

## SECTION 9. COMMERCIAL WIND ENERGY FACILITIES

**9.1 Purpose.** The purpose of this Section 9 of the Zoning Bylaw is to provide by special permit for the construction and operation of commercial wind facilities while minimizing the impacts on the scenic, natural and historic resources of the Town of Savoy. This bylaw provides standards and requirements for the design, construction, monitoring, modification and removal of such facilities.

**9.2 Definitions.** The following terms are defined, for purposes of Section 9, as follows:

Access Road: A roadway constructed on the Site for use in the construction and operation of the Commercial Wind Facility.

Commercial Wind Facility (CWF): A Wind Energy Conversion Facility with a nameplate capacity greater than 60 kW.

CWF Owner: The person(s) owning the Commercial Wind Facility.

Decommissioning: Decommissioning shall consist of:

- a. Physical removal of all wind turbines, structures, equipment, security barriers and transmission lines, except foundations and underground conduits, from the Site.
- b. Disposal of all solid and hazardous waste in accordance with applicable waste disposal regulations.
- c. Stabilization or re-vegetation of the Site as necessary to minimize erosion.

Height: The height of each wind turbine in a Wind Energy Conversion Facility shall be measured from the grade at the base of the turbine to the uppermost extension of any blade of the turbine.

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.

Property Owner: The person holding proprietary interest in land on which the Wind Energy Conversion Facility is located or proposed to be located. The owner may or may not be the CWF Owner.

Site: The parcel or parcels on which the Commercial Wind Facility is to be located.

Special Permit Granting Authority or SPGA means the Town of Savoy Zoning Board of Appeals.

Wind Energy Conversion Facility: All equipment, machinery and structures utilized in connection with the utilization of wind energy to generate electric energy, including related transmission, distribution, collection, storage or supply systems whether underground, on the surface or overhead, and other equipment including but not limited to, wind turbine, anemometer (wind measuring equipment), transformers, substation, power lines, control and maintenance facilities, site access and service roads. A Wind Energy Conversion Facility may consist of one or more wind turbines. The primary components of a wind turbine are the foundation, tower, nacelle and blades (see diagram attached as Appendix A to the Zoning Bylaw).

**9.3. Meteorological Towers.** A Meteorological Tower shall be a by-right temporary structure installation provided that it meets the following conditions:

9.3.1 The height of the Meteorological tower shall not exceed 200 feet.

9.3.2 The Meteorological Tower shall be located at a distance of at least 1.0 times the height of the tower from any adjacent property boundary and at a distance of at least 1.5 times the height of the tower from any structure/building occupied by humans on adjacent properties.

9.3.3. The SPGA may require that, prior to erection of the Meteorological Tower, the applicant shall provide (i) evidence of commercial general liability insurance in an amount of \$1,000,000 per occurrence and (ii) a financial surety in an amount appropriate for the removal of the Meteorological Tower and otherwise in a form reasonably satisfactory to the SPGA.

9.3.4 The Meteorological Tower shall be removed after a period of 3 years from the date of erection, but such period may be extended by the SPGA for a reasonable period (i) in the event of a failure in the data collection equipment or (ii) upon filing of an application for a special permit for a Commercial Wind Facility at the site where the Meteorological Tower is located.

**9.4. General Requirements for Commercial Wind Facility.**

9.4.1. General. No Commercial Wind Facility may be erected, constructed, or installed without first obtaining a Special Permit from the SPGA as provided for in this bylaw. Any physical modifications to existing Commercial Wind Facilities that materially alters the type or size of such facilities shall also require a special permit from the SPGA. The SPGA shall grant a Special Permit if it finds that the proposed Commercial Wind Facility complies with the criteria of this Section 9 and other applicable provisions of the Zoning Bylaw.

9.4.2 Compliance with Laws. The construction and operation of all Commercial 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. The issuance of a special permit shall not limit the Town's ability to enforce or seek enforcement of other legal requirements applicable to the Commercial Wind Facility.

