Chapter 79

WIND ENERGY FACILITY

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ARTICLE I.

AUTHORIZATION, PURPOSE AND DEFINITIONS

Sec. 79-1. Statutory Authorization.

This Chapter is enacted pursuant to Wis. Stats. §66.0401.

Sec. 79-2. Purpose.

The purpose of this Chapter is to provide a regulatory scheme for the construction and operation of Wind Energy Facilities in Calumet County, whose primary purpose is to supply electricity to off-site customer(s), subject to reasonable restrictions that will preserve the public health and safety or that do not significantly increase the cost of the system or significantly decrease its efficiency, while allowing for renewable energy sources to be present within Calumet County.

Sec. 79-3. Rules of Construction and Definitions.

(a) The definitions and rules of construction of this Chapter shall be as set forth in Sec. 1-2, of the Calumet County Code and as set forth in this Chapter unless such definitions or rules of construction are inconsistent with the manifest intent of the County Board or as required by the statutes of the State of Wisconsin.

(b) Words used in the present tense include the future, the singular number includes the plural number and the plural number includes the singular number, the word "building" includes the word "structure", and any words not herein defined shall be presumed to be interpreted by their customary dictionary definitions.

Sec. 79-4. Specific Words and Phrases.

Benchmark. A point of reference for a measurement.

Calumet County Board of Adjustments. A five member Board, appointed by the County Board, to review the decisions of the Code Administrator and Calumet County Planning and Zoning Committee as set forth in Chapter 48, Calumet County Code of Ordinances.

Code Administrator. A member of the Calumet County Planning and Zoning Department staff authorized by the County Board by enactment of this Chapter to issue permits for Wind Energy Systems, monitor compliance, and enforce the provisions of this Chapter.

Committee. Shall mean the Calumet County Planning and Zoning Committee.

County. Shall mean Calumet County.

FAA. The Federal Aviation Administration.

Hub Height. When referring to a Wind Energy System, the distance measured from ground level to the center of the Tower hub.

Karst Feature. An area or surficial geologic feature subject to bedrock dissolution so that it is likely to provide a conduit to groundwater, and may include areas with soils less than 60 inches thick over bedrock, caves, enlarged fractures, mine features, exposed bedrock surfaces, sinkholes, springs, seeps, swallets, and depressional areas with no surface drainage.

MET Tower. A meteorological tower, including the tower, base plate, anchors, guy cables and hardware, anemometers (wind speed indicators), wind direction vanes, booms to hold equipment anemometers and vanes, data logger, instrument wiring, and any telemetry devices that are used to monitor or transmit wind speed and wind flow characteristics over a period of time for either instantaneous wind information or to characterize the wind resource at a given location.

Non-conforming Legal Structure. A Wind Energy System that was erected prior to the enactment of this Chapter, that is not in compliance with the provisions of this Chapter and that has not ceased the production of energy for a period of twelve (12) consecutive months or longer.

Person. An individual, corporation, limited liability company, partnership or association.

Rotor Diameter. The cross sectional dimension of the circle swept by the rotating blades.

Sensitive Receptor. Structures that have occupants on a routine basis and whose occupants could be negatively affected by noise, vibration, shadow, or flicker, including those structures intended for four season human habitation (whether inhabited or not), public parks, state designated wildlife areas, the manicured areas of private recreational establishments such as golf courses or the campsites in a state approved campground, schools, daycare centers, elderly care facilities, hospitals, places of seated assemblage, businesses. Any parcel of land having a valid building or sanitary permit on file on the date of the issue of the Wind Energy Siting Permit shall be treated the same as any existing sensitive receptor.

Sewer Service Planning Area. An area identified by East Central Regional Planning Commission as having an anticipated need for wastewater treatment. A sewer service area plan identifies existing sewered areas as well as adjacent land most suitable for new development.

Total Height. When referring to a Wind Energy System, the distance measured from ground level to the blade extended at its highest point.

Tower. The monopole, freestanding, or guyed structure that supports a wind generator.

Wind Energy Facility. One or more Wind Energy Systems under common ownership or operating control, and includes substations, MET Towers, cables/wires and other buildings accessory to such facility, whose main purpose is to supply electricity to off-site customer(s).

Wind Energy Siting Permit. A construction and operating permit granted by the Code Administrator in accordance with the provisions of this Chapter and Wis. Stats. §66.0401, or any successor statutes.

Wind Energy System. A wind energy conversion system that converts the energy in the wind into electricity through the use of a wind generator, and includes the tower, blade, foundation, controller or inverter, and utility interface equipment.

Wind Energy System - Small: A wind energy system that has:
(a) a nameplate capacity of 100 kilowatts or less; and
(b) a total height of 170 feet or less; and
(c) a rotor diameter of 60 feet or less.

Wind Energy System - Large: A wind energy system that has:
(a) a nameplate capacity over 100 kilowatts; or
(b) a total height over 170 feet; or
(c) a rotor diameter over 60 feet.

Sec. 79-5. Non-conforming Legal Structures.

(a) Wind Energy Systems that were erected before the enactment of this Chapter and that are in continuous use shall be considered Non-Conforming Legal Structures and need not comply with the provisions contained herein.

(b) A Wind Energy System that does not provide energy for twelve (12) consecutive months shall lose its "Non-Conforming Legal" status and must comply with the provisions of the Chapter before it recommences production of energy.

(c) No person shall alter or modify a pre-existing Non-conforming Legal Structure without bringing the entire structure into compliance with this Chapter. This provision does not apply to routine maintenance and ordinary repairs that do not exceed 50% of the structure's value at the time of the maintenance or repair.

Sec. 79-6. Penalties.

Any violation of this ordinance, a permit issued under this ordinance or a decommissioning plan required under Sec. 79-16 of this ordinance by any person, may result in a forfeiture in an amount not less than $100 nor more than $1,000 for each violation, plus taxable costs of prosecution. Each day of continued violation is a separate offense.

Sec. 79-7 -- 14. Reserved.

ARTICLE II.

PROVISIONS APPLICABLE TO BOTH SMALL AND LARGE WIND ENERGY SYSTEMS AND MET TOWERS

Sec. 79-15. Application Required.

(a) Any person who wishes to erect, modify or alter a Wind Energy Facility as set forth above must submit an application for a Wind Energy Siting Permit with the Planning and Zoning Department. A separate permit shall be secured for a MET Tower.

(b) If the Code Administrator determines the applicant is not meeting all of the conditions of the Wind Energy Siting Permit, this Chapter, or the approved site plan, the Code Administrator shall issue a Letter of Non-compliance. The applicant shall have fourteen (14) days to respond to said non-compliance allegations. If non-compliance is still determined to exist after review of the response by the Code Administrator, the applicant shall have thirty days (30) to correct the violation(s). Failure to comply within the 30 days may result in a revocation of the Wind Energy Siting Permit as set forth in Sec. 79-80 or a citation being issued as set forth in Chapter 1, Section 1-8.

(c) For MET Towers and Wind Energy Systems - Small, the Administrator shall issue a permit or deny the application within one month of the date on which the application is received. The Administrator shall issue a building permit for a MET Tower or Wind Energy System - Small if the application materials show that the proposed MET Tower or Wind Energy System - Small meets the requirements of this Chapter. If the application is rejected, the Administrator will notify the applicant in writing and provide a written statement of the reason why the application was rejected. The applicant may reapply if the deficiencies specified by the Administrator are resolved.

