

# Supplement to the Joint Permit Application

For a  
**Special Use Permit**  
and  
**Wind Overlay Zone**

Town of Arkwright, Arkwright Summit Wind Farm  
Chautauqua County, New York

Submitted To: Town of Arkwright  
9543 Center Road  
Fredonia, New York 14063

Prepared on Behalf Of:



Arkwright Summit Wind Farm LLC  
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Houston, Texas 77002  
Contact: Jeffrey Nemeth  
Phone: (309) 531-0440

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The information below is presented in the order (and according to the numbering) of Section 657.A. of Local Law No. 2 of 2007, entitled Article VI – A – Wind Energy Facilities (“local wind law”).

1. Applicant: Arkwright Summit Wind Farm, LLC  
808 Travis Street, Suite 700  
Houston, Texas 77002  
(309) 531-0440  
Contact: Jeffrey Nemeth
2. An updated list of names, addresses, and telephone numbers of participating landowners are presented in Exhibit 1, attached. Letters of permission from participating landowners that (i) confirm they are familiar with this application and (ii) authorize submission of the application are attached as Exhibit 2.
3. Tower location data, including tax parcel information (Tax Map section, block number, and lot number) is included in Exhibit 3.
4. Project Description:

Arkwright Summit Wind Farm, LLC (the Applicant) proposes to construct a wind- powered generating facility in the Town of Arkwright and associated substation and point of interconnection switchyard within the neighboring Town of Pomfret in Chautauqua County, New York. The Project will be developed on approximately 3,883 acres of leased private land as depicted in Exhibit 4. Project construction is currently anticipated to commence in 2016. The Project presented herein consists of up to 36 turbines, which are anticipated to include 33 turbines with a nameplate capacity of 2.2 megawatts (MW) and 3 turbines with a nameplate capacity of 2.0 megawatts (MW), for a total anticipated nameplate generating capacity of 78.6 MW. The Project has submitted an Interconnection Request and is currently in the System Reliability Impact Study stage of the process with the New York Independent System Operator (NYISO) for 78.8 MW. Therefore, the proposed use of both 2.2 and 2.0 MW turbines allows the Applicant to maximize the energy generation potential of the proposed Project within the constraints of their approved interconnection agreement while minimizing the number of proposed wind turbines. In addition, to allow for flexibility on final site selection, the Applicant is evaluating and seeks approval for 38 proposed turbine locations (although only 36 turbines will ultimately be built).

In addition to the wind turbines, the project will consist of the installation of a meteorological (met) tower, a temporary construction and laydown area, an operation and maintenance facility, and an electrical substation and switchyard. Exhibit 4 shows the currently proposed turbine locations, subject to modifications that may be necessary following the detailed evaluation associated with the State Environmental Quality Review Act (SEQRA) process.

The wind turbine generators proposed for this project are the Vestas 2.0 and 2.2 V110. Additional information regarding the physical characteristics of the Vestas V110 turbines is included as Exhibit 7. Each wind turbine consists of three major mechanical components. These are the tower, nacelle, and rotor. The height of the tower proposed for this site, or “hub height” (height from foundation to top of tower), is approximately 95 meters (312 feet). The nacelle sits atop the tower, and the rotor hub is mounted to the drive shaft within the nacelle. The total turbine height (i.e., height at the highest blade tip position) is approximately 150 meters (492 feet). According to Section 659.A.13 of the local wind law, the total height of any wind turbine is limited to 420 feet. However, the Applicant notes that the advances of turbine technology since 2007 (when the local wind law was adopted) now allow for a more efficient capture of the wind resource in a given location through use of larger rotor diameters and taller hub heights. This enables the Project to maximize the wind resource in the area while reducing

the potential impacts associated with a greater number of turbine locations. Recognizing the benefits of this change, the Applicant understands that the Town has introduced legislation to amend the local wind law to increase the maximum height limitation. However, under the current law, the Applicant hereby requests a waiver from Section 659.A.13.

The proposed Project will have an electrical system that includes a system of buried cables to collect electricity from the wind turbines. The electricity will then be transmitted through an overhead generator lead line and buried electrical lines, to a collection substation and point of interconnection (POI) switchyard that transfers the electricity generated by the Project to the existing National Grid 115-kV transmission line and the regional power grid. The total length of buried cable transmitting electricity between the turbines and the collection substation will be at approximately 18.3 miles. Approximately 5.9 mile long overhead 34.5 kV line will be utilized to connect to the POI switchyard in Pomfret (see Exhibit 4). The collection substation and the POI switchyard will be located on private land adjacent to the 115 kV transmission line in the Town of Pomfret.

