

Amendment 9042

**AN ORDINANCE AMENDING THE WORCESTER ZONING ORDINANCE
ADOPTED APRIL 2, 1991, RELATIVE TO
WIND ENERGY CONVERSION FACILITIES**

Be it ordained by the City Council of the City of Worcester as follows:

1. The Worcester Zoning Ordinance, adopted April 2, 1991, be and is hereby amended by inserting in the following Section 13 at the end of Article IV.

“Section 13 – Wind Energy Conversion Facilities

A. Purpose and Intent

The purpose of this Section is to provide for the construction and operation of Wind Energy Conversion Facilities (WECF) in the city of Worcester, and to provide standards for the placement, design, installation, modification, monitoring and decommissioning of these facilities subject to reasonable conditions that will protect the public health, safety and welfare while providing for the production of clean, renewable energy.

B. Definitions

APPLICANT: the person or entity filing an application under this Section.

AMBIENT SOUND LEVEL: the background A-weighted sound level that is exceeded 90% of the time.

A-WEIGHTED SOUND LEVEL - dB(A): a measurement of sound pressure level, which has been filtered or weighted to progressively de-emphasize the importance of frequency components below 1,000 Hz and above 5,000 Hz. This range corresponds to the human speech band and reflects that human hearing is more sensitive to the mid-range frequencies within this range than the frequencies below and above this range.

DECIBEL (dB): the measurement of a sound pressure relative to the logarithmic conversion of the sound pressure reference level – often set as 0 dB(A). In general, this means the quietest sound humans can hear is near 0 dB(A) and the loudest humans can hear without pain is near 120 dB(A). Most sounds range from 30 to 100 dB(A). Normal speech at 3 feet averages about 65 dB(A).

FACILITY OWNER: the entity or entities having an equity interest in the wind energy conversion facility, including their respective successors and assigns.

HUB HEIGHT: the distance measured from the base of the tower foundation at grade to the height of the wind turbine hub, to which the blade is attached.

METOROLOGICAL TOWER: a facility consisting of a tower and related wind-measuring devices that is solely used to measure the characteristics of winds.

NACELLE: the enclosure located at the top of a wind turbine tower that houses the gearbox, generator and other equipment.

PARTICIPATING LANDOWNER: a landowner on whose property all or a portion of a WECF is located.

OCCUPIED BUILDING: a church, hospital, library, residence, school, or other building used for public gathering that is occupied or in use when the permit application is submitted. Accessory structures and businesses are not considered occupied buildings.

OPERATOR: the entity responsible for the day-to-day operation and maintenance of the wind energy conversion facility.

OVERSPEED CONTROL: the action of a control system, or part of such system, that prevents excessive rotor speed.

ROTOR: the rotating part of a wind turbine, including turbine blades.

SHADOW FLICKER: the moving shadows cast by rotating wind turbine blades that cause a flickering effect.

STALL CONTROL: a braking mechanism on wind turbines where the rotor blades are bolted onto the hub at a fixed angle. The rotor blade profile is aerodynamically designed to ensure that the moment wind speed becomes too high it creates turbulence on the side of the rotor blade which is not facing the wind. This “stall” prevents the lifting force of the rotor blade from acting on the rotor.

TOWER: with regard to WECF, the structure on which a wind turbine is mounted.

TURBINE: an electric generator that converts wind energy into electrical power - see wind turbine.

TURBINE HEIGHT: the distance measured from the surface of the tower foundation to the highest point of the turbine rotor plane (tip of blade at highest point).

WECF: see Wind Energy Conversion Facility.

WIND ENERGY CONVERSION FACILITY (WECF): an electricity generating facility, whose main purpose is to supply electricity, consisting of one or more wind turbines and other accessory structures and buildings, including substations, meteorological towers, electrical infrastructure, transmission lines and other appurtenant structures and facilities.

WIND ENERGY CONVERSION SYSTEM: see the definition for wind turbine.

WIND TURBINE: a wind energy conversion system that converts wind energy into electricity through the use of a turbine, and includes the nacelle, rotor, tower, and pad transformer, if any.