9.4.3 Liability Insurance. Prior to commencement of construction, the CWF Owner shall provide evidence to the Board of Selectmen of adequate liability insurance against loss or damage to persons, including personal injury or death, and structures occasioned by failure of the facility.

9.4.4 Accessory Uses. Telecommunications antennas may be sited on Commercial Wind Facilities, subject to applicable regulations governing such uses and to the following.

- (a) All ground-mounted equipment shall be located in a shelter, within the Commercial Wind Facility or otherwise screened from view.
- (b) Antennas shall be flush-mounted to be in keeping with the design of the Commercial Wind Facility;
- (c) All associate cabling shall be contained within the tower structure or enclosed within a conduit finished to match the turbine.

## **9.5 General Siting Standards**

9.5.1 Height. The height of a Commercial Wind Facility shall not exceed 425 feet, with a minimum blade clearance from the ground immediate below of 100 feet.

9.5.2 Setbacks. Each wind turbine in the Commercial Wind Facility shall be located at a distance of at least 1.0 times the height of the wind turbine from any adjacent property boundary and at a distance of at least 2.5 times the height of the wind turbine from any structure/building occupied by humans on adjacent properties which have received a building permit or certificate of occupancy from the Town at the time of the application for a special permit.

## **9.6 Design Standards.**

9.6.1 Color. All facility devices/components (tower, hub and blades) shall be designed to blend into the structure and/or the landscape to the extent reasonably practicable, such as by including the use of non-reflective and less obtrusive colored (e.g. 'putty') exterior paints.

9.6.2 Lighting. Lighting of the exterior of the wind facility shall be prohibited, except for the minimum extent necessary lighting or marking requirements of the Federal Aviation Administration. Supplemental lighting of safety or information signs as determined necessary by the SPGA. Lighting 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.

9.6.3 Signage. The Commercial Wind Facility shall have signs on or near each wind turbine identifying the CWF Owner and providing a 24-hour emergency contact phone number. The Commercial Wind Facility shall also have signs on or near each wind turbine and at the beginning of the on-site access road to minimize trespassing and to warn of any dangers at the Commercial Wind Facility. The Commercial Wind Facility may also have educational signs providing information about the facility and the benefits of renewable energy. All signs shall comply with the requirements of the Zoning Bylaw.

9.6.4 Advertising. The Commercial Wind Facility shall not display any advertising except for reasonable identification of the manufacturer of the wind turbine and of the owner and operator of the facility.

9.6.5. Appurtenant Structures. All 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 wind turbine tower to the extent technically and economically feasible. Structures shall only be used for housing of equipment for the Site.

## **9.7 Safety, Aesthetic and Environmental Standards.**

9.7.1 Emergency Services. The applicant shall provide a copy of project plans to local emergency services, as designated by the SPGA. Upon request, the applicant shall provide safety training courses to local emergency services and shall cooperate with local emergency services in developing an emergency response plan.

9.7.2 Shadow/Flicker. A Commercial Wind Facility shall be sited in a manner that minimizes shadowing or flicker impacts which occur when the sun's rays on nearby receptors (usually homes and businesses) are temporarily blocked by the passing of a rotating wind turbine blade. The applicant has the burden of proving that shadowing or flicker does not have significant adverse impact on neighboring or adjacent uses.

9.7.3 Noise. The Commercial Wind Facility noise shall conform to the regulations of the Department of Environmental Protection's Division of Air Quality Noise Regulations (310 CMR 7.10).

9.7.4 Land Clearing. Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the Commercial Wind Facility and shall otherwise be in compliance with all applicable local, state and federal requirements.

9.7.5 Safety Features. The Commercial Wind facility shall be designed to prevent unauthorized access (such as by construction of a fenced enclosure or locked access). The SPGA may impose such safety-related conditions, including but not limited to fences, gates and warning signs as it reasonably finds necessary to protect public health and safety.

## **9.8 Maintenance**

9.8.1 Access Road. The CWF Owner shall, at all times, maintain the Access Road to a level reasonably acceptable to the local emergency services.

