TOWN OF ELBA WIND ENERGY SYSTEMS AMENDMENT

SECTION 412 WIND ENERGY SYSTEMS

The purpose of this Section is to preserve and protect public health and safety without significantly increasing the cost or decreasing the efficiency of a wind energy system and to allow for the orderly development of land, protect property values, and aesthetic conditions. This Section does not repeal, annul, impair, or interfere with any existing ordinance or local law.

It is unlawful for any person to construct, install, maintain, modify, or operate a wind energy system that is not in compliance with this Section or with any condition contained in a Special Use or Zoning Permit issued pursuant to this Zoning Ordinance/Law.

Definitions. (To be added to definitions section of The Town of Elba Zoning Ordinance/Law):

Commercial Wind Energy System - A wind energy system that is operated primarily (51% or more) to put energy into the electric grid, and/or has a nameplate capacity of more than 50 kilowatts (kW), and/or a total height of more than 175 feet, and/or a blade length of more than 30 feet.

Electromagnetic Interference (EMI) - The interference to communication systems created by the scattering of electromagnetic signals.

Non-commercial Wind Energy System - A wind energy system that is operated primarily (51% or more) for on-site (may be more than one parcel) consumption, and has a nameplate capacity of 50 kW or less, and a total height of 175 feet or less, and a blade length of 30 feet or less.

Shadow Flicker - The alternating pattern of sun and shade caused by wind tower blades casting a shadow.

Total Height - The vertical distance from ground level to the tip of a wind turbine blade when the tip is at its highest point.

Wind Energy System - Equipment that converts and then stores or transfers energy from the wind into usable forms of energy and includes any base, blade, foundation, generator, nacelle, rotor, tower, transformer, turbine, vane, wire, substation, maintenance or control facilities, or other component used in the system. A wind energy system can consist of one or more wind towers.

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

A. Permit Requirements

1. Special Use Permit. A Special Use Permit is required for Commercial and Non-commercial Wind Energy Systems and for any wind energy system, or a component thereof, except for Non-commercial Wind Energy Systems located in County-adopted, State-certified Agricultural Districts for primary on-farm use.

2. Zoning Permit. A Zoning Permit and Site Plan Review are required for the installation of a wind tower that is part of any wind energy system.

3. Expiration. A permit issued pursuant to this Zoning Ordinance/Law expires if:

a. the wind energy system is not installed and functioning within 2 years from the date the permit is issued; or

b. the wind energy system is out of service or otherwise unused for a continuous 12-month period.

4. Fees.

a. The application for a Special Use Permit for a Commercial or Non-commercial Wind Energy System, except for Non-commercial Wind Energy Systems located in County-adopted, State-certified Agricultural Districts must be accompanied by the fee required for a Special Use Permit.

b. The application for a Zoning Permit for each tower in a Commercial Wind Energy System must be accompanied by the fee required for a Zoning Permit for a principal use.

c. The application for a Zoning Permit for each tower in a Non-commercial Wind Energy System must be accompanied by the fee required for a zoning permit for an accessory use.

5. Financial Assurance. The owner of a wind energy system, other than a Non-commercial Wind Energy System, must provide a performance bond, completion bond, or other financial assurance that guarantees the performance of the restoration of the land developed for the wind energy system.

B. Restoration Requirement. (see also Restoration section under Agricultural Mitigation)

1. A wind energy system that is out of service for a continuous 12-month period or any wind energy system found to be unsafe by the Building Code Enforcement Officer and not repaired by the owner to meet federal, state and local safety standards within six months will be deemed to have been abandoned. The Zoning Enforcement Officer may issue a Notice of Abandonment in form of a letter to the owner of a wind energy system that is deemed to have been abandoned. The Zoning Enforcement Officer will withdraw the Notice of Abandonment if the owner provides information within 30 days from the date of the Notice that causes the Zoning Enforcement Officer to determine that the wind energy system has not been abandoned.

2. The owner of a wind energy system must provide the Zoning Enforcement Officer with a written Notice of Termination of Operations within 60 days if the operation of a wind energy system is terminated.

