliance with Section 15.2.2, both during construction and post construction.
- 28.2.22 Documentation showing compliance with Section 15.2.3 and with Section 15.2.4.
- 28.2.23 Documentation showing compliance with Section 15.2.5. Documentation must include a construction site erosion plan and storm water runoff control plan that minimizes potential adverse impacts on streams and wetlands.
- 28.2.24 Documentation showing compliance with Section 15.2.6.

- 28.2.25 Documentation showing compliance with Section 15.2.7.
- 28.2.26 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.
- 28.2.27 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 is 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 WTG.
- 28.2.28 A visual impact assessment pursuant to Section 15.3 .
- 28.2.29 Photographs of existing conditions of each Wind Turbine and associated facility site.
- 28.2.30 Sight line, photographic, and elevation information shall be provided from: 1) each Occupied Building within the Setback; 2) from any Scenic or Special Resource location and other locations as the Permitting Authority deems necessary.
- 28.2.30.1 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.
- 28.2.30.2 Each Sight Line shall be illustrated by one four-inch by six-inch color photograph of the current view.
- 28.2.30.3 Each of the existing condition photographs shall have the proposed Wind Turbines superimposed on it to accurately simulate the WTG when built.
- 28.2.30.4 Elevations of the tops of any structures on the subject property relative to the elevation of the Wind Turbines(s)
- 28.2.30.5 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.
- 28.2.31 Demonstrate compliance with Section 13.3. Provide a written description of emergency and normal shutdown operations.
- 28.2.32 Demonstrate compliance with Section 14.1. Submit required permits from the Federal Aviation Administration.
- 28.2.33 Demonstrates compliance with Section 14.2.
- 28.2.34 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 WTG
- 28.2.35 Proof of Liability Insurance in the amount of five million dollars (\$5,000,000.00) per occurrence.

- 28.2.36 Time-line showing all aspects of the construction.
- 28.2.37 Photographs and detailed drawings of each Wind Turbine, including foundation design. Details must be provided of all significant excavation and blasting.
- 28.2.38 Demonstrate compliance with Section 15.4.3. A map shall be provided showing all transmission lines and rights-of-way that will need to be built or upgraded to accommodate the WTG. 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 WTG 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.
- 28.2.39 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.
- 28.2.40 A written summary of all routine operation and maintenance procedures for the WTG.
- 28.2.41 Demonstrate compliance with Section 15.6 . Provide an estimate of required new equipment and training to be provided.
- 28.2.42 Document all potential hazardous wastes that will be used on the WTG, including but not limited to any chemicals used to clean the Wind Turbine blades, and how these wastes will be transported, handled, stored, cleaned up if spilled, and disposed of during any phase of the project's life.
- 28.2.43 A communication/electromagnetic interference study prepared by a registered professional engineer showing that the proposed WTG will comply with Section 15.7. 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.
- 28.2.44 Demonstrate compliance with Section 15.8. 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.
- 28.2.45 A road and property use and risk assessment plan in compliance with Section 15.9.
- 28.2.46 An affidavit agreeing to comply with all provisions in Section 15.10.
- 28.2.47 An affidavit agreeing to comply with all provisions in Section 21.0.
- 28.2.48 A decommissioning plan in compliance with Section 22.0.
- 28.2.49 Copies of executed contracts as per Section 23.0.
- 28.2.50 An Tax Valuation Agreement must be submitted, if required under Section 24.1.
- 28.2.51 If the WTG crosses multiple municipal jurisdictions the Applicant shall demonstrate compliance with Section 25.4.
- 28.2.52 Copies of all written agreements and disclosure of all verbal promises, for contracts, subcontracts, employment, consulting fees, gifts or other remuneration in excess of \$10 (cash

or in-kind) to residents or businesses in Unity, either previously made or contingent on permitting of this project.

28.2.53 An Affidavit agreeing to comply with all provisions of Section 26.5 .

28.2.54 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 WTG would interfere with), zones in which future telecommunication installations can expect interference from the WTG. Applicant must provide fair compensation to any non-participating landowners within the setback areas for restricting future development of their property.

28.2.55 Proof that the Applicant has notified the following agencies via certified mail and received any necessary permits or permissions for the project:

28.2.56 Federal Aviation Administration.

28.2.57 U.S. Department of Defense facilities located within 50 miles from the proposed WTG.

28.2.58 Other relevant studies, reports, certifications and approvals as may be reasonably requested by the Permitting Authority to ensure compliance with this Ordinance.

28.2.59 Signed affidavit from the Owner/operator that Applicant has read the Town of Unity Wind Turbine Ordinance and agrees to abide by its provisions.