C. Use Regulations

1. Wind Energy Conversion Facilities shall be a specially permitted use as follows:
 - a) Multiple wind turbines are allowed on a single parcel only if the WECF as a whole, and each wind turbine within it, complies with the provisions for sound, setbacks and shadow flicker of this Section.
 - b) No WECF shall be erected until evidence has been provided that the electric utility company has been informed of the applicant's intent to install an interconnected customer-owned generator.
 - c) An applicant who is not a participating landowner shall submit an executed lease or purchase and sale agreement documenting the applicant's contingent property interest and legal right to install, operate and maintain the WECF on the affected property(ies).
 - d) Wind monitoring or meteorological towers fifty (50) feet or less in height shall be permitted in all zoning districts subject to the issuance of a building permit for a temporary structure for a period not to exceed twelve (12) months and subject to regulations regarding the height of structures, and setbacks as provided by this Section. Meteorological towers greater than fifty (50) feet in height shall require a special permit from the Planning Board issued pursuant to the criteria set forth in **Article II**.

D. Dimensional Requirements

1. Notwithstanding anything to the contrary in Article IV, Section 4, Table 4.2, Wind Energy Conversion Facilities shall comply with the following requirements:
 - a) Height
 - i) Turbine height shall not exceed the height recommended by the manufacturer of the wind turbine, or two hundred and sixty-five (265) feet, whichever is less.
 - ii) Meteorological towers shall not exceed the height recommended by the manufacturer of the meteorological tower and equipment, or fifty (50) feet, whichever is less.

- iii) The minimum distance between the ground and any part of a rotor, or turbine blade, shall be thirty (30) feet.
- b) Setbacks
 - i) Wind turbines shall be setback:
 - (aa) a distance not less than six hundred and fifty (650) feet from the nearest non-participating landowner's occupied building. This setback distance shall be measured from the center of the wind turbine tower at its base to the nearest point on the foundation of a non-participating landowner's occupied building.
 - (bb) a distance not less than one-hundred and sixty-five (165) feet or 1.25 times the turbine height, whichever is greater, from the nearest participating landowner's occupied building. This setback distance shall be measured from the center of the wind turbine tower foundation to the nearest point on the foundation of an occupied building.
 - (cc) a distance 1.1 times the turbine height from the nearest wind turbine, right-of-way line of the nearest public way, property line, or existing above ground utility transmission line(s).
 - ii) Guy wires associated with a WECF shall be setback at least ten (10) feet from the property line.
 - iii) Meteorological towers shall be setback a distance not less than one hundred and sixty-five (165) feet or 1.1 times the tower height, whichever is greater, from the nearest property line, or above ground utility transmission line. Meteorological towers greater than fifty (50) feet in height shall be subject to the setback provisions of Section D(b)(i) above.

E. Sound

1. Audible sound generated by a WECF shall not exceed fifty-five (55) dB(A), as measured at the exterior of any non-participating landowner's occupied building except during short-term events such as utility outages and/or uncharacteristically windy periods.
2. The WECF shall comply with the provisions of the Department of Environmental Protection's Division of Air Quality Noise Regulations (310 CMR 7.10) and associated policies.

F. Shadow Flicker

1. The facility owner and operator shall make reasonable efforts to minimize shadow flicker to any occupied building on a non-participating landowner's property.

G. Signal Interference

1. The WECF shall be certified by the manufacturer to be in conformance with the regulations of the Federal Communication Commission (47 CFR Part 15 as revised) relating to harmful interference with radio or television reception.
2. The WECF owner or operator shall make reasonable efforts to avoid any disruption or loss of radio, telephone, television or similar signals, and shall mitigate any harm caused by the WECF.