3. Within 3 months of receipt of Notice of Abandonment or within 6 months of providing Notice of Termination of Operations, the owner of a wind energy system must:

a. remove all wind turbines, aboveground improvements, and outdoor storage;

b. remove all foundations, pads, and underground electrical wires to a depth of 4 feet below the surface of the ground; and

c. remove all hazardous material as defined by NYSDEC from the property and dispose of the hazardous material in accordance with federal and state law.

d. all disturbed areas will be decompacted and the topsoil will be replaced to original depth reestablishing original contours where possible.

C. Special Use Permit or Zoning Permit Requirements. In addition to those criteria set forth under other Sections of this Zoning Ordinance/Law, the Town shall consider the following factors when setting conditions upon Special Use Permits or Zoning Permits issued for all wind energy systems and may hire a professional engineer or consultant to assist in the review of an application at the applicant's expense:

1. Proposed ingress and egress.

2. Proximity to transmission lines to link the system to the electric power grid.

3. Number of wind towers and their location.

4. Nature of land use on adjacent and nearby properties.

5. Location of other wind energy systems in the surrounding area.

6. Surrounding topography.

7. Proximity to residential structures, residential zoning districts, or areas identified for future residential use.

8. Design characteristics that may reduce or eliminate visual obtrusiveness.

9. Possible adverse effects on migratory birds, and other animals and wildlife.

10. Possible adverse effects of stray voltage, interference with broadcast signals, shadow effect, and noise.

11. Impact on the orderly development, property values, and aesthetic conditions

12. Possible adverse effects on groundwater quality or quantity.

13. Recommendations of the Town Board.

14. Any other factors that are relevant to the proposed system.

D. Standards.

1. Location.

a. A wind energy system may only be located in areas that are zoned Agricultural – Residential (AG-R) and Industrial (I)

b. A wind tower may not be located within one-quarter mile (1,320 ft.) of any State Forest, public park, or any other area that has been set aside for the sole purpose of preserving a unique wildlife habitat or natural formation recognized by a State, Federal, or local government designation; or within 1,000 feet of a State-identified wetland.

c. A wind tower may not be located within 2,500 feet from Important Bird Areas as identified by New York Audubon.

2. Set Backs. Each wind tower in a wind energy system must be set back (as measured from the center of the base of the tower):

a. from the property line of the parcel on which the wind tower is located by a minimum distance equal to twice the total height of the wind tower, unless waived in writing by the abutting landowner.

b. from any residence or building that is on any parcel by a minimum distance of 1,000 feet or twice its total height, whichever is greater, unless waived in writing by the owner of such structure.

c. from any public building that is on any parcel by a minimum distance of 1,000 feet or twice its total height, whichever is greater.

d. from the right-of-way of any public road by a minimum distance of 1,000 feet or twice its total height, whichever is greater.

E. Spacing and Density. A wind tower must be separated from any other wind tower by a minimum distance equal to twice the height of the wind tower and by a sufficient distance so that the wind tower does not interfere with the other wind tower.

F. Structure. A wind tower must be of monopole construction to the extent practicable. If monopole construction is not practicable, a wind tower must be of freestanding construction to the extent practicable. If monopole or freestanding construction is not practicable, a wind tower may be guyed.

G. Height. The total height of a wind energy system must be 175 feet or less. Other maximum building/ structure height restrictions within other sections of this Zoning

Ordinance/Law are not applicable. Wind energy systems higher than 175 feet may be allowed through incentive zoning provisions described in Article 412 of this Law/Ordinance pending Town Board approval.

H. Clearance. The vertical distance from ground level to the tip of a wind turbine blade when the blade is at its lowest point must be at least 30 feet.

I. Access and Safety.

1. Security. A wind tower, including any climbing aids, must be secured against unauthorized access by means of a locked barrier. A security fence may be required.

2. Climbing Aids. Monopole wind towers shall have all climbing aids and any platforms locked and wholly inside the tower.

3. Operational Safety. Wind towers shall have an automatic braking, governing or feathering system to prevent uncontrolled rotation, over-speeding and excessive pressure on the tower structure, rotor blades and turbine components.

4. Lightning. All wind towers shall provide a continuous electrical path to the ground to protect the tower from lightning.