The existing network of state, county and local roads will be used to deliver equipment, components, and materials to the Project area. The Project will also require the construction of new or improved private access roads to the proposed turbine sites. The proposed location of Project access roads is shown in Exhibit 4. The total length of access roads required to service all proposed wind turbine locations is approximately 12.4 miles, the majority of which will be upgrades to existing farm lanes and gas well access roads. The roads will be gravel-surfaced and typically 16 to 40 feet in width. The Applicant will be responsible for all maintenance of any new private roads.

One 95-meter (312-foot) tall, self-supporting (unguyed) met tower will be installed to collect wind data and support performance testing of the turbines. The Applicant anticipates that the tower will be a galvanized conical steel structure, with wind monitoring instruments suspended at the end of booms attached perpendicular to the tower. Red aviation warning lights may be mounted at the top of the tower in accordance with FAA requirements. Two calibration towers, 95 meters tall, possibly guyed; will be installed approximately nine months prior to the erection of the turbines. The location of the towers will be the same location for turbines 15 and 16 as identified in Exhibit 3.

An Operations and Maintenance (O&M) building will house the command center of the Project's supervisory control and data acquisition (SCADA) system. The building will be linked by fiber optic cables to each of the turbines through the SCADA system, which allows an operator to control critical functions and the overall performance of each turbine. A storage yard adjacent to the O&M building will house the equipment and materials necessary to service the Project (see Exhibit 4 for location of the O&M facility).

5. Project plans and drawings are included with the Second Supplemental Environmental Impact Statement (SEIS2) and additional details will be provided as an appendix to the Final Environmental Impact Statement (FEIS). Providing additional detailed plans in the FEIS will enable the Applicant to address comments received from the public and involved agencies during the SEQRA review and any changes to the Project footprint. Please note the following:
  - a. Property lines of the Site are depicted graphically in Exhibit 6 and physical dimensions will be provided when the construction drawings are prepared.
  - b. While the location, approximate dimensions and types of major existing structures will be provided with the

FEIS as indicated above, all residences within five hundred (500) feet of the boundaries of the proposed Wind Overlay Zone are provided in Exhibit 8.

- c. Location and elevation of each proposed WECS is included with Exhibit 3.
- d. Location of all above ground utility lines on the Site or within one radius of the Total Height of the WECS, transformers, power lines, interconnection point with transmission lines, and other ancillary facilities or structures are provided in Figure 10 of the SEIS2, which depicts the Project Layout on recent aerial imagery, and further details will be provided with the FEIS as indicated above.
- e. There are no structures above 35 feet within a five-hundred-foot radius of the proposed WECS. Pursuant to Article VI-A, §657.5(5) of the Local Law, electrical transmission lines, antennas, and slender or open lattice towers are not considered structures will be provided with the FEIS as indicated above;
- f. The zoning designation of the subject and adjacent properties as set forth on the official Town Zoning Map are depicted in Exhibit 6;
- g. Proposed boundaries of the Wind Overlay Zone are shown in Exhibit 4.
- h. To demonstrate compliance with setback requirements, circles drawn around each proposed tower location equal to the following radii are provided separately in Exhibit 6.
  - (i) One and a half times the tower height radius.
  - (ii) Five hundred-foot radius.
  - (iii) One thousand two hundred-foot radius;

As shown in Exhibit 6, proposed (alternate) Turbine 95 does not presently comply with the required 500-foot setback from the project site boundary. The Applicant is currently pursuing an agreement with the neighboring property owner. If the Applicant is not able to secure this agreement prior to the Town's completion of their review of this Application and/or conclusion of the SEQRA review for the Project, then the turbine will be removed from the Project.