9.8.2 Site Maintenance. The CWF Owner shall maintain the access road (unless accepted as a public way), the Site, and the Commercial Wind Facility in good condition.

9.8.3 Repair of Public Ways. The CWF Owner shall be responsible for the cost of repairing any damage to a public way (including the Access Road if accepted as a public way) restoration of any damage caused by use of the public way in connection with the construction, operation or maintenance of the Commercial Wind Facility. A qualified third party engineer, mutually acceptable to the Town and the applicant, and paid for by the applicant, shall prior to construction (but no longer than a period of 30 days) document road conditions over roads expected to be used in the construction of the Commercial Wind Facility. The engineer shall document road conditions over affected roads thirty days after completion of construction, or reasonably thereafter as weather permits. Necessary road repairs shall be approved by the Town Highway Department and the Board of Selectmen. The cost of any road repairs as a result of the construction of the Commercial Wind Facility shall be borne by the CWF Owner.

## **9.9 Abandonment or Decommissioning**

9.9.1 Removal Requirements. Any Commercial Wind Facility which has reached the end of its useful life shall be Decommissioned. When the Commercial Wind Facility is scheduled to be Decommissioned, the CWF Owner shall notify the Town of the proposed date of discontinued operations and plans for Decommissioning. The CWF Owner shall provide for the physical removal of the wind turbines within 150 days after the date of discontinued operations and shall diligently pursue all other Decommissioning activities.

9.9.2 Abandonment. Absent notice of a proposed date of Decommissioning, the Commercial Wind Facility shall be considered abandoned when it fails to operate, except for repair, refurbishment or upgrading, for a consecutive period of one year, unless with

the expressed written consent of the SPGA. The SPGA shall determine in its decision what proportion of the facility is inoperable for the facility to be considered abandoned. If the CWF Owner applicant fails to Decommission Commercial Wind Facility in accordance with the requirements of section 9.9.1 within 150 days of abandonment or the proposed date of decommissioning, the Town, by direction of the Selectmen, shall have the authority to enter the property and physically remove the facility in accordance with this section.

### 9.9.3 Surety

9.9.3.1 Prior to initiating construction, the CWF owner shall post a financial surety in a form satisfactory to the SPGA, and on terms and in an amount satisfactory to the SPGA, to ensure compliance with all conditions of the Special Permit. Conditions shall include, but not be limited to, provisions for repairs to defective construction and practices, property damage, damage to town roads, bridges, culverts, access roads (reference section 9.8.3) or any other remedial measures associated with the construction of the CWF or the failure to complete construction or abandonment as defined in section 9.9.2.

9.9.3.2 The CWF owner shall also provide an ongoing financial surety in a form satisfactory to the SPGA, and on terms and in an amount (not exceeding 150 percent of the cost of removal) satisfactory to the SPGA, to ensure that the facility will be removed as defined in section 9.9.1 removal requirements (decommissioning) or if the owner abandons the CWF as defined in section 9.9.2. or does not meet the special permit conditions.

The amount and form of the surety will be reviewed by the SPGA prior to expiration, but no less than every two years. If the estimated costs for removal increase beyond the amount of the existing surety, the SPGA shall increase the required surety amount.

Upon a finding of noncompliance by the SPGA with the special permit conditions, or abandonment as defined section 9.9.2, the SPGA shall notify the CWF owner at their last known address by certified and first class mail of the noncompliance or abandonment and shall provide 30 days notice that the surety may be called in so that the Town may correct the deficiencies or remove the CWF. In the event that certified mail cannot be delivered, it shall be presumed that the CWF owner received first class mail.

After the 30-day period, if the deficiency has not been corrected, the CWF placed back in operation, or the CWF owner has not appeared before the SPGA at its request, the Town shall collect the financial surety in the manner established in the surety documents.

Subsequent to collecting the surety, the Town will take the necessary steps to correct the deficiency or remove the CWF utilizing the funds from the surety. Costs will include, but not be limited to, the necessary legal, engineering, permitting, procurement, remediation and construction/demolition expenses.