5. Access Roads. All wind energy systems shall use existing roads to provide access to the facility site, or if new roads are needed, minimize the amount of land used for new roads and locate them so as to minimize adverse environmental impacts.

J. Electrical Wires.

1. Location. All electrical wires associated with a wind energy system must be located underground and must be located in a manner that does not interfere with reasonably expected farm practices (see also Construction section under Agricultural Mitigation).

2. Transmission Lines. All wind energy systems shall combine transmission lines and points of connection to local distribution lines.

3. Substations. All wind energy systems shall connect the facility to existing substations, or if new substations are needed, minimize the number of new substations.

K. Lighting. A wind tower and turbine may not be artificially lighted unless such lighting is required by the Federal Aviation Administration (FAA), other governmental agency, recognized safety guidelines (i.e. Mercy Flight), or the Planning Board. If lighting is required, the lighting must comply with FAA minimum requirements and, whenever possible, be at the lowest intensity allowed. If more than one lighting alternative is available, the Town reserves the right to choose the least obtrusive lighting option available.

L. Buildings and Outdoor Storage. Any ancillary buildings and any outside storage associated with a wind energy system must, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the facility into the natural setting and existing environment (i.e. in an agricultural setting accessory buildings could be designed to look like barns). Appropriate landscaping or architecture shall be provided to screen accessory structures from roads and adjacent residences.

M. Aesthetics.

1. Appearance, Color, and Finish. The exterior surface of any visible components of a wind energy system must be a nonreflective, neutral color. Wind towers that are located within view, or within one mile of each other must be of uniform design, including tower type, color, number of blades, and direction of blade rotation.

2. Visual Impact Assessment. The applicant shall complete a Visual Environmental Assessment Form (Visual EAF - SEQR), as well as a visual impact assessment of any proposed wind energy systems or any proposed modifications to existing wind energy systems. The visual impact assessment shall include:

a. "Before and after" photos or true to scale computer simulations from key viewpoints both inside and outside of the Town, including state highways and other major roads, from state and local parks, other public lands; from any privately owned preserves and historic sites normally open to the public, and from any other location where the site is visible to a large number of visitors or travelers. A balloon test may also be requested by the Planning Board.

b. Alternative tower designs.

c. Assessment of visual impact from abutting properties and streets of the tower base, guy wires, accessory buildings and any other element of the wind energy system identified by the Planning Board.

d. Commercial Wind Energy System applications shall provide a viewshed map of the proposed wind energy system with a radius of seven (7) miles from any portion of the wind energy system.

e. Commercial Wind Energy System applications shall provide an inventory of all aesthetic resources in the viewshed defined in item d.

3. Visual Impacts Offset Plan. The applicant may be required to prepare and implement a visual impacts offset plan to mitigate negative impacts on aesthetics

of a proposed wind energy system. Such a plan would show how the applicant would protect or make improvements to the aesthetics of another part of the Town to offset the negative impacts on aesthetics within the viewshed.

N. Signs. No wind tower, turbine, building, or other structure associated with a wind energy system may be used to advertise or promote any product or service. A weather resistant sign plate no greater than 2 sq. ft. in size containing the current owner or operator, emergency phone number, and current address of such owner/operator shall be located on the exterior surface of the tower or of the fence surrounding each tower and viewable by a Zoning Enforcement Officer. No other word or graphic representation, other than appropriate warning signs, may be placed on a wind turbine, tower, building, or other structure associated with a wind energy system so as to be visible from any public road.

O. Agricultural Mitigation. The following shall apply to construction areas for wind energy systems located in County-adopted, State-certified Agricultural Districts. The applicant is required to coordinate with the New York State Department of Agriculture and Markets (Ag. and Markets) to develop an appropriate schedule for milestone inspections to assure that the goals are being met. When required by the town, the applicant shall hire an Environmental Monitor to oversee the construction and restoration in agricultural fields. The person or company hired as an Environmental Monitor shall be approved by the Town and paid by the applicant.