(d) For Wind Energy Systems - Large, the applicant must comply with the requirements of Sec.79-62 and 79-63, Neighborhood Review Process.

(e) All Wind Energy Facilities authorized by this Chapter shall be erected and completed according to the approved application and site plan within thirty six (36) months of permit issuance. If the Wind Energy Facility is to be erected in phases exceeding the allowable 36 months, the timeline must be stated in the application and approved by the Code Administrator. The Code Administrator shall then specify a deadline for completion on the permit.

Sec. 79-16. Information Required on Application.

(a) All permit applications shall be made on forms provided by Planning Department and be accompanied by a fee as set forth in Sec. 79-84.

(b) The application shall include:

(1) The name, address, legal corporate status and telephone number of the applicant responsible for the accuracy of the application and site plan.

(2) The name, address, legal corporate status and telephone number of the owner of the Wind Energy Facility.

(3) A signed statement indicating that the applicant has legal authority to construct, operate, and develop the MET Tower and Wind Energy System(s) under state, federal and local laws and regulations, including Federal Aviation Administration (FAA), state and local building codes.

(4) The applicant shall also provide copies of the Proof of a Certificate of Authority from the Public Service Commission of Wisconsin and the Public Service Commission of Wisconsin Environmental Assessment, if applicable.

(5) A description of the number and kind of MET Tower(s) and Wind Energy System(s) to be installed.

(6) A description of the MET Tower(s)' and Wind Energy System(s)' height and design, including a cross section, elevation, and diagram of how the MET Tower and Wind Energy System will be anchored to the ground.

(7) A diagram, drawn to scale, showing the parcel boundaries and a legal description, support facilities, access, proposed landscaping and fencing.

(8) A statement from the applicant that all MET Tower(s) and Wind Energy System(s) will be installed in compliance with manufacturer's specifications, and a copy of those manufacturer's specifications.

(9) A copy of the lease with the landowner if the applicant does not own the land for the proposed Wind Energy Facility (s). A statement from the landowner of the leased site that he/she will abide by all applicable terms and conditions of the Wind Energy Siting Permit.

(10) A statement indicating what hazardous materials will be used and stored on the site, and, how those materials will be stored.

(11) A statement indicating how the Wind Energy Facility will be lit, if applicable.

(12) Except as provided in paragraph (13)-below, the landowner where any MET Tower and Wind Energy System will be located shall provide a $50,000 per rated megawatt performance bond, completion bond, or other financial assurance, with an A-rated firm, per wind energy system, that guarantees the performance of the removal of the MET Tower and Wind Energy System and site restoration in accordance with Section 79-85; or a detailed decommissioning plan in accordance with State and Federal law and a $25,000 per rated megawatt minimum bond or other financial assurance, per wind energy system, including the information currently contained in section 79-16, but adding costs for crane rental, assembly and transportation for both construction and disassembly. In addition, the plan shall be reviewed and approved by a third party engineer hired by the County and paid for by the applicant.

(13) For each Wind Energy System – Large, the applicant shall submit a decommissioning plan, which shall describe how the site shall be restored when the facility is no longer in operation in accordance with Section 79-85. The plan shall be updated and resubmitted every five years and shall include:

a. The anticipated life of the Wind Energy System;
b. The estimated decommissioning costs in current dollars;
c. How said estimate was determined;
d. The method of ensuring that the funds will be available for decommissioning and restoration;
e. The manner in which the Wind Energy System will be decommissioned and the site restored, in accordance with Sec. 79-85.
f. A CPI or a percentage adjustment.

(14) A shadow flicker model for any proposed Wind Energy System - Large - to include a description of the zones where shadow flicker will likely be present within the project boundary and a one-half mile radius beyond the project boundary, the expected durations of the flicker at these locations and the calculation of the total number of hours per year of flicker at all locations.

(15) A letter from the Federal Aviation Administration verifying the Wind Energy System(s) has been issued a "Determination of No Hazard to Air Navigation."

(16) A statement indicating how long the MET Tower will be used for gathering information and an assurance that it will be removed within thirty (30) days after cessation of use. Said statement shall also indicate who is responsible for removal of the MET Tower.

(c) No action will be taken on an application until the completed application and all supporting documentation is received by the Planning and Zoning Department.

Sec. 79-17. Site Plan.

(a) All applicants shall also submit a Site Plan containing the following:

(1) A map, drawn to scale, with said scale no smaller than one inch equaling 100 feet, identifying the proposed site.

(2) The scale and a north arrow on the map.

(3) Said map should include the location of:

a. All public roads; Existing buildings and structures within a one half mile radius, including residences, schools, hospitals, churches and public libraries; All sewer service planning areas and incorporated municipal boundaries within a one half mile radius; Karst features, including sink holes and visible cracks, in the ground or rock surface on the proposed site (said Karst information must be provided by a professional geologist, licensed professional engineer, Calumet County Land and Water Conservation Department Staff, or the Department's designee); All property lines; All communication and electrical lines; All Proposed Wind Energy Facilities.

(4) Descriptions of a benchmark on the proposed site, including elevations expressed in feet and tenths of feet.

(5) Ground contour (2-foot maximum intervals) on the proposed site with spot elevations, including land slope around the proposed site for a minimum of one hundred (100) feet.

(6) Location of existing and proposed electrical overhead and underground electrical lines.

(b) Prior to beginning construction, all applicants shall file with the Planning & Zoning Department, a final site plan, which shall also be provided in digital form.

Sec. 79-18. Visual Appearance.

(a) Wind Energy Facility shall be a non-reflective, non-obtrusive color.

(b) At Wind Energy Facility site, the design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the Wind Energy System(s) to the natural setting and the existing environment.

(c) Wind Energy Facility shall not be artificially lighted, except to the extent required by the FAA or other applicable authority.

(d) Wind Energy Facility shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the Wind Energy System(s) and appropriate warning signs.

(e) Electrical controls and control wiring and power-lines shall be wireless or not above ground except where Wind Energy Facility collector wiring is brought together for connection to the transmission or distribution network, adjacent to that network.

Sec. 79-19. Noise.

(a) Sound and Vibration.

(1) Sound Regulations Compliance: A Wind Energy System shall be considered in violation of the permit unless the applicant demonstrates that the project complies with all sound level limits. Sound levels in excess of the limits established in this ordinance shall be grounds for the Code Administrator to order immediate shut down of all non-compliant Wind Energy Systems.

(2) Post Construction Sound and Vibration Measurements: Within twelve months of the date when the project is fully operational, and within two weeks of the anniversary date of the pre-

construction background noise measurements, repeat the existing sound and vibration environment measurements taken before the project approval. Post-construction sound level measurements shall be taken both with all Wind Energy Systems running and with all Wind Energy Systems off. At the discretion of the County the Pre-construction background sound levels (L_{90}) can be substituted for the "all Wind Energy Systems off' tests if a random sampling of 10% of the pre-construction study sites shows that background L_{90} conditions have not changed more than +/- 5 dB (A and C). Report post-construction measurements to the County Board (available for public review) using the same format as used for the pre-construction sound and vibration studies. Post construction noise studies shall be conducted by a firm chosen by the County. Costs of these studies are to be reimbursed by the Permittee.