- i. The location of the residential structures within one-thousand two-hundred feet of each proposed tower. The distance from the center of the tower to any off-Site residence within one-thousand two-hundred feet are shown in Exhibit 6.
  - j. All proposed facilities, including access roads, electrical lines, and substations are depicted on Exhibit 4. Storage or maintenance units, and fencing will be provided with the FEIS as indicated above.
- 6. A vertical drawing of the Vestas V110 showing total height, and turbine dimensions is included as Exhibit 7. The tower and turbine are white. The distance between ground and lowest point of any blade is 35 meters (115 feet). The access door is located at the base of the turbine and provides access to the internal ladder cage. This door will be securely locked and accessible by authorized personnel only.
  - 7. The substation and POI switchyard proposed is located in the Town of Pomfret, therefore no landscaping plan will be prepared for this application.
  - 8. An updated proposed Federal Aviation Administration (FAA) lighting plan is currently being developed. The

anticipated lighting plan proposes that eight turbines will be equipped with FAA warning lights and is described in further detail in Section 2.5.2.2.2 of the SEIS2.

9. A list of property owners, with mailing addresses, within 500 feet of the boundaries of the proposed Wind Overlay Zone is provided as Exhibit 8.
10. A revised Decommissioning Plan has been prepared, and is included as Appendix B of the SEIS2.
11. Please refer to the proposed complaint resolution plan that is included as Appendix O of the SEIS2.
12. Project construction is anticipated to occur in a single phase, which is expected to begin in 2016 and be completed in 2017. Engineering evaluation and design has been initiated, including public road evaluations, civil design, foundation design, and electric system design (collection circuits and collector station/interconnection substation). The Project construction is anticipated to proceed as follows:
  - Civil infrastructure work (e.g., public road improvements, access roads construction, turbine foundation construction) is anticipated to take place in the third and fourth quarters (Q3 and Q4) of 2016.
  - Electrical engineering work (e.g., installation of buried interconnect and construction of the collection station/interconnection substation) is anticipated to take place from Q3 2016 to Q1 2017.
  - Tower erection, nacelle installation, and rotor assembly/installation is anticipated to start in the summer of 2016 and be completed by July 2017.
  - Project testing and commissioning is anticipated to start in July 2017 and be completed during August 2017.

Information relating to related transportation access, as it is known at this time, is included as Appendix P of the SEIS2.

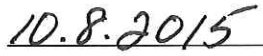
13. The completed Part 1 of the full Environmental Assessment Form (EAF) was included as Exhibit 12 of the 2008 Joint Application for Wind Overlay Zone and WECS Special Use Permit.
14. No additional applications for Wind Energy Permits for Wind Measurement Towers are submitted at this time.
15. Manufacturer's specifications for the Vestas V110, including make, model, and dimensions is included in Exhibit 7. Per the manufacturer, the maximum sound power level of the Vestas V110 is 107.5 dB in Mode 0 at 10-meter above the ground, assuming an 80-meter hub height, and with air density of 1.225 kg/m<sup>2</sup>. The potential noise effects of the Project are further described in Section 2.7 of the SEIS2 and SEIS2 Appendix N. The Manufacturers' Material Safety Data Sheet documentation for the type and quantity of all materials used in the operation of all equipment including, but not limited to, all lubricants and coolants are anticipated to be included with the Final Environmental Impact Statement.
16. The Applicant notes that a SEQRA positive declaration was issued following submittal of the 2008 Joint Application for Wind Overlay Zone and WECS Special Use Permit. As a result of the information presented in this application amendment, the Applicant acknowledges that preparation of a Supplemental EIS is appropriate.
17. In accordance with #16 above, the studies listed in §657.A.17 of the Local Law are being included and evaluated during the SEQRA process.
18. The following Tower design information sufficient to demonstrate compliance with wind-loading requirements

is provided:

The Wind Energy Conversion System (WECS) has been designed in accordance with International Engineering Standards. The relevant standard is the International Electrotechnical Commission (IEC) Standard 61400-1. To make certain the WECS manufacturer is in compliance with this standard, all WECS element design drawings and calculations are reviewed and certified by a third party engineer prior to delivery of the WECS and all associated components. It is worth noting (per the wind turbine manufacturer) that only the drawings and calculations required by the IEC standard are provided to the third party engineer. The third party reviewer provides a "Type Certificate" when the design meets the design requirements of the IEC Standard. At this time a WECS supply contract has not been established for this project. However, the Type Certificate for the current model of Vestas V110 is included as Exhibit 9. This Type Certificate may be updated as necessary for inclusion in the eventual WECS supply contract.

19. Analysis of potential ice-shedding and damage from blade throw impacts is thoroughly discussed in Section 2.10.2.2.1 of the SEIS2.
20. I, Jeffrey Nemeth, certify under penalties of perjury that the information included in this application is true and accurate.

  
\_\_\_\_\_  
Signature

  
\_\_\_\_\_  
Date