1. Siting.

a. Minimize impacts to normal farming operations by locating structures along field edges where possible.

b. Locate access roads, which cross agricultural fields, along ridge tops where possible to eliminate the need for cut and fill and reduce the risk of creating drainage problems.

c. Avoid dividing larger fields into smaller fields, which are more difficult to farm, by locating access roads along the edge of agricultural fields where possible.

d. All existing drainage and erosion control structures such as diversions, ditches, and tile lines shall be avoided or appropriate measures taken to maintain the design and effectiveness of the existing structures. Any structures disturbed during construction shall be repaired to as close to original condition as possible, as soon as possible, unless such structures are to be eliminated based on a new design.

2. Construction.

a.The surface of access roads constructed through agricultural fields shall be level with the adjacent field surface.

b.Where necessary, culverts and waterbars shall be installed to maintain natural drainage patterns.

c. All topsoil must be stripped from agricultural areas used for vehicle and equipment traffic and parking. All vehicle and equipment traffic and parking shall be limited to the access road and/or designated work areas such as tower sites and laydown areas. No vehicles or equipment will be allowed outside the work area without prior approval from the landowner and, when applicable, the Environmental Monitor.

d.Topsoil from work areas (tower sites, parking areas, "open-cut" electric cable trenches, along access roads) shall be stockpiled separate from other excavated material (rock and/or subsoil). At least 50 feet of temporary workspace is needed along "open-cut" electric cable trenches for proper topsoil segregation. Topsoil stockpile areas shall be clearly designated in the field and on the on-site "working set" of construction drawings. Stockpiles will be located far enough from access roads and work areas to eliminate the possibility of vehicles inadvertently compacting this soil.

e.In cropland, hayland and improved pasture a minimum depth of 48 inches of cover will be required for all buried electric wires. In unimproved grazing areas and land permanently devoted to pasture, a minimum depth of thirty-six inches of cover will be required. In areas where the depth of soil over bedrock ranges from zero to forty-eight inches 48, the electric wires shall be buried entirely below the top of the bedrock or at the depth specified for the particular land use whichever is less. At no time will the depth of cover be less than 24 inches below the soil surface.

f. All excess subsoil and rock shall be removed from the site. On site disposal of such material may be allowed if approved by the landowner and, when applicable, the Environmental Monitor, with appropriate consideration given to any possible agricultural or environmental impacts.*

g.In pasture areas, work areas will be fenced to prevent livestock access, consistent with landowner agreements.

h.All pieces of wire, bolts, and other unused metal objects will be picked up and properly disposed of as soon as practical after the unloading and packing of turbine components so that these objects will not be mixed with any topsoil.*

i. Travel of all heavy equipment (including concrete trucks and

erection cranes) will be limited to designated access roads and gravel crane pads at all times.

j. Excess concrete will not be buried or left on the surface in active agricultural areas. Concrete trucks will be washed outside of active agricultural areas.*

*Any permits necessary for disposal under local, State and/or federal laws and regulations must be obtained by the contractor, with the cooperation of the landowner when required.

3. Restoration.

a. Restoration scheduling will be consistent with the seasonal limitations identified by Ag. and Markets and will be incorporated into the project's Agricultural District Notice of Intent (if applicable) as well as the Stormwater Management Plan (General Permit).

b. Following construction, all disturbed agricultural areas will be decompacted to a depth of 18 inches with a deep ripper or heavy-duty chisel plow. In areas where the topsoil was stripped, soil decompaction shall be conducted prior to topsoil replacement. Following decompaction, all rocks four (4) inches and larger in size will be removed from the surface of the subsoil prior to replacement of the topsoil. The topsoil will be replaced to original depth and the original contours will be reestablished where possible. All rocks four (4) inches and larger shall be removed from the surface of the topsoil. Subsoil decompaction and topsoil replacement should be avoided after October 1st, unless approved on a site-specific basis by the landowner in consultation with Ag. and Markets. All parties involved should be cognizant that areas restored after October 1st may not obtain sufficient growth to prevent erosion over the winter months. If areas are to be restored after October 1st, some provision should be made to restore any eroded areas in the springtime, to establish proper growth.

c. All access roads will be regraded to allow for farm equipment crossing and to restore original surface drainage patterns, or other drainage pattern incorporated into the design.

d. All restored agricultural areas shall be seeded with the seed mix specified by the landowner, in order to maintain consistency with the surrounding areas.

e. All surface or subsurface drainage structures damaged during construction shall be repaired to as close to preconstruction conditions as possible, unless said structures are to be removed as part of the project design.

f. Following restoration, all construction debris will be removed from the site.