(3) Setbacks: The County Board may impose a setback that exceeds the other setbacks set out in this ordinance if it deems that such greater setbacks are necessary to protect the public health, safety, and welfare of the community.

(4) Audible Sound Standard: The audible sound emitted by Wind Energy System operations shall not be greater than 5 dBA above the background noise level (L_{90}) for the quietest period of the day measured during the pre-build noise study. Procedures are provided in Appendix. All measurements must be taken using procedures meeting American National Standard Institute Standards including: ANSI S12.18-1994 (R 2004) American National Standard Procedures for Outdoor Measurement of Sound Pressure Level and (ANSI) S12.9-Parts 1-5:

Part 1: American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound.

Part 2: Measurement of Long-Term, Wide-Area Sound.

Part 3: Short-Term Measurements with an Observer Present.

Part 4: Noise Assessment and Prediction of Long-Term Community Response.

Part 5: Sound Level Descriptors for Determination of Compatible Land Use. Measurements must be taken with qualified acoustical testing instruments meeting ANSI Type 1 standards, and Class 1 filters. The windscreen recommended by the instrument's manufacturer must be used and measurements conducted only when wind speeds are less than 10 mph at the microphone. The microphone must be located at a height of 1.2 to 1.5 meters from the ground.

(5) Low Frequency Sound or Infrasound: No low frequency sound or infrasound from wind energy system operations shall be created which causes the sound pressure level both within the project boundary at any sensitive receptor and within a one-mile radius beyond the project boundary to exceed the following limits:

Band No.	1/3 Octave Band Center Frequency (Hz)	Limits for 1/3 Octave Bands	Limits for 1/1 Octave Bands
1	1.25 and below	65	
2	1.6	65	
3	2	65	70
4	2.5	65	
5	3.15	65	
6	4	65	70
7	5	65	
8	6.3	65	
9	8	65	70
10	10	65	
11	12.5	61	
12	16	61	65
13	20	61	
14	25	60	
15	31.5	58	63
16	40	58	
17	50	58	
18	63	55	61
19	80	53	
20	100	52	
21	125	50	55

(6) Measurements must be conducted in accordance with the ANSI standards and conditions referenced in Rule 4 and the Appendix to this License.

(7) Pure Tone Penalty: In the event audible noise due to wind energy system operations contains a steady pure tone, such as a whine, screech, or hum, the standards for Audible Sound shall be reduced by five (5) dB(A). A pure tone is defined to exist when: the one-third octave band sound pressure level in the band, including the tone, exceeds the arithmetic average of the sound pressure levels on the two (2) contiguous one-third octave bands by five (5) dB(A) for center frequencies of 500 Hz and above, and eight (8) dB(A) for center frequencies between 160 and 400 Hz, and by fifteen (15) dB(A) for center frequencies less than or equal to 125 Hz.

(8) Repetitive, Impulsive Sound Penalty: In the event the audible noise due to wind energy system operations contains repetitive impulsive sounds, the permitted sound pressure level for Audible Sound (Rule 4) shall be reduced by five (5) dB.

(9) Pure Tone and Repetitive, Impulsive Tone Penalty: In the event the audible noise due to wind energy system operations contains both a pure tone and repetitive impulsive sounds, the standards for Audible Noise (Rule 4) shall be reduced by a total of seven (7) dB.

(10) Operations – Low Frequency Noise: A Wind Energy System that emits sound (or causes structural or human body vibration) with strong low-frequency content where the time-average C-weighted sound level exceeds the A-weighted sound level by at least 20 dB when measured inside a structure and adversely affects the subjective habitability or use of any existing dwelling unit, hospital, school, library, nursing home, or other sensitive noise receptor shall be deemed unsafe and must be shut down immediately. Exceedances of any of

the limits of the Table in Section 79-19 (a)(5) will also be considered as proof that the Wind Energy System is unsafe and must be shut down immediately.

(b) Appendix

Calumet County Measurement Protocol for Sound and Vibration Assessment of Proposed and Existing Wind Energy Systems.

(1) Introduction.

The potential sound and vibration impact associated with the operation of wind powered electric generators is often a primary concern for citizens living near proposed WIND ENERGY SYSTEMS. This is especially true of projects located near homes, residential neighborhoods, businesses, schools, and hospitals. Determining the likely sound and vibration impacts is a highly technical undertaking and requires a serious effort in order to collect reliable and meaningful data for both the public and decision makers.

This protocol is based in part on criteria published in the Standard Guide for Selection of Environmental Noise Measurements and Criteria.[1] and the Public Service Commission of Wisconsin publication Measurement Protocol for Sound and Vibration Assessment of Proposed and Existing Electric Power Plants (February 2002).[2] It also includes by reference the procedures of American National Standards S12.9 - Quantities and Procedures for Description and Measurement of Environmental Sound, and S12.18 and S12.19, for the measurement of sound pressure level and impulse sound outdoors.

The purpose is to first, establish a consistent and scientifically sound procedure of evaluating existing background levels of audible sounds and Low Frequency Sound in a WIND ENERGY SYSTEM project area, and second to use the information provided by the Permittee in its Application showing the predicted over-all sound pressure levels in terms of dBA, dBC and dBZ (linear) over the frequency range from the Blade Passage Frequency through at least 10,000 HZ and the corresponding 1/1 or 1/3 Octave Band sound pressure levels for the same frequency range. These values shall be presented in graphic contours of the iso-levels and in tabular form at sufficient sites to permit comparison of the baseline results to the predicted levels. This comparison will use the level limits of (a)(4) and (5) to determine the likely impact that operation of a new wind energy system project will have on the existing environment. If the comparison demonstrates that the WIND ENERGY SYSTEM project will not exceed any of the level limits for over-all or 1/1 or 1/3 Octaves the project will be considered to be within allowable limits for safety and health. If the Permittee submits only partial information required for this comparison the burden to establish the operation as meeting safety and health limits will be on the Permittee.

Third, if the project is approved, this Appendix covers the study needed to compare the post-build sound levels to the predictions and the baseline study. The level limits in (a)(4) and (5) apply to the post-build study. In addition, if there have been any complaints about WIND ENERGY SYSTEM sound or low frequency noise emissions by any resident of an occupied dwelling that property will be included in the post-build study for evaluation against the rules of (a).

The characteristics of the proposed WIND ENERGY SYSTEM project and the features of the surrounding environment will influence the design of the sound and vibration study. Site layout, types of WIND ENERGY SYSTEM(s) selected and the existence of the significant local sound and low frequency noise sources and sensitive receptors should be taken into consideration when designing a sound and vibration study. It will be necessary to have a qualified independent consultant conduct the pre-construction background and post-construction sound (and vibration) studies.

(2) Instrumentation.