H. Waiver of Setbacks, Sound and Shadow Flicker Provisions

1. The Planning Board, in its discretion, shall be authorized to waive the setback, sound and shadow flicker provisions of this Section to the extent these provisions affect a participating property, provided that:
 - a) The applicant submits the request in writing, and if the applicant is not the property owner, the property owner's written consent to the waiver(s) shall also be submitted.
2. The Planning Board, in its discretion, shall be authorized to waive the setback, sound and shadow flicker provisions of this Section to the extent these provisions affect a non-participating property, provided that:
 - a) The applicant submits the request in writing, accompanied by an affidavit signed by the non-participating property owner(s) in support of the applicant's request for waiver.
 - i) The affidavit shall contain the non-participating property owner's acknowledgement of the setback, sound or shadow flicker requirements of this Section and what is proposed in lieu thereof, describe the impact on the non-participating property owner(s), and state the non-participating property owner's support for the applicant's waiver request. A non-participating property owner's affidavit shall be made a part of the special permit decision and shall be separately recorded with the Worcester District Registry of Deeds at the same time that the special permit decision is recorded to provide notice to all subsequent purchasers of the non-participating property of the waiver(s) granted.

3. The Planning Board, in its discretion, shall be authorized to waive the setback, sound and shadow flicker provisions of this Section to the extent these provisions affect a public way, provided that:
 - a) The applicant submits the request in writing, provided further however, that no waiver may be granted to the extent it would affect an existing above ground utility transmission line unless the utility company owning such line consents to the waiver in writing.

I. Design and Installation

1. Compliance and Certifications: Prior to the operation of any WECF, the facility owner and operator must submit a signed affidavit to the director of Code Enforcement's satisfaction verifying that the WECF, and all of its equipment, was designed and installed in accordance with the following standards:
 - a) The design and installation of the WECF complies with the most current applicable industry safety standards, including those of the American National Standards Institute, related to all wind turbine subsystems such as control and protection mechanisms, internal electrical systems, mechanical systems and support structures.
 - b) To the extent applicable, the WECF complies with Massachusetts State Building Code and International Conference of Building Officials Building Code.
 - c) All electrical components of the WECF comply with relevant and applicable local, state and national codes, and relevant and applicable international standards.
 - d) All wind turbines are equipped with the following systems and controls: redundant braking systems, aerodynamic overspeed controls (including variable pitch, tip, and other similar systems), and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode and stall control regulation shall not be considered a sufficient braking system for overspeed protection.
 - e) The design and installation of the WECF complies with applicable Federal Aviation Administration and Federal Communication Commission regulations.
2. Security and Warnings:
 - a) Wind turbines shall not be climbable up to fifteen (15) feet above ground surface.

- b) All access doors to wind turbines and electrical equipment shall be locked or fenced, as appropriate, to prevent entry by non-authorized persons.
- c) Visible, reflective, colored objects, such as flags, reflectors, or tape shall be placed on the anchor points of guy wires and along the guy wires up to a height of ten (10) feet from the ground.
- d) A clearly visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.

3. Visual Appearance:

- a) Wind turbines and associated structures shall be a non-obtrusive color such as white, off-white, gray or light-blue.
- b) No WECF shall be artificially lit, except to the extent required by the Federal Aviation Administration, or other applicable governmental authority that regulates air safety.
- c) Wind turbines shall not be used for the location of accessory or non-accessory signs except for reasonable identification of the turbine manufacturer, host site, or both.
- d) On-site transmission and power lines between wind turbines shall, to the maximum extent practicable, be placed underground.
- e) Inverters and pendant power cables shall be located inside the wind turbine tower, nacelle or structure.
- f) No telecommunication dishes, antennas, cellular telephone repeaters or other similar devices shall be attached to wind turbine towers.

J. Maintenance

WECF owners and operators shall provide for the ongoing maintenance by appropriately certified professionals in accordance with manufacturer's specifications and all governmental regulations for all structural, electrical and mechanical components of the WECF to ensure the safe operation of the WECF.

K. Emergency Services Plan

Upon request, the applicant shall cooperate with emergency services providers to develop and coordinate implementation of an emergency response plan for the WECF(s).

