

SECTION 280: WINDMILLS, TOWERS AND ENERGY PRODUCING WIND DEVICES

280.1 Purpose

The purpose of this regulation is to promote the safe, effective, and efficient use of small wind energy systems which are installed to reduce the on-site consumption of utility supplied electricity, subject to reasonable conditions that will protect the public health, safety and welfare.

280.2 Applicability

This section applies to all proposals to construct utility-scale and on-site wind facilities smaller than 1 MW Rated Nameplate Capacity. Any physical modification to existing wind facilities that materially alters the type, or increases the size, of such facilities or other equipment shall require a special permit.

281.0 Definitions

Commission: The Goshen Planning and Zoning Commission.

On-Site Wind Facility: A wind facility located at a residential, commercial, industrial, agricultural, institutional, or public facility that will consume more than 50% of the electricity generated by the facility.

Height: The vertical distance from the average finished ground level at the main tower edges to the highest point of the structure, including any blade, lightning rod or antenna. If a blade extends above the tower at any point in its arc, then the tip of the rotor blade at its highest point, or blade-tip height shall be used.

Rated Nameplate Capacity: The maximum rated output of electric power production equipment. This output is typically specified by the manufacturer with a "nameplate" on the equipment.

Substantial Evidence: Such evidence as a reasonable mind might accept as adequate to support a conclusion.

Utility-Scale Wind Facility: A commercial wind facility, where the primary use of the facility is electrical generation to be sold to wholesale electricity markets.

Wind Facility: All equipment, machinery and structures utilized in connection with the conversion of wind to electricity. This includes, but is not limited to, transmission lines and support structures, storage, collection and supply equipment, substations, transformers, service and access roads, and one or more wind turbines.

Wind Monitoring or Meteorological Tower: A temporary tower equipped with devices to measure wind speeds and direction, used to determine how much wind power a site can be expected to generate.

Wind Turbine: A device that converts kinetic wind energy into rotational energy that drives an electrical generator. A wind turbine typically consists of a tower, accelerator platform or nacelle body, and one or more rotors, with two or more blades for each rotor.

282.0 General Requirements

282.1 Goshen Planning and Zoning Commission

No wind facility shall be erected, constructed, installed or modified so as to change bulk or height, without first obtaining a special permit from the Goshen Planning and Zoning Commission ("the Commission"). The construction of a Wind Facility shall be permitted in RA5 and RR zoning districts subject to the issuance of a Special Permit, provided that the use complies with all requirements set forth in sections 3, 4, 5 and 6. All such Wind Facilities shall be constructed and operated in a manner that minimizes any adverse visual, safety, and environmental impacts.

No special permit shall be granted unless the Commission finds in writing that:

- (a) the specific site is an appropriate location for such use;
- (b) no material adverse effect on the neighborhood has been shown;
- (c) no serious hazard to pedestrians or vehicles has been shown;
- (d) no nuisance will be created by operation of the use; and
- (e) adequate and appropriate facilities will be provided for the proper operation of the use.

Such permits may also impose reasonable conditions, safeguards and limitations on time and use, and may require the applicant to implement all reasonable measures to mitigate unforeseen adverse impacts of the wind facility, should any occur.

Wind Monitoring or Meteorological Towers shall be permitted in RA5 and RR zoning districts, subject to issuance of zoning and building permits for a temporary structure, and subject furthermore to all applicable regulations concerning lot area, setbacks, open space, parking, and building coverage requirements. Additionally, Wind Monitoring or Meteorological Towers shall not exceed two (2) feet tower face width and two hundred (200) feet in height.

282.2 Compliance with Laws, Ordinances and Regulations

The construction and operation of all such proposed wind facilities shall be consistent with all applicable local, state and federal requirements, including, but not limited to, all applicable safety, construction, environmental, electrical, communications and aviation requirements. With respect to noise requirements, see Section 6.3.

282.3 Proof of Liability Insurance

Before construction may begin, the applicant shall be required to provide evidence of liability insurance in an amount and for a duration reasonably sufficient to cover loss or damage to persons and structures occasioned by the failure of the facility. This coverage shall be updated as appropriate from time to time so as to be consistent with then current industry standards.

282.4 Site Control

At the time of its application for a special permit, the applicant shall submit documentation of actual or prospective legal rights for the use and possession of the project site sufficient to allow for the intended purpose. If required, the application shall also include documentation concerning the right to use setback areas and access roads.

Site Control shall include the legal authority to prevent the use or construction of any structure for human habitation within the setback areas.

283.0 General Siting Standards

283.1 Height

Wind facilities shall be no higher than 200 feet in Height.

