



## Cassadaga Wind Project

Case No. 14-F-0490

1001.2 Exhibit 2

### Overview and Public Involvement

EXHIBIT 2 OVERVIEW AND PUBLIC INVOLVEMENT.....1

(a) Brief Description of the Proposed Facility.....1

(b) Brief Summary of the Application Contents .....2

(c) Brief Description of the Public Involvement Program before Submission of Application .....4

(d) Brief Description of the Public Involvement Program after Submission of Application .....5

(e) Brief Overall Analysis .....5

## EXHIBIT 2 OVERVIEW AND PUBLIC INVOLVEMENT

### (a) Brief Description of the Proposed Facility

The proposed Facility is a utility scale wind power project located in the Towns of Cherry Creek, Charlotte, Stockton, and Arkwright, Chautauqua County, New York (see Figure 2-1). The Facility presented herein consists of up to 58 wind turbines; each with a nameplate capacity rating of 2.1 to 3.45 MW (depending on the final turbine model selected), the total generating capacity of the Facility will not exceed 126 MW. The analyses in this Application are based on a 58 turbine layout in order to present the maximum level of potential impacts. Please see Exhibit 6 for additional information on turbine models under consideration.

Wind turbines will only be located in the Towns of Cherry Creek, Charlotte and Arkwright. Other proposed components will include: access roads, above and underground 34.5 kilovolt (kV) collection lines, an above ground 115 kV generator lead line, a collection substation, a point of interconnection (POI) substation, two permanent meteorological (met) towers, two temporary staging/laydown yards, and an Operations and Maintenance (O&M) building (see Figure 2-2 for locations, and see Exhibits 3 and 11 for additional detail). The only proposed Facility components in the Town of Stockton are a short section of the generator lead line and the POI substation.

Access roads: The proposed length of all Facility access roads is approximately 18 miles, some of which will be upgrades to existing farm lanes/logging roads. Temporary access roads will be gravel surfaced and typically are 40 feet wide to accommodate construction vehicles/component delivery. Following construction, roads will be restored for use as permanent access roads. The permanent roads will be gravel-surfaced and typically are 20 feet in width.

Collection lines: The proposed length of combined overhead and underground collection lines that will collect power from the turbines to deliver to the collection substation is approximately 33 miles. Although underground cabling will be used for the maximum extent practicable for the electrical collector system, overhead cables will also be used where underground installation is not practicable due to environmental constraints (such as steep slopes, rivers, streams or creek crossings, bedrock etc.) and/or cost considerations.

Collection Substation: This is the terminus of the 34.5 kV collection system, which will likely consist of five incoming circuits, and will be located at the beginning of the 115 kV line. The proposed collection substation will be located in an old field on the west side of Cleland Road in the Town of Charlotte, and will occupy approximately 1.5 acres.

115 kV Generator Lead Line: The 115 kV generator lead line will be approximately 5.5 miles long and will connect the collection substation to the POI substation. It is anticipated that the line will be carried on treated wood pole or steel structures that range in height from 60 to 95 feet above ground level (depending on angle and whether there is 34.5 kV line underbuilt), and will have an average span length of approximately 300 feet.

O&M Building: An O&M building will house the permanent O&M staff offices and will be approximately 4,000 square feet. Staff will be on duty during normal business hours (eight hours a day, five days per week) with weekend shifts and extended hours as required. The land adjacent to the O&M building will also be used to store equipment as necessary, and

is anticipated to be up to 2 acres in size and located adjacent to the collection substation, west of Cleland Road. However, in lieu of using this location, the Applicant may decide to purchase property in a different location and use an existing building as the O&M facility, within one of the host municipalities.

POI Substation: The POI substation will be located immediately adjacent to National Grid's Dunkirk-Moon 115 kV transmission line, on the north side of Moon Road in the Town of Stockton. The dimensions of the fence line will be approximately 225 by 245 feet in size and will encompass electrical switches and related equipment necessary to tie into an existing circuit that comprises the National Grid 115 kV electric transmission lines. The majority of the POI substation will be owned and operated by National Grid. However, the POI substation will also house the command center of the Facility's supervisory control and data acquisition (SCADA) system, which allows an operator to control critical functions and the overall performance of each turbine. The Applicant will operate this portion of the POI station.

Met Towers: Two permanent 100-meter (328-foot) tall wind measurement towers (meteorological tower) will be installed to collect wind data and support performance testing of the Facility. The towers will be free-standing galvanized tubular or lattice steel structure, and will be equipped with wind velocity and directional measuring instruments at three different elevations and temperature and humidity monitors near ground level.