L. Use Of Public Streets Plan

1. At least sixty (60), but no greater than ninety (90), days prior to construction, the applicant shall obtain the requisite permit from the Department of Public Works and Parks approving the route and method of transporting the equipment and parts for the construction, operation or maintenance of the WECF. In addition to the permit requirements promulgated by the commissioner of DPWP, the applicant shall submit, with its request for a permit, a report identifying all state and city streets within the city of Worcester to be used as its transport route. A copy of the report shall also be submitted to the Division of Planning and Regulatory Services.
2. An engineer or a qualified third party engineer hired by the City of Worcester and paid for by the applicant, shall document road conditions along the route chosen prior to construction. Said engineer shall document road conditions again thirty (30) days after construction is complete or as weather permits. This documentation shall be provided to the commissioner of Public Works and Parks for review.
3. The applicant shall demonstrate to the satisfaction of the commissioner of Public Works and Parks that the applicant has adequate financial resources to ensure the prompt repair of damaged roads.
4. Any road damage caused by the applicant or its contractors shall be promptly repaired at the applicant's expense.

M. Abandonment, Discontinuation of Use Or Repair

1. Notification:
 - a) The WECF owner or operator shall notify the director of Code Enforcement by certified U.S. Mail thirty (30) days prior to the proposed date of abandonment or discontinuation of use of any WECF or individual wind turbine.
 - b) On a quarterly basis, the WECF owner or operator shall provide the director of Code Enforcement a report indicating the total electricity generated by each wind turbine by month of service.
 - c) The use of a WECF or individual wind turbine will be considered discontinued if no electricity is generated for a continuous period of twelve (12) months.

2. Decommissioning:

- a) Upon abandonment or discontinuation of use of a WECF, the facility owner, operator or landowner shall, at its expense, remove wind turbines, structures, buildings, cabling, electrical components, roads, foundations (to a depth of 36 inches), and any other associated facilities within twelve (12) months.
- b) All waste materials from a decommissioning shall be disposed of in accordance with local and state solid waste disposal regulations.
- c) Disturbed earth shall be graded and re-seeded, unless the landowner requests in writing that the access roads or other land surface areas not be restored.
- d) If neither the WECF owner or operator nor the landowner, if different, completes decommissioning within the period prescribed in this subsection, the City of Worcester may take such measures as necessary to complete the decommissioning. The costs incurred by the city shall constitute a debt due the city upon completion of the decommissioning activities and the rendering of an account to the facility owner, operator and the landowner, if applicable, and shall be recoverable from such party(ies) in an action of contract. The Special Permit Granting Authority may require the applicant to post a bond at the time of construction equal to the estimated costs associated with the removal of the WECF in the event the City of Worcester must remove the WECF.

3. Repair:

- a) Any WECF determined to be unsafe by the director of Code Enforcement shall be repaired as soon as practicable by the WECF owner or operator to meet federal, state and local safety standards. If the director of Code Enforcement deems the timetable for corrective action as unreasonable, the WECF owner or operator shall decommission the part(s) of the WECF not in compliance within six (6) months.

N. Public Inquiries and Complaints

1. The WECF owner and operator shall maintain a phone number and identify a responsible person for the public to contact with inquiries and complaints throughout the life of the project. The applicant shall notify all abutters within three-hundred (300) feet of this phone number prior to the operation or testing of any WECF.

2. The WECF owner and operator shall post an emergency telephone number so that the appropriate people may be contacted should any wind turbine need immediate attention. This telephone number shall be clearly visible on a permanent structure(s) or post(s) located at a distance at least 1.25 times the turbine height.
3. The WECF owner and operator shall make reasonable efforts to respond to the public's inquiries and complaints.
4. Upon receipt of a complaint by the Code Enforcement Division regarding sound from an existing WECF, the division will investigate the complaint. If the director of Code Enforcement determines the complaint to be reasonable, the WECF owner or operator shall be required, at its expense, to have prepared, by an independent professional acoustical engineer approved by the city, an acoustical study that measures sound levels and demonstrates compliance with the sound standards in this Section.
5. Methods for measuring and reporting acoustic emissions from wind turbines and the WECF shall be equal to or exceed the minimum standards for precision described in American Wind Energy Association Standard 2.1 - 1989 titled *Procedures for the Measurement and Reporting of Acoustic Emissions from Wind Turbine Generation Systems Volume I: First Tier as revised*.