283.2 Setbacks

Wind turbines shall be setback, as measured from the center of the tower: (a) from the nearest existing habitable structure, a distance equal to 1.5 times the overall blade tip height for a wind turbine that has exposed blades and 1.1 times the overall height for a wind turbine that has shrouded blades, provided, however, that a portion of this setback requirement may be satisfied by an easement or other non-revocable, legally binding agreement from one more abutting property owners; and (b) 100' from the nearest property line or public way.

283.2.1 Setback Waiver

The Commission may reduce the minimum setback distance as appropriate based on site-specific considerations, if the project satisfies all other criteria for the granting of a special permit under the provisions of this section.

284.0 Design Standards

284.1 Color and Finish

The Commission shall have discretion over the turbine color, although a neutral, non-reflective exterior color that blends with the surrounding environment is encouraged.

284.2 Lighting and Signage

284.2.1 Lighting

Wind turbines shall be lighted only if required by the Federal Aviation Administration. Lighting of other parts of the wind facility, such as appurtenant structures, shall be limited to that required for safety and operational purposes, and shall be designed to minimize glare on abutting properties and, except as required by the FAA, be directed downward with full cut-off fixtures to reduce light pollution.

284.2.2 Signage

Signs on the wind facility shall comply with the requirements of the town's sign regulations, and shall be limited to:

- (a) Those necessary to identify the owner, provide a 24-hour emergency contact phone number, and warn of any danger.
- (b) Those required by state or federal law.
- (c) Educational signs providing information about the facility and the benefits of renewable energy.

284.2.3 Advertising

Wind turbines shall not be used for displaying any advertising, except for reasonable identification of the manufacturer or operator of the wind energy facility.

284.2.4 Utility Connections

Reasonable efforts shall be made to locate utility connections from the wind facility underground, depending on appropriate soil conditions, shape, and topography of the site and any requirements of the utility provider. Electrical transformers for utility interconnections may be above ground, if required by the utility provider.

284.3 Appurtenant Structures

All structures appurtenant to such wind facilities shall be subject to applicable regulations concerning the bulk and height of structures, as well as regulations determining yard sizes, lot area, setbacks, open space, parking and building coverage requirements. All such appurtenant structures, including, but not limited to, equipment shelters, storage facilities, transformers, and substations, shall be architecturally compatible with each other and shall be contained within the turbine tower whenever technically and economically feasible. Additional structures shall only be used for housing of equipment for this particular site. Whenever reasonable, structures should be screened from view by vegetation and/or fencing, and/or located in an underground vault, and joined or clustered to minimize adverse visual impacts.

284.4 Support Towers

Monopole and space frame/lattice towers are the only permissible support towers for Wind Facilities.

285.0 Safety, Aesthetic and Environmental Standards

285.1 Emergency Services

The applicant shall provide a copy of the project summary and site plan to the local emergency services entity, as designated by the Commission. Upon request, the applicant shall cooperate with local emergency services in developing an emergency response plan.

285.1.1 Unauthorized Access

The Wind Facility shall be designed to prevent unauthorized access.

285.2 Shadow/Flicker

Wind facilities shall be sited in a manner that minimizes shadowing or flicker impacts. The applicant has the burden of proving that flicker does not have significant adverse impact on neighboring or adjacent uses through either siting or mitigation.

285.3 Noise

The Wind Facility shall conform to any applicable provisions of the Torrington Area Heath District (TAHD) Noise Control Regulation and all other applicable noise laws, regulations and statutes.

285.4 Land Clearing, Soil Erosion and Habitat Impacts

Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the wind facility and is otherwise prescribed by applicable laws, regulations, and ordinances.

286.0 Monitoring and Maintenance

286.1 Facility Conditions

The applicant shall maintain the wind facility in good condition. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security

measures. Site access shall be maintained to a level acceptable to the local Fire Chief and the director of Emergency Medical Services. The project owner shall be responsible for the cost of maintaining the wind facility and any dedicated access road, unless accepted as a public way, and the cost of repairing any damage occurring as a result of construction and operation.

286.2 Modifications

All modifications that increase bulk, increase height or change the location of a wind facility made after issuance of the special permit shall require amendment of that special permit by the Commission.