All instruments and other tools used to measure audible sounds and low frequency noise shall meet the requirements for ANSI Type 1 performance and accuracy. Measurements shall be made with a manufacturer's approved wind screen protecting the microphone and only when winds are less than 10 mph at the microphone that has been designed to maintain the Type 1 accuracy requirements. The microphone shall be located at a height of 1.2 to 1.5 meters for all tests unless circumstances require a different measurement position. In that case the reasons shall be documented and include any adjustments needed to make the results correspond to the preferred measurement location.

(3) Measurement of the Existing Sound and Vibration Environment.

An assessment of the proposed WIND ENERGY SYSTEM project areas existing sound and vibration environment is necessary in order to predict the likely impact resulting from a proposed project. The following guidelines must be used in developing a reasonable estimate of an area's existing sound and vibration environment. All testing is to be performed by an independent acoustical testing engineer or other qualified noise consultant approved by the County Board. The WIND ENERGY SYSTEM applicant may file objections detailing any concerns it may have with the County Board's selection. These concerns will be addressed in the study. Objections must be filed prior to the start of the noise study. All measurements are to be conducted with industry certified testing equipment[4]. All test results must be reported to the County Board.

(4) Sites with No Existing Wind Energy Systems.

A. Sound level measurements shall be taken as follows:

1. The results of the model showing the predicted worst case sound emissions of the proposed WIND ENERGY SYSTEM project will be overlaid on a map of the project area. A grid comprised of one (1) mile boundaries (each grid cell is one square mile) will be used to identify between five (5) to ten (10) measurement points. The grid shall extend to 2500 feet beyond the perimeter of the project boundary. The measurement points will be selected to represent the noise sensitive receptor sites that will be most likely to be negatively affected by the WIND ENERGY SYSTEM project's sound emissions. These sites may include sites adjacent to occupied dwellings or other noise sensitive receptor sites and, if deemed appropriate by the Calumet County, the inside occupied structures. Sites shall be selected to represent the locations where the background soundscapes reflect the quietest locations of the sensitive receptor sites. Background sound levels and sound pressure levels shall be obtained according to the definition provided in Chapter 79 definitions and generally recognized acoustical testing practice and standards.

2. All properties within the proposed WIND ENERGY SYSTEM project boundaries will be considered for this study.[5]

3. One test shall be conducted during period defined by the months of April through November with the preferred time being the months of June through August. Unless directed otherwise by Calumet County the season chosen for testing will represent the background soundscape for other seasons. At the discretion of Calumet County, tests may be scheduled for other seasons.

4. All measurement points (MPs) shall be located in consultation with the County

staff and property owner(s) and such that no significant obstruction (building, trees, etc.) blocks sound and vibration from the nearest proposed WIND ENERGY SYSTEM site.

5. Duration of measurements shall be a minimum of ten continuous minutes for each criterion at each location. The duration must include at least 6 minutes that are not affected by transient sounds from non-nature sources. Longer durations such as 30 minutes or one (1) hour are preferred to improve the reliability of the L_{90} values.

6. The tests at each site selected for this study shall be taken during the expected 'quietest period of the day or night' as appropriate for the site. For the purpose of determining background sound characteristics the preferred testing time is from 8pm until 4 am. If circumstances indicated that a different time of the day should be sampled the test may be conducted at the alternate time if approved by Calumet County.

7. Sound level measurements must be made on a weekday of a non-holiday week.

8. Measurements must be taken at 1.2 to 1.5 meters above the ground and at least 15 feet from any reflective surface[3].

9. For each Measurement Point and for each measurement period, provide each of the following measurements:

a. Un-weighted octave-band analysis (from Blade Passage Frequency up to 16, 31.5, 63, 125, 250, 500, 1K, 2K,4K, and 8K Hz and over-all linear or dBZ level)

i. L_{Aeq}, L_{10}, L_{50}, and L_{90}, in dBA
ii. L_{Ceq} , L_{10}, L_{50}, and L_{90}, in dBC
iii. L_{Zeq}, L_{10}, L_{50}, and L_{90}, in dBLinear (sometimes referred to as 'Z' weighting)

b. A narrative description of any intermittent sounds registered during each measurement.

c. A narrative description of the steady sounds that form the background soundscape.

d. Wind speed and direction at the Measurement point, humidity and temperature at time of measurement will be included in the documentation,

10. Measurements taken when wind speeds exceed 5 mph at the microphone location will not be considered valid for this study. A windscreen of the type recommended by the monitoring instrument's manufacturer meeting Type 1 standards must be used for all data collection.

B. Provide a map and/or diagram clearly showing:

1. The layout of the project area, including topography, the project boundary lines[5], and property lines.

2. The locations of the Measurement Points.

3. The minimum and maximum distance between any Measurement Points.

4. The location of significant local sound and vibration sources

5. The distance between all Measure Points and significant local sound vibration and sources.

6. The location of all sensitive receptors including but not limited to: schools, day-care centers, hospitals, residences, residential neighborhoods, places of worship, and elderly care facilities.

(5) Sites with Existing Wind Energy Systems.

A. Two complete sets of sound level measurements must be taken as defined below:

1. One set of measurements with the wind generator(s) off unless Calumet County elects to substitute the sound data collected for the background sound study as permitted in Section (a)(2).

2. One set of measurements with the wind generator(s) running with wind speed at hub height sufficient to meet nominal power output or higher. Conditions should reflect the worst case sound emissions from the WIND ENERGY SYSTEM project.

B. Sound level measurements shall be taken as follows:

1. At all properties within the proposed WIND ENERGY SYSTEM project boundaries that were selected for the background sound study. Additional points may be added at the discretion of Calumet County. [5]

2. One test shall be conducted during period defined by the months of April through November with the preferred time being the months of June through August. Unless directed otherwise by the Calumet County the season chosen for testing will represent the background soundscape for other seasons. At the discretion of Calumet County, tests may be scheduled for other seasons.

3. All measurement points (MPs) shall be located in consultation with Calumet County and property owner(s) and such that no significant obstruction (building, trees, etc.) blocks sound and vibration from the nearest proposed WIND ENERGY SYSTEM site.

4. Duration of measurements shall be a minimum of ten continuous minutes for each criterion at each location. The duration must include at least 6 minutes that are not affected by transient sounds from non-nature sources. Longer durations such as 30 minutes or one (1) are preferred to improve the reliability of the L_{90} values.

5. The tests at each site selected for this study shall be taken during the expected worst-case WIND ENERGY SYSTEM sound emissions as appropriate for the site. For the purpose of determining sound characteristics when WIND ENERGY SYSTEM are operating, the preferred testing time is from 8pm until 4 am. If circumstances indicated that a different time of the day should be sampled the test may be conducted at the alternate time if approved by Calumet County.