O. Approval Criteria

1. After notice and public hearing, and after due consideration of the evidence submitted, including the reports and recommendations of city departments, the Planning Board, in addition to the special permit criteria under **Article II**, may grant such a special permit provided that it finds that:
 - a) The proposed WECF does not derogate from the purposes and intent of this Section and the Zoning Ordinance.
 - b) The application information submitted is adequate for the Planning Board to consider approving the special permit request.
 - c) The proposed design, installation and operation of the WECF will meet the requirements of this Section.
 - d) The acoustical assessment provided adequately predicts resulting sound levels as may be measured in accordance with the provisions of this Section.
2. Reasonable efforts have been made to minimize shadow flicker.

3. The maintenance plan proposed adequately provides for the ongoing safe operation of the WECF.
4. There will be no substantial adverse affect on the environment or wildlife.
5. The documentation and information for setback, sound and shadow flicker waiver requests, if any, provide sufficient assurance that the affected non-participating property owners are fully informed and consent to the waiver requests.

P. Term of Special Permit

1. A special permit issued for any WECF shall be valid for no more than twenty (20) years, but in no event, if the applicant is a lessee of the property owner, shall a special permit be granted for a term greater than the term of the lease. No more than six months prior to the expiration of a special permit granted hereunder, the applicant, or its successor in interest, may apply for an extension of the term through a special permit amendment. The Planning Board may grant one or more extensions of the term, of up to five (5) years per extension, provided it finds that the WECF is operating in accordance with this Section, and that the WECF has been, and will continue to be, properly maintained. The applicant shall provide documentation regarding ongoing maintenance of the WECF in accordance with the maintenance plan proposed, and an inspection report verifying that the WECF can continue to operate safely.

Q. Application Requirements

1. All applicants are encouraged to contact the Planning Board staff to schedule a pre-application meeting.
2. In addition to all application requirements related to special permits under **Article II**, the applicant shall include the following at the time of application submittal:
 - a) Project Overview: A narrative describing the proposed WECF including an overview of the project with the following information: the project location, the number, representative types, generating capacity, cut-in and cut-out wind speed, overspeed controls, materials, dimensions and respective manufacturers of each wind turbine to be constructed, and a detailed description of all ancillary facilities. This overview shall also include a comparison of estimated electric generation vs. on-site electric consumption, a cost-benefit analysis demonstrating that the proposed hub height and turbine height are necessary to achieve economic viability (including the variation of electricity generated at alternative heights), and an estimate of the number of tons of pollution prevented.

- b) Vicinity Plan: A vicinity plan shall be prepared by a registered engineer and must show the scale, a north arrow, legend or annotation (for each symbol used) and identify the sheet number in sequence. Use separate sheets for various layers as appropriate to improve clarity – include overview sheet with all layers.
 - i) Vicinity plans shall depict the following information for the subject property and all adjacent properties within 300 feet:
 - (aa) Property lines, layout of existing buildings (including their use status - e.g., occupied buildings), accessory structures, location and name of all public, private roads, and railroads.
 - (bb) Any significant natural, topographical or physical features of the area including existing contours at two (2) feet in one hundred (100) feet.
 - (cc) Lines representing the sight line showing viewpoint and visible point from “sight lines” subsection below.
 - (dd) Annotation(s) identifying all parcels and occupied buildings affected by waivers, if any.
 - (ee) Area of estimated wind turbine shadow flicker.
 - ii) The vicinity plan shall depict the proposed location of each wind turbine(s), street address, property lines, wind turbine setback lines (depicted as a radius from the center of the wind turbine), access road and turnout locations, substation(s), electrical cabling from the WECF to substation(s), ancillary equipment, buildings, and structures, including permanent meteorological towers, associated transmission lines (including whether they are above or below ground), and layout of all structures within the geographical boundaries of any applicable setback.
- c) Site Plan: A site plan to a scale of not less than forty (40) feet to the inch, on one or more sheets, prepared by a registered engineer, and indicate the scale used, a north arrow, legend or annotation (for each symbol used), and identify the sheet number in sequence. Use separate sheets for various layers as appropriate to improve clarity – include overview sheet with all layers. The site plan shall also include the following information:

- i) Title block information that identifies location, applicant, property owner, WECF owner/operator, and party responsible for preparing the plan.
- ii) A table that compares all required dimensional requirements of this Section with those proposed for the WECF when an applicant seeks one or more dimensional waivers.
- iii) Annotation(s) identifying all parcels and occupied buildings affected by waivers, if any.
- v) The boundary lines and dimensions of the subject property, existing subdivision lots, available utilities, easements, roadways, railroads, rail lines and public rights-of-way, crossing and adjacent to the subject property.
- vi) Any proposed re-grading of the subject property and any significant natural, topographical or physical features of the property including, at least, watercourses, marshes, floodplain and wetlands, trees in excess of nine (9) inches in diameter, soil types, and existing contours at two (2) feet in one hundred (100) feet.
- vii) Location of each wind turbine, WECF setback lines (measured at grade and depicted as a radius from the center of the wind turbine), access road and turnout locations, substation(s), electrical cabling from the WECF to substation(s), ancillary equipment, buildings, and structures, including permanent meteorological towers, associated transmission lines (including whether they are above or below ground).
- viii) Layout of all existing buildings (including their use status - e.g., occupied buildings), and structures within the geographical boundaries of any applicable setback
- ix) All existing and proposed surface and subsurface drainage facilities, including detention or retention ponds. Drainage circulation with data on predevelopment and post-development condition should be provided.
- x) Location and size of all signs (including emergency phone number signs) and lighting as it pertains to the WECF.

- xi) Proposed landscaping (noting how the existing vegetation is to be retained and used) including type, location and quantity of all plant materials, location and height of fences or screen plantings and the type or kind of building materials or plantings to be used for fencing and screening of the WECF.
 - xii) Methods and locations of erosion and sedimentation control devices used during and after construction of the WECF.
- d) Wind Map: A map showing the wind characteristics of the general area and the dominant wind direction – the direction from which fifty (50) percent or more of the energy contained in the wind flows.
- e) Sightline Analysis: Photographs shall be provided depicting views from a reasonable number of key vantage points as determined by the applicant in consultation with the Division of Planning and Regulatory Services. Sites for the view representations shall be selected from areas within a two (2) mile radius of the site.
- i) Existing (before condition) photographs. Each sightline shall be illustrated by one (1) four-inch by six-inch color photograph of what can currently be seen from any public way within 300 feet of the subject property.
 - ii) Proposed (after condition) photographs. Each of the existing condition photographs shall have the proposed WECF superimposed on it to show what will be seen from public roads if the proposed facility is built.
 - iii) A sightline map depicting the points from which sightline photographs were taken.
 - iv) A description of the technical procedures followed in producing the visualization (distances, angles, lens, etc.).
- f) Balloon or Crane Test: The applicant will provide a statement proposing a date, time and location of such test.

- i) Within ten (10) days of filing an application, the applicant shall arrange with the Division of Planning and Regulatory Services for a balloon or crane test at the proposed site to illustrate the height of the proposed WECF. The date, time and location of such test shall be advertised by the applicant in a newspaper of general circulation in the City of Worcester at least seven (7) days, but not more than fourteen (14) days prior to the test. Evidence of this advertisement must be provided to the Planning Board at the time of public hearing.
- g) Compliance Certificates and Statements:
- i) Certificate(s) of design compliance obtained from the equipment manufacturers that the system's wind turbine and other components meet or exceed the standards of one of the following national and international certification programs: American National Standards Institute (ANSI), Det Norske Veritas, Germanischer Lloyd Wind Energies, International Electrotechnical Commission (IEC), National Electrical Code (NEC), Underwriters Laboratories (UL), or other certification program recognized by the American Wind Energy Association.
 - ii) Standard drawings and a structural engineering analysis of tower(s) showing compliance with applicable Massachusetts State Building Codes and certification by a Commonwealth of Massachusetts licensed professional engineer.
 - iii) A determination from the Federal Aviation Administration of no hazard to air navigation, and that the WECF as proposed complies with all applicable Federal Aviation Administration regulations.
 - iv) The applicant shall provide a statement certified and signed by an acoustical engineer stating that the sound estimates and measurements provided meet industry professional standards for accuracy, and that the WECF as proposed will be in conformance with the performance standards of this Section related to sound.
 - v) Evidence that the proposed hub height and turbine height do not exceed the height recommended by the manufacturer or distributor of the wind energy conversion system.