287.0 Abandonment or Decommissioning

287.1 Removal Requirements

Any wind facility which has reached the end of its useful life, or has been abandoned, shall be removed. When the wind facility is scheduled to be decommissioned, the applicant shall notify the town by certified mail, including the proposed date of discontinued operations and plans for removal. The owner/operator shall physically remove the wind facility no more than 150 days after the date of discontinued operations. At the time of removal, the wind facility site shall be restored to the state it was in before the facility was constructed, from grade level and above, but excluding any need to replace trees or other vegetation that may have previously occupied the site, and similarly excluding the need to reconstruct structures once present, or the site may be converted to any other legally authorized use. More specifically, decommissioning shall consist of:

- (a) Physical removal of all wind turbines, structures, equipment, security barriers and transmission lines from the site.
- (b) Disposal of all solid and hazardous waste in accordance with local and state waste disposal regulations.
- (c) Stabilization or re-vegetation of the site as necessary to minimize erosion. The Commission may allow the owner to leave landscaping or certain visible foundations in order to minimize erosion and disruption to vegetation.

287.2 Abandonment

Absent notice of a proposed date of decommissioning, the facility shall be considered abandoned when the facility fails to operate for more than one year without the written consent of the Commission. The Commission shall determine in its decision what proportion of the facility is inoperable for the facility to be considered abandoned. If the applicant fails to remove the wind facility in accordance with the requirements of this section within 150 days of abandonment, or the proposed date of decommissioning, the town shall have the authority to enter the property and physically remove the facility.

287.3 Financial Surety

The Commission may require the applicant for wind facilities to provide a form of surety, either through escrow account, bond or otherwise, to cover the cost of removal in the event the town must remove the facility. The amount and form of this surety shall be determined by the Commission, but in no event may it exceed more than 125 percent of the cost of removal and compliance with the additional requirements set forth herein, as determined by the Commission, after consultation with its staff and engineering consultant(s). Such surety will not be required for municipally or state-owned facilities. The applicant shall submit a fully inclusive estimate of the costs, less salvage value,

associated with removal, prepared by a qualified engineer. The amount shall include a mechanism for Cost of Living Adjustment.

288.0 Term of Special Permit

A special permit issued for a wind facility shall be valid for 25 years, unless extended or renewed. The time period may be extended, or the permit renewed, by the Commission upon satisfactory operation of the facility. Any request for extension or renewal must be submitted at least 180 days prior to expiration of the special permit. The submission of an extension or renewal request shall allow for continued operation of the facility until the Commission acts. Upon the expiration of the special permit (including extensions and renewals), the wind facility shall be removed as required by this section.

The applicant or facility owner shall maintain a phone number, and identify a responsible person for the public to contact, so that inquiries and complaints may be made throughout the life of the project.

289.0 Visualizations

The Commission shall select between three and six sight lines, including from the nearest building with a view of the wind facility, for pre- and post-construction view representations. Sites for the view representations shall be selected from populated areas or public ways within a 2-mile radius of the wind facility. View representations shall have the following characteristics:

- (a) Within 21 days of filing for a Special Permit, the applicant shall arrange for a balloon test (with a balloon diameter of at least eight feet), or a crane test, at the proposed site to illustrate the height and position of the proposed tower. The date (and alternate dates to allow for inclement weather), time and location of such test shall be advertised in a newspaper of general circulation in the Town at least 15 days, but not more than 21 days, prior to the primary date of the test. The balloon or crane test shall be conducted for at least two days, one of which shall be a Saturday or a Sunday.
- (b) The applicant will submit photographs showing the tower imposed on the photograph with the tower height established in reference to a balloon flown to the proposed tower height at the site.
- (c) View representations shall be in color and shall include actual pre-construction photographs and accurate post-construction simulations of the height and breadth of the wind facility (e.g., superimpositions of the wind facility onto photographs of existing views).
- (d) All view representations will include existing, or proposed, buildings or tree coverage.
- (e) Each view representation shall include description of the technical procedures followed in producing the visualization (distances, angles, camera lens, etc.).

289.1 Landscape Plan

Upon a determination of necessity by the Commission, the applicant shall submit a plan indicating all proposed changes to the landscape of the site, including temporary or permanent roads or driveways, grading, vegetation clearing and planting, exterior lighting (other than FAA-required lights), screening vegetation or structures. Lighting shall be designed to minimize glare on abutting properties, except as required by the FAA.

289.2 Operation & Maintenance Plan

The applicant shall submit a plan for maintenance of access roads and storm water controls, as well as general procedures for operational maintenance of the wind facility.

289.3 Compliance Documents

If required under previous sections of this regulation, the applicant will provide with the application:

- (a) a description of the financial surety that satisfies 8.3 of this section,
- (b) proof of liability insurance that satisfies Section 3.3 of this section,
- (c) certification of height approval from the FAA, or documentation showing that this is not necessary,
- (d) a statement that satisfies Section 6.3, listing existing and maximum projected noise levels from the wind facility.

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