6. Sound level measurements must be made on a weekday of a non-holiday week.

7. Measurements must be taken at 1.2 to 1.5 meters above the ground and at least 15 feet from any reflective surface[3].

C. For each Measurement Point and for each measurement period, provide each of the following measurements:

1. Un-weighted octave-band analysis (from Blade Passage Frequency up to 16, 31.5, 63, 125, 250, 500, 1K, 2K,4K, and 8K Hz and over-all linear or dBZ level)

a. L_{Aeq}, L_{10}, L_{50}, and L_{90}, in dBA
b. L_{Ceq}, L_{10}, L_{50}, and L_{90}, in dBC
c. L_{Zeq}, L_{10}, L_{50}, and L_{90}, in dBLinear (sometimes referred to as 'Z' weighting)

2. A narrative description of any intermittent sounds registered during each measurement.

3. A narrative description of the steady sounds that form the ambient with WIND ENERGY SYSTEM operating soundscape.

4. Wind speed and direction at the Measurement point, humidity and temperature at time of measurement will be included in the documentation,

D. Measurements taken when wind speeds exceed 10 mph at the microphone location will not be considered valid for this study. A windscreen of the type recommended by the monitoring instrument's manufacturer meeting Type 1 standards must be used for all data collection. If measurements must be conducted with wind speeds in excess of 10 mph at the microphone to meet the worst-case requirement for WIND ENERGY SYSTEM sound emission, the method used to isolate the microphone from the effects of wind and turbulence must be approved by Calumet County and meet procedures generally recognized as appropriate by acoustical standards for measurement under those conditions.

(6) Provide a map and/or diagram clearly showing:

A. The layout of the project area, including topography, the project boundary lines[5], and property lines

B. The locations of the Measurement Points.

C. The minimum and maximum distance between any Measurement Points

D. The location of significant local sound and vibration sources

E. The distance between all MPs and significant local sound vibration and sources

F. The location of all sensitive receptors including but not limited to: schools, day-care centers, hospitals, residences, residential neighborhoods, places of worship, and elderly care facilities.

(7) Sound level Estimate for Proposed Wind Energy Systems.

A. In order to estimate the sound and vibration impact of the proposed WIND ENERGY SYSTEM project on the existing environment an estimate of the sound and vibration produced by the proposed WIND ENERGY SYSTEM(s) under worst-case conditions for producing sound emissions must be provided. This study may be conducted by a firm chosen by the WIND ENERGY SYSTEM operator with oversight provided by the County Board. The qualifications of the firm should be presented along with details of the procedure that will be used, software applications, and any limitations to the software or prediction methods.

B. Provide the manufacturer's sound power level (L_w) characteristics for the proposed WIND ENERGY SYSTEMIES operating at full load for Blade Passage Frequency up to 16, 31.5, 63, 125, 250, 500, 1K, 2K,4K, and 8K Hz and over-all linear or dBZ level. Include an unweighted octave-band from Blade Passage Frequency up to 16, 31.5, 63, 125, 250, 500, 1K, 2K,4K, and 8K Hz and over-all linear or dBZ level. Sound pressure levels predicted for the WIND ENERGY SYSTEMS at full operation and at maximum sound power output shall be provided for distances of 500, 1000, 1500, 2000, 2500 feet from the WIND ENERGY SYSTEMIES.

C. Estimate the sound levels for the proposed WIND ENERGY SYSTEMS in dBA, dBC and dBZ at distances of 500, 1000, 1500, 2000, 2500 feet from the WIND ENERGY SYSTEMS. For projects with multiple WIND ENERGY SYSTEMS, the combined sound level impact for all WIND ENERGY SYSTEMS operating at full load must be estimated.

D. The above two requirements should be presented in a table that includes the impact of the WIND ENERGY SYSTEM operations on all residential and other noise sensitive receiving locations within the project boundary. To the extent possible, the tables should include the sites tested in the background study.

E. Provide a contour map of the expected sound level from the new WIND ENERGY SYSTEMS, using 5 dBA increments created by the proposed WIND ENERGY SYSTEMS extending out to a distance of 2500 feet from the project boundary.

F. Determine the impact of the proposed sound and vibration from the WIND ENERGY SYSTEM project on the existing environment. The results should anticipate the receptor sites that will be most negatively impacted by the WIND ENERGY SYSTEM project and to the extent possible provide data for each Measuring Point that are likely to be selected in the background sound study (note the sensitive receptor Measuring Points):

1. Report expected changes to existing sound levels for L_{Aeq}, L_{10}, L_{50}, and L_{90}, in dBA
2. Report expected changes to existing sound levels for L_{Ceq}, L_{10}, L_{50}, and L_{90}, in dBC
3. Report expected changes to existing sound levels for L_{Zeq}, L_{10}, L_{50}, and L_{90}, in dBZ
4. Report the predicted sound pressure levels for each of the 1/1 or 1/3 octave bands included in the table of VI.F.5 of the License and those not included up to the 8000 Hz octave band.
5. Report all assumptions made in arriving at the estimate of impact, any limitations that might cause the sound levels to exceed the values of the estimate, and any conclusions reached regarding the potential effects on people living near the project area.
6. Include an estimate of the number of hours of operation expected from the proposed WIND ENERGY SYSTEMS and under what conditions the WIND ENERGY SYSTEMS would be expected to run. Any differences from the

information filed with the Application should be addressed.

(8) Post-Construction Measurements.

Post Construction Measurements should be conducted by a qualified noise consultant selected by and under the direction of the County. The requirements of this Appendix for Sites with Existing Wind Energy Systems shall apply.

1. Within twelve months of the date when the project is fully operational, and within two weeks of the anniversary date of the Pre-construction ambient noise measurements, repeat the existing sound and vibration environment measurements taken before the project approval. Post-construction sound level measurements shall be taken both with all WIND ENERGY SYSTEMS running and with all WIND ENERGY SYSTEMS off except as provided in (a)(2).
2. Report post-construction measurements to the County Board using the same format as used for the background sound (and vibration) study.

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[1] Standard Guide for Selection of Environmental Noise Measurements and Criteria (Designation E 1686-96). July 1996. American Society for Testing and Measurements.
[2] Measurement Protocol for Sound and Vibration Assessment of Proposed and Existing Electric Power Plants. February 2002. Public Service Commission of Wisconsin.
[3] Environmental Noise Guidelines: Wind Farms. (ISBN 1 876562 43 9). February 2003. Environment Protection Authority, Adelaide SA.
[4] The Public Service Commission of Wisconsin Staff acknowledges that few sound level meters are capable of measurement of the 16 Hz center frequency octave band. However, because noise complaints from the public most likely involve low frequency noise associate with proposed WIND ENERGY FACILITY [power plants], we encourage applicants to pursue the collection of this important ambient noise data. If obtaining the 16 Hz and lower data presents a problem contact PSCW Staff prior to collection of any field ambient measurement data.
[5] Project Boundary: A continuous line encompassing all WIND ENERGY FACILITIES and related equipment associated with the WIND ENERGY FACILITY project.

REFERENCES

- **ANSI S12.9-1988/Part 1 (R 2003)** American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 1.
- **ANSI S12.9-1992/Part 2 (R 2003)** American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 2: Measurement of Long-Term, Wide-Area Sound.
- **ANSI S12.9-1993/Part 3 (R 2003)** American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 3: Short-Term Measurements with an Observer Present.
- **ANSI S12.9-2005/Part 4** American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 4: Noise Assessment and Prediction of Long-Term Community Response.
- **ANSI S12.9-1998/Part 5 (R 2003)** American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 5: Sound Level Descriptors for Determination of Compatible Land Use.
- **ANSI S12.9-2000/Part 6 (R 2005)** American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 6: Methods for Estimation of Awakenings Associated with Aircraft Noise Events Heard in Homes.
- **ANSI S12.17-1996 (R 2006)** American National Standard Impulse Sound Propagation for Environmental Noise Assessment.