- vi) Evidence, certified by the manufacturer, that the WECF is in conformance with the Regulations of the Federal Communication Commission (47 CFR Part 15 as revised) relating to harmful interference with radio or television reception

- h) Maintenance Plan: The applicant shall provide a detailed maintenance plan in accordance with manufacturer's specifications and all governmental regulations to ensure the safe operation of the WECF. Plan shall include but not be limited to: preventative and periodic maintenance, routine checks and testing, and cleaning, associated with all structural, electrical and mechanical components of the WECF.

- i) Notifications: The applicant shall provide notification letters and evidence that a notice to construct a WECF has been received by the appropriate electric utility company and the Federal Aviation Administration.

- j) Sound Assessment:
 - i) The applicant shall provide a report estimating current ambient sound at appropriate locations and maximum projected sound from the proposed WECF, measured in dB(A) (decibels A-weighted), including but not limited to the following:
 - (aa) An estimation or measurement of the existing ambient background sound levels.
 - (bb) Identification of a model for sound propagation (sound modeling software will include a propagation model).
 - (cc) A prediction or measurement of sound levels from the WECF(s) at the nearest non-participating landowner's occupied building(s), at all participating landowner's occupied building(s), and the nearest property line.
 - (dd) A comparison of calculated sound pressure levels from the WECF with background sound pressure levels at the locations of concern.
 - (ee) An estimate of the maximum total sound in the environment after the WECF is operational.

- (ff) All sound data and information provided by the wind turbine manufacturer.
- k) Shadow Flicker Assessment: The applicant shall provide a report estimating the area of shadow flicker from wind turbine(s).
- l) Environmental and Wildlife Impact Assessment: The applicant shall provide a report assessing the impact of the proposed project on avian and non-avian wildlife, public safety, quality of life, culturally/historically significant areas, scenic areas, sedimentation, runoff and watershed. As part of these assessments the applicant shall consult the local chapter of the Audubon Society prior to application.
- m) Waiver Requests and Supporting Documentation: The applicant shall provide all waiver requests along with supporting agreement documentation as required under this Section.
- n) Documents related to decommissioning: The applicant, if other than the property owner, shall provide an affidavit signed by the property owner that he/she understands and acknowledges the provisions of subsection M(2)(d), above.
- o) Fees: The permit application or amended permit application shall be accompanied with a fee in accordance with the Planning Board's fee schedule, as revised.
- p) Other Information: Other relevant studies, reports, certifications and approvals as may be reasonably requested by the Planning Board to ensure compliance with this Section and the Zoning Ordinance.
- q) Application Requirement Waivers: Upon written request, the Planning Board may waive one or more of the application requirements listed above if the Planning Board determines, in its discretion, that the information is not needed to consider a specific WECF."

2. The Worcester Zoning Ordinance, adopted April 2, 1991, be and is hereby amended by deleting the first paragraph in Section 7(1) of Article II and inserting the following paragraph in lieu thereof.

"The Planning Board shall be the Special Permit Granting Authority (SPGA) for all special permits issued under **Article IV, Section 8(F)-Private Driveways, Article IV, Section 13-Wind Energy Conversion Facilities, and Articles VII, VIII, IX, X, XII, XIII, XIV and XV.**"

3. The City of Worcester Zoning Ordinance, adopted April 2, 1991, be and is hereby amended by inserting in Article IV, Section 2, Table 4.1 – General Uses, the following new line 25 “Wind Energy Conversion Facilities.”

RS 10	RS 7	RL 7	RG 5	BO 1	BO 2	BL 1	BG 2	BG 3	BG 4	BG 6	ML 0.5	ML 1.0	ML 2.0	MG 0.5	MG 1.0	MG 2.0	IP .33	IN S	IN H	A 1
SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP

In City Council June 12, 2007

Passed to be ordained by a yea and nay vote of Eleven Yeas and No Nays.

A Copy. Attest:

David J. Rushford, Clerk
David J. Rushford
City Clerk