4. Two Year Monitoring and Remediation.

a. The applicant will provide a monitoring and remediation period of no less than two years immediately following the completion of initial restoration. The two year period allows for the effects of climatic cycles such as frost action, precipitation and growing seasons to occur, from which various monitoring determinations can be made. The monitoring and remediation phase will be used to identify any remaining agricultural impacts associated with construction that are in need of mitigation and to implement the follow-up restoration. The Applicant will provide to the Town all reports, testing and data necessary to document compliance with subsections (a) through (e) herein.

b. General conditions to be monitored include topsoil thickness, relative content of rock and large stones, trench settling, crop production, drainage and repair of severed fences, etc. Impacts will be identified through on site monitoring of all agricultural areas impacted by construction and through contact with respective farmland operators and Ag. and Markets.

c. Topsoil deficiency and trench settling shall be mitigated with imported topsoil that is consistent with the quality of topsoil on the affected site. Excessive amounts of rock and oversized stone material will be determined by a visual inspection of disturbed areas as compared to portions of the same field located outside the construction area. All excess rocks and large stones will be removed and disposed of by the applicant.

d. When the subsequent crop productivity within affected areas is less than that of the adjacent unaffected agricultural land, the applicant as well as other appropriate parties, will help to determine the appropriate rehabilitation measures to be implemented. Because conditions which require remediation may not be noticeable at, or shortly after, the completion of construction, the signing of a release form prior to the end of the remediation period will not obviate the applicant's responsibility to fully redress all project impacts.

e. Subsoil compaction shall be tested using an appropriate soil penetrometer or other soil compaction measuring device. Compaction tests will be made for each soil type identified on the affected agricultural fields. The subsoil compaction test results within the affected area will be compared with those of the adjacent unaffected portion of the farm field/soil unit. Where representative subsoil density of the affected area exceeds the

representative subsoil density of the unaffected areas, additional shattering of the soil profile will be performed using the appropriate equipment. Deep shattering will be applied during periods of relatively low soil moisture to ensure the desired mitigation and to prevent additional subsoil compaction. Oversized stone/rock material which is uplifted to the surface as a result of the deep shattering will be removed.

P. Noise. Audible noise due to the operation of any part of a wind energy system shall not exceed 50 decibels (dBA) for any period of time, when measured at any residence, school, hospital, church, public park, public library or place of public assembly.

Q. Insurance. Prior to issuance of a building permit, the applicant shall provide the Town proof of a level of insurance to be determined by the Town Board in consultation with the Town's insurer and Attorney, to cover damage or injury that might result from the failure of a tower or towers or any other part or parts of the generation and transmission facility.

R. Shadow Flicker.

1. Shadow Flicker Maps. Commercial Wind Energy System applications shall prepare maps showing projected annual hours of shadow flicker impact for all sensitive areas/locations within the project area including, but not limited to, any residence, school, hospital, church or public library.

2. Shadow Flicker Duration. Shadow flicker for all sensitive areas/locations within the project area shall be limited to 30 hours per year and shall not exceed 30 minutes per day.

S. Electromagnetic Interference (EMI). Commercial Wind Energy Systems shall be properly sited, filtered and/or shielded in order to avoid any interference with electromagnetic communications, such as radio, telephone or television signals caused by any wind energy system or the applicant shall mitigate any such interference.

T. Water Resources. Commercial Wind Energy Systems shall be properly sited and constructed in order to avoid any permanent or temporary negative effect upon the area's groundwater and surface water resources, or the applicant shall mitigate any such impacts. Such effects include, but are not limited to, the use of water resources, changes in water quality, alteration of the natural flow system, and the alteration of interactions between the groundwater and surface water.

Severability. The provisions of this section are severable, and the invalidity of any section, subdivision, paragraph, or other part of this Zoning Ordinance/Law shall not affect the validity or effectiveness of the remainder of the Zoning Ordinance/Law.