If surety has to be drawn upon by the Town to correct deficiencies, and the CWF is not removed, the surety amount must be recalculated and adequate surety provided to continue to ensure that the full costs of possible future deficiencies or the surety can cover removal.

## **9.10 Term of Special Permit; Annual Meeting**

9.10.1 Term of Special Permit. A Special Permit issued for a Commercial Wind Facility shall be valid for 25 years, unless extended or renewed. The time period may be extended or the permit renewed by the SPGA upon satisfactory operation of the facility. Request for renewal must be submitted at least 540 days prior to expiration of the special permit. Submitting a renewal request shall allow for continued operation of the facility until the SPGA acts. At the end of that period (including extensions and renewals), the wind facility shall be removed as required by this bylaw.

9.10.2 Annual Meeting. An annual meeting shall be conducted (to be scheduled by the CWF Owner) between the CWF Owner and the town officials to discuss project related issues and concerns, including, but not limited to (i) recorded problems and incidents; (ii) resolution of problems and incidents; and (iii) report on equipment service plans.

9.10.2 Notice of Change in Ownership. Notice shall be provided to the Board of Selectmen of any change in the ownership of the Commercial Wind Facility.

## **9.11 Application Requirements and Process**

9.11.1 General. The application for special permit for a Commercial Wind Facility shall be filed by the applicant with the town clerk. The applicant shall provide 8 copies of the application. The application may redact any sensitive economic information concerning the facility.

9.11.2 Required Documents. The application shall include:

9.11.2.1 the name and contact information for the applicant;

9.11.2.2 a list of all project related consultants and technical specialists; and

9.11.2.3 documentation of the applicant's legal right to use the Site for construction and operation of the Commercial Wind Facility.

9.11.3 Siting and Design Information. The application shall include the following material to describe the proposed Commercial Wind Facility:

9.11.3.1 Location Map. A copy of a portion of the most recent USGS Quadrangle Map, at a scale of 1:25,000, showing the proposed facility site, including the turbine sites, and the area within at least two miles from the proposed facility.

9.11.3.2 Site Plan. A plan of the facility site at a scale of 1" = 200 feet, with contour intervals no greater than 10 feet showing:

- (a) Property lines for the Site and adjacent parcels within 300 feet;
- (b) Outline of all existing buildings, including purpose (e.g. residence, garage, etc.) on the Site and all adjacent parcels within 1,500 feet and showing distance from the Commercial Wind Facility to each building shown;
- (c) Location of all roads, public and private, on the Site and adjacent parcels, and proposed roads on the Site;
- (d) Existing vegetation on the Site; and
- (e) Proposed location and design of the Commercial Wind Facility, including all wind turbines, ground equipment, appurtenant structures, transmission infrastructure, access roads, fencing and lighting.

9.11.4. Visualizations. The Applicant shall provide visualizations from at least five sight lines selected to give representative views from principal locations in the Town and surrounding communities, for pre- and post-construction view representations of the Commercial Wind Facility. The view representations shall:

- (a) 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).
- (b) include existing, or proposed, buildings or tree coverage.
- (c) be accompanied by a description of the technical procedures followed in producing the visualization (distances, angles, lens, etc).

9.11.5 Landscape Plan. The application shall include 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 lights, screening vegetation or structures.



9.11.6 Traffic Plan. The application shall provide the applicants estimate of traffic impacts during the construction and operation of the Commercial Wind Facility, including:

- (a) a map of roadways anticipated to be utilized for construction and delivery of all project components and materials;
- (b) Provide information on delivery vehicle types available for delivery of wind turbine components;
- (c) Report all locations on the delivery route where land alterations, notwithstanding ownership, are necessary;
- (d) Report if there will be road closures and disruptions affecting provisions for emergency response; and
- (e) Report on any necessary road improvements.

9.11.7. Town Consultants. The SPGA may retain technical experts and consultants as appropriate. The applicant shall be responsible for the cost of such consultants.

## 10.0 Severability

The invalidity of any section or provision of this By-Law shall not invalidate any other section or provision thereof.

# Wind Turbine