• **ANSI S12.18-1994 (R 2004)** American National Standard Procedures for Outdoor Measurement of Sound Pressure Level.

Sec. 79-20. Signal Interference.

The applicant shall minimize or mitigate any interference with communications such as electromagnetic and microwave, and including radio, telephone, or television signals caused by any Wind Energy System. If the applicant is a public utility, s. PSC 113.0707 also applies.

Sec. 79-21. Safety.

(a) All wiring between Wind Energy System(s) and the Wind Energy System substation shall be underground.

(b) All Wind Energy System(s) shall be reasonably protected from unauthorized access up to eight (8) feet above ground level.

(c) All access doors to Wind Energy System(s) and electrical equipment shall be secured to prevent unauthorized access.

(d) Appropriate warning signage shall be placed on Wind Energy System(s), electrical equipment, and Wind Energy System entrances.

(e) MET Towers shall meet the following safety standards:

(1) If the MET Tower is under 200' in height it shall not be authorized if the building site or adjacent parcel has a public airport, registered airstrip, or known private airstrip. A map of all known public airports, registered airstrips, or known private airstrips is on file with the Planning Department.

(2) All MET Towers shall comply with the setbacks established for Wind Energy Systems-Small, Section 79-40(a).

(3) MET Towers under 200 feet in height must use an approved method for increased visibility for air traffic. Approved methods include painted segments of aviation orange and white, or segments covered with reflective aviation orange and white tape, alternating 20% increments of total tower height, starting with aviation orange at the top of the tower.

(4) All guy wires shall be visibly marked with an approved method for increased visibility for air traffic. Cable balls are one example of an approved method for increased visibility for air traffic.

Sec. 79-22. Flicker or Shadow Flicker

The owner of a Wind Energy System, must take steps as are necessary to prevent, mitigate, or eliminate shadow flicker, including:

(a) There can be a maximum of 90 seconds per day, or 10 hours per year of shadow/flicker effects within a 100' radius of a sensitive receptor. Turbines must be shut down at certain times of day or times of the year if shadow/flicker is a problem with any sensitive receptor.

(b) No shadow/flicker effect is allowed in any intersection.

Sec. 79-23 to 79-24. Reserved.

Sec. 79-25. Groundwater and Surface Water Protection.

(a) Diverting Surface Runoff.

(1) The area surrounding a wind energy facility shall be graded so as to drain surface water away from the wind energy facility foundation. To accomplish this, the finished grade of the soil shall slope away from the wind energy facility foundation at a rate of at least ½ inch per foot in all directions for a minimum distance of 10 feet. If the finished grade is not adequate to prevent surface runoff from adjacent lands from reaching the wind energy facility foundation, the runoff shall be diverted away from the wind energy facility foundation using one or more of the following best management practices:

A. Berms.

B. Waterways.

C. Tiling.

D. Other practices that will prevent surface runoff from reaching the wind energy facility foundations, which are approved by the Calumet County Planning and Zoning Department on a site specific basis.

(2) Surface runoff from adjacent land shall be diverted away from excavations during wind energy facility construction and from sites of abandoned wind energy facilities, using one of the following best management practices:

A. Berms

B. Waterways

C. Tiling

D. Other practices that will prevent surface runoff from reaching excavations and sites, which are approved by the Calumet County Planning and Zoning Department on a site specific basis.

(b) At all construction sites and vehicle/equipment staging areas of any wind energy facility, vehicles and equipment shall be cleaned using procedures and practices to prevent discharges of pollutant into waters of the state.

(c) Herbicide and Pesticide Management.

(1) Alternative, non chemical approaches to pest management should be considered during pest management planning.

(2) Pesticides used to control unwanted vegetation and pests at wind energy facility sites shall be applied in accordance with their labels and Wisconsin Administrative Code Chapter ATCP 29 Pesticide Use and Control.

(d) Cable Trench Settling.

(1) All fill used in trenches will be compacted as necessary to achieve desired densities.

(2) To account for settlement, the earth fill height (height from bottom of the trench to surrounding land surface) shall be increased as follows:

A. By at least 5 % of height for mineral soils compacted by construction equipment operating over the fill area.

B. By at least 10 % of height for mineral soils where fill is dumped, bulldozed, and shaped with minimal compaction.

C. By at least 20 % of height for a mixture of mineral and organic soils.

D. By at least 33 % of height for organic soils.

Sec. 79-26. Transferability.

Decommissioning requirements and permits transfer with ownership of the Wind Energy System. Prior to any change of ownership or controlling interest of any entity owning a Wind Energy System permitted in Calumet County, application shall be made to the Calumet County Planning, Zoning and Land Information Office, requesting transfer of the Wind Energy Facility Siting Permit. Approval of such transfer shall be conditioned upon written agreement by the new permitee to comply with all provisions of this ordinance and the original permit - amended if applicable. The application may be in letter form and shall be signed by the authorized representatives or agents of both the current permitee and the prospective permitee.

Sec. 79-27. Reporting Hazardous Spills.

Any person required under Chapter 292, Wis. Stats., to report a hazardous substance spill that occurs at a wind energy facility site shall also immediately notify the Calumet County Sheriff's Department.

Sec. 79-28 to 39. Reserved.

ARTICLE III.

WIND ENERGY SYSTEMS - SMALL

Sec. 79-40. Setbacks.

(a) The following setbacks and separation requirements shall apply to all Wind Energy Systems - Small.

(1) Each Wind Energy System shall be set back from the nearest sensitive receptor, a distance no less than one thousand eight hundred (1,800) feet, unless appropriate easements are secured from adjacent property owners for a lesser setback. The easement must be recorded with the Register of Deeds.

(2) Municipal Boundaries: Each Wind Energy System shall be sited at least 1.1 times its Total Height from the nearest boundary of all sewer service planning areas or sewer service boundary, or, 1.1 times its Total Height from an incorporated municipal boundary, whichever is greater. The setback shall be determined by utilizing the area or boundary existing at the time of the permit application.

(3) Property Lines: Each Wind Energy System shall be set back from the nearest property line a distance of no less than 1.1 times its Total Height, unless appropriate easements are secured from adjacent property owners for a lesser setback. The easement must be recorded with the Register of Deeds.

(4) Public Roads and Railroads: Each Wind Energy System shall be set back from the nearest public road and railroad a distance of no less than 1.1 times its Total Height, determined at the nearest boundary of the underlying right-of-way for such public road and railroad. For purposes of this chapter a setback shall be maintained from all officially mapped public roads or public roads identified in a municipality's adopted master plan.

Sec. 79-41. Minimum Ground Clearance.

The blade tip on any Wind Energy System-Small shall, at its lowest point, have a ground clearance of no less than thirty (30) feet.

Sec. 79-42 to 59. Reserved.

ARTICLE IV.

WIND ENERGY SYSTEMS - LARGE

Sec. 79-60. Setbacks.

(a) The following setbacks and separation requirements shall apply to all Wind Energy Systems - Large.

(1) Each Wind Energy System shall be set back from the nearest sensitive receptor, a distance no less than one thousand eight hundred (1,800) feet, unless appropriate easements are secured from adjacent property owners for a lesser setback. The easement must be recorded with the Register of Deeds.

(2) Municipal Boundaries: Each Wind Energy System shall be sited at least 1000 feet from the nearest boundary of all sewer service planning areas or sewer service boundary, or, 1,000 feet from an incorporated municipal boundary, whichever is greater. The setback shall be determined by utilizing the area or boundary existing at the time of the permit application.

(3) Property Lines: Each Wind Energy System shall be set back from the nearest property line a distance of no less than 1.1 times its Total Height, unless appropriate easements are secured from adjacent property owners for a lesser setback. The easement must be recorded with the Register of Deeds.

(4) Public Roads and Railroads: Each Wind Energy System shall be set back from the nearest public road and railroad a distance of no less than 1.1 times its Total Height, determined at the nearest boundary of the underlying right-of-way for such public road and railroad. For purposes of this chapter a setback shall be maintained from all officially mapped public roads or public roads identified in a municipality's adopted master plan.

Sec. 79-61. Minimum Ground Clearance.

The blade tip on any Wind Energy System-Large shall, at its lowest point, have ground clearance of no less than seventy-five (75) feet.

Sec. 79-62. Road Repair.

(a) Road Analysis. The permit applicant shall reimburse the County or Township for any and all repairs and reconstruction to County or Township roads resulting directly from the construction of the Wind Energy Facility. A qualified independent third party or other qualified person, agreed to by the County or Township and permit applicant, and paid for by the permit applicant, shall be hired to pre-inspect the roadways to be used during construction. This third party shall be hired to evaluate, document, and rate the roads condition prior to construction of the Wind Energy Facility, and again 30 days after the Wind Energy Facility is completed. Any road damage done by the permit applicant or one or more of its contractors or subcontractors shall be repaired or reconstructed at the permit applicant's expense.

(b) Construction Completion Notification. The permit applicant shall provide the County or Township with written notice of completion of construction within 30 days after the Wind Energy Facility construction is complete. Determination as to how the roads should be repaired or reconstructed, within Wisconsin Department of Transportation standards for counties and townships, or township standards if they exist, must be completed before the Wind Energy Facility is commissioned.

(c) Payment for Damages. At the end of the Wind Energy Facility construction, the County or Township Board of Supervisors will negotiate the percentage of road repair or reconstruction costs that will be paid by the permit applicant based on the independent third party's evaluations. The repair or reconstruction costs will be based on the cost of the repair at the time the work is actually done. Actual work on the road repair or reconstruction will occur at the earliest possible time.

(d) Road Damage. Any road damage caused by the permit holder or their agents during the repair, replacement, or decommissioning of any Wind Energy System(s) during the life of the project shall be paid for by the permit holder per the above language.

Sec. 79-63. Neighborhood Review.

(a) Notice provisions: The Code Administrator shall notify, by mail, all of the following individuals that an application has been submitted. The notice shall be mailed within ten (10) days of receiving a completed application and site plan:

(1) The Land and Water Conservation Department;

(2) The Town Clerk of the town in which the site of the application is located;

(3) All property owners who reside within one half mile of the exterior property lines of the site of the proposed Wind Energy Facility.

(b) Identification of the property owners to receive a notice shall be based upon parcels and property owners recorded in the Calumet County Real Property Lister Office. The failure of such notice to reach any of the property owners identified shall not invalidate any site plan review meeting.

(c) The notice shall include the following information:

(1) Name of the applicant, property owner, and corporation (if applicable).

(2) Location of the subject project.

(3) General description of the operation.

(4) Information apprising the notice recipients of the date, time, and place of the neighborhood review meeting.

(5) A statement noting that written correspondence shall be accepted by the Planning Department until 4:00 p.m. of the day prior to the meeting. The notice shall state the concerns expressed in such correspondence will be summarized at the meeting by the Code Administrator, but that the applicant will not be required to address said concerns unless similar concerns are expressed by persons in attendance at the meeting.

Sec. 79-64. Neighborhood Review Meeting.

(a) Purpose. The purpose of the meeting is to try to negate any potential conflicts between the applicant and surrounding property owners by providing an opportunity for the neighboring property owners and the applicant to reach an understanding on a site's planned use. Wind Energy Facilities are permitted in Calumet County provided the operation is in compliance with this Article. The ability of the applicant to create, enlarge or modify a Wind Energy Facility is not debatable at this meeting. Wis. Stat. §66.0401 makes it clear that counties are limited in what conditions they may impose upon an applicant for Wind Energy Facilities. The Neighborhood Review meeting is designed to give information to the surrounding property owners of the proposed operational plan and to allow them an opportunity to make suggestions so that conflicts can be minimized. It is expected that the parties will attempt to find solutions so that new or expanded Wind Energy Facilities are compatible with the existing neighboring properties.

(b) Neighborhood Review Meeting. The Code Administrator shall schedule a meeting within fifteen (15) days of notifying individuals a completed application has been submitted to the Planning and Zoning Department. The Code Administrator shall preside over the meeting. The meeting is to be conducted in an atmosphere of informality. Direct dialogue between the parties shall be allowed, provided fairness to all parties and orderliness do not suffer. The Code Administrator shall:

(1) Ensure that all parties have adequate opportunity to participate in the proceedings.

(2) Summarize any written correspondence.

(3) Facilitate orderly conduct to ensure fulfillment of the purpose of the meeting.

(4) Raise concerns held by the Planning and Zoning Department that are not otherwise addressed at the meeting.

(5) Assist the parties in arriving at a consensus on the proposed site plan by offering solution suggestions.

(c) Procedure.

(1) The applicant shall first present to the assemblage details of the proposed project.

(2) Following the presentation, the neighboring property owners and their agents, and residents who live within the half-mile area may question the applicant about details, which remain unclear.

(3) After the questioning period, the presider will summarize any written correspondence, and the neighboring property owners, and their agents, may suggest changes to the proposed site plan.

(4) Only neighboring property owners, or their agents, within the notification distance specified in Sec. 79-63 shall be eligible to suggest site plan changes and be party to any subsequent dialogue with the applicant regarding those suggested changes.

(5) The surrounding neighbors may suggest changes to the site plan in the following areas only:

a. Methods to be implemented to minimize potential negative impacts on water quality.
b. Traffic access and road maintenance.
c. Lighting.
d. Vegetative screening.
e. Fencing.
f. Electromagnetic Communications
g. Noise

(d) If the neighboring property owners present no suggestions, the applicant shall assume there are no objections the site plan, and the Code Administrator, upon finding compliance with this Chapter, shall issue a Wind Energy Siting Permit within thirty (30) days.

(e) If suggestions are offered, the applicant may agree to amend the site plan to reflect those suggestions and submit the site plan to the Planning and Zoning Department.

(f) If the application and site plan are in compliance with the provisions of this Chapter, the Code Administrator shall issue a permit within thirty 30 days.

Sec. 79- 65 to 79. Reserved.

ARTICLE V.

REVOCATION, APPEAL, NOTICE OF CONSTRUCTION, MODIFICATION, FEES AND ABANDONMENT

Sec. 79-80. Revocation or Suspension of Permit.

(a) A Wind Energy Siting Permit may be revoked if, after the notice and correction provisions of Sec. 79-15 have been met:

(1) The applicant fails to comply with conditions of the Wind Energy Siting Permit, this Chapter and Approved Site Plan, or

(2) The Code Administrator deems the Wind Energy Facility has not been properly maintained and poses a threat to health or safety, or

(3) If substantial progress has not been made towards the completion of a Wind Energy Facility within twenty-four (24) months after issuance of the Permit, or in accordance with the timeline approved by the Code Administrator. Upon request of an applicant, for good cause, the Code Administrator may grant an extension of time, or

(4) If the Wind Energy Facility authorized by permit is not completed within thirty-six (36) months of permit issuance, or in accordance with the timeline approved by the Code Administrator. Upon request of an applicant, for good cause, the Code Administrator may grant an extension of time, or

(5) The Wind Energy Site has been abandoned.

(b) Revocation Process:

(1) The Planning and Zoning Committee shall hold a hearing to determine whether the Permit should be revoked. The applicant shall be given notice of the time and date of the hearing. The Committee shall receive testimony; the applicant will be permitted to provide evidence as well. The Committee shall issue a written decision based on substantial evidence.

(2) Any person aggrieved by this determination may seek a review of the determination by the Board of Adjustments as set forth in Sec. 79-81.

(c) Notwithstanding any other provision, the Code Administrator may immediately suspend a Wind Energy Siting Permit in case of an imminent substantial health or safety issue only for the length of time necessary to remedy the substantial health or safety issue. The applicant shall have the right to request a review hearing within 48 hours of the Code Administrator's decision to immediately suspend a Wind Energy Siting Permit with the Planning and Zoning Committee.

Sec. 79-81. Appeal of the Determinations of the Code Administrator/Committee.

(a) Any person aggrieved by the decision of the Code Administrator or Committee may appeal the decision to the Calumet County Board of Adjustments.

(b) "Any person aggrieved" shall include the applicant, developer or any person who resides or owns land within one half mile of the proposed Wind Energy Facility.

(c) All appeals must be filed within 30 days of issuance, denial or revocation of the Wind Energy Siting Permit. The Code Administrator shall file a certified copy of the record with the Board of Adjustments within 30 days of the receipt of the Notice of Appeal. The Record shall include all documents and information relied upon by the Code Administrator or Committee in making his/her/its decision to either grant, deny or revoke the Wind Energy Siting Permit.

(d) The review by the Board of Adjustments shall be limited to a review of the record of the Code Administrator/Committee. The basis of the appeal shall be limited to whether the Code Administrator/Committee correctly applied Wis. Stats. §§66.0401 and the provisions of this Chapter.

(e) The Board of Adjustments may affirm, reverse or remand back to the Code Administrator/Committee.

(f) Nothing in this section shall be construed as limiting an aggrieved person's right to a Certiorari Review in Circuit Court as permitted by Wisconsin Law.

Sec. 79-82. Notice of Construction.

(a) The applicant shall notify the Planning Department at least five (5) working days before construction begins.

(b) The applicant shall be responsible to provide, during construction, a licensed electrical engineer who shall make periodic inspections as necessary in order to determine that construction is completed in accordance with the National Electrical Safety Code and all applicable federal and state electrical requirements, and who shall, within five (5) working days of completion of the Wind Energy Facility, complete and file with the Planning and Zoning Department, a Certificate of Compliance, stating that the Wind Energy Facility meets all federal and state electrical requirements.

(c) Within five (5) working days of completion of the Wind Energy Facility the applicant shall certify in writing that the Facility was built and installed according to the approved application and final site plan.

Sec. 79-83. Modification of Approved Site Plan.

The applicant shall not modify the approved application final site plan without written permission from the Code Administrator.

Sec. 79-84. Fees.

The application fee shall be $275 per MET Tower, $275 per small tower, and $500 per large tower. An additional fee of $50 shall be submitted with each updated decommissioning plan as required Sec. 79-16(b)(13). Said fees shall be non-refundable.

Sec. 79-85. Abandonment.

(a) The landowner of a Wind Energy Facility under this Chapter shall notify the Calumet County Planning and Zoning Department when the facility is no longer in operation. Within twelve (12) months of cessation of operations (thirty (30) days for MET Towers) unless the Code Administrator approves a time extension if the owner provides good cause, the following shall occur:

(i) All obsolete, damaged, unused or abandoned wind energy systems and accessory facilities shall be removed; and

(ii) All foundation, pads and underground electrical wires shall be removed to a depth of four (4) feet below the surface of the ground; and

(iii) All hazardous materials shall be removed from the property and disposed of in accordance with Federal and State law. Said removal shall be the responsibility of the landowner where the Wind Energy Facility is located.

(b) If removal and/or restoration are not completed, the Code Administrator may order removal utilizing the performance bond required under Sec. 79-16.

Sec. 79-86. Severability.

The sections, paragraphs, sentences, clauses, Articles and phrases of this chapter are severable; if any provision is found to be unconstitutional, invalid or unenforceable, such finding shall not affect the remaining portions of this Chapter.

ARTICLE VI.

MORATORIUM

Sec. 79-87. Moratorium.

A moratorium on the receipt of applications and the granting of permits under this chapter is hereby enacted for a period of one hundred twenty (120) days from the date this ordinance is passed by the County Board and published as provided by law or until the County Board adopts amendments or rescinds this ordinance, or both.

The purpose of the moratorium is to review and modify this chapter to preserve and protect the public health and safety, and to protect property rights of all county residents and landowners. A moratorium will allow the investigation of issues raised since the adoption of Chapter 79 to determine if there is sufficient reason to amend this chapter.

The issues to consider during the moratorium are:

1. Public Health and Safety.
    a. Groundwater impact study to determine what effect the construction of wind energy facility will have in the karst area;
    b. Whether to lower the noise signature to 40 dBA at a residence given the current limit is no more than 50 dBA at a residence and at least one company has projected noise levels to be only 40 dBA at 1000 feet, 35 dBA between 1000 and 2000 feet;
    c. Shadow or flicker and whether there should be a pre-project modeling of the impacted areas and relocation of a facility or shutdown of a facility during problem periods to eliminate shadow and flicker from impinging upon existing or proposed homes.
2. Property Rights.
    a. Setbacks and whether a setback of 1150 feet from residences and property lines should be considered unless impacted owners agree to a variance based on turbine manufacturer standards not to install units closer than 350 meters (1137 feet) from any residence due to known concerns. Also giving consideration to whether property rights are usurped if a facility is located less than 1000 feet from a property line;
    b. A provision to protect the land and home values of current landowners and residents.

Sec. 79-88. Moratorium - 2008.

Section 79-87 providing for a 120 day moratorium will expire on January 16, 2008.

Calumet County is a proposed site for the construction of wind energy systems due to its favorable sustained winds.

A significant number of wind energy systems proposed to be constructed in Calumet County are of industrial size, approximately 400 feet or higher.

Calumet County believes that given the industrial-size of these systems they will likely pose substantial dangers to the health and safety of the public without appropriate regulation.

Calumet County has searched for information about the effects of wind energy systems of the size proposed to be constructed in the county.