Temporary Staging/Laydown Yards: Construction of the Facility will require the development of two temporary construction staging/laydown areas, which will accommodate construction trailers, storage containers, large project components, and parking for construction workers. One staging area will be located adjacent to the collection substation at the intersection of Cleland Road and Boutwell Hill Road and is anticipated to be up to 5 acres in size. The second staging area will be located on the west side of Route 85 and is anticipated to be up to 2.2 acres in size. The staging areas are temporary features associated with construction of the Facility, and no additional permanent fencing or permanent lighting of the staging area is proposed.

(b) Brief Summary of the Application Contents

The Application includes 34 Exhibits, which include supporting figures, as well as 59 associated appendices.

Exhibit	Title/Brief Description	Appendix Reference
1	General Requirements	Certificate of Formation
2	Overview and Public Involvement	Master List of Stakeholders Meeting Log
3	Location of Facilities	Maps of the Facility layout
4	Land Use- (a comprehensive discussion on land use in the vicinity of the Facility Site, including a discussion on the Facility's compatibility with existing and proposed land use and community character)	NYSDAM Guidelines

5	Electric Systems Effects- (the effect that the Facility would have on electric systems; a discussions of applicable standards, codes, and guidelines for the electric components, including the overhead and underground collection systems and the collection and POI substations)	SRIS Example Type Certification Buried/Above Ground Collection Line Details Preliminary O&M Plan Substation Details 115 kV Typical Details
6	Wind Power Facilities- (the factors considered during siting of wind turbines, including a description of setbacks as required by each of the Towns associated with the Facility)	Turbine Brochure Material
8	Electric System Production Modeling- (estimates of electric production based on modeling of electrical output, greenhouse gas emissions offsets, estimated average annual spot prices, estimated capacity factor of the new turbines, estimated monthly and annual output capability factors and production output, estimated production curve and duration over an average year, and a discussion of the effect of the Facility on the energy dispatch sources of existing must run sources)	Generation Dispatch Forecasting Analysis
9	Alternatives (An analysis of alternative locations and alternative siting and design within the proposed location)	--
10	Consistency with Energy Planning Objectives	--
11	Preliminary Design Drawings	Preliminary Design Drawings O&M Building Typical Details Concrete Batch Plant General Information Turbine Lighting Information: FAA Advisory Circular (Chapter 13) Turbine Foundation Typical Drawings Typical Wind Turbine Technical and Safety Manuals
12	Construction	Preliminary QA/QC Plan Complaint Resolution Plan
13	Real Property	--
14	Cost of Facilities	--
15	Public Health and Safety	Shadow Flicker Analysis
17	Air Emissions	--
18	Safety and Security	Preliminary Health Safety Plan Preliminary Emergency Action Plan Preliminary Site Security Plan Preliminary FAA Determinations
19	Noise and Vibration	Preconstruction Noise Impact Assessment
20	Cultural Resources	Archaeological Resources Survey and Work Plan Phase 1B Archeological Survey Unanticipated Discovery Plan Historic Architectural Resources Survey and Work Plan Historic Architectural Resources Survey
21	Geology, Seismology and Soils	Invasive Species Control Plan Preliminary SWPPP Draft Inadvertent Return Plan Preliminary Geotechnical Evaluation

22	Terrestrial Ecology and Wetlands	Plant and Wildlife Inventory Bird and Bat Survey Report Eagle Use Point Count Memorandum Habitat Fragmentation Memorandum Threatened and Endangered Species Information Habitat Assessment Memorandum Cumulative Effects Analysis Bird and Bat Conservation Strategy Outline Wetland Delineation Report
23	Water Resources and Aquatic Ecology	Water Well Data Existing Access Examples Preliminary SPCC
24	Visual Impacts	Visual Impact Assessment
25	Effect on Transportation	Transportation Effect and Route Evaluation Study Draft Road Use Agreement NTIA Correspondence
26	Effect on Communications	AM and FM Radio Report Off-Air Television Report Land Mobile and Emergency Services Report Microwave Report
27	Socioeconomic Effects	Socioeconomic Report
28	Environmental Justice	--
29	Site Restoration and Decommissioning	Decommissioning Plan
31	Local Laws and Ordinances	Copies of Local Laws
32	State Laws and Regulations	--
33	Other Applications and Filings	--
34	Electric Interconnection	--
35	Electric and Magnetic Fields	Electric and Magnetic Field Study
40	Telecommunications Interconnection	--

(c) Brief Description of the Public Involvement Program before Submission of Application

Since the PIP's final submission, the master stakeholder list has been updated based on the Applicant's consultations and meetings with stakeholders. An updated Master List of Stakeholders is included in Appendix B of this Application. Consultation with stakeholders has been ongoing since preparation of the PIP, which established a prescriptive plan for consulting with stakeholders (see Exhibit B of the PIP). The Applicant has completed the consultations identified in the PIP, and in many cases, has had additional stakeholder meetings and communications. The results of these meetings are summarized in the Meeting Log, which is submitted on an approximately monthly basis on the Siting Board website (DMM). The most recent Meeting Log is also included as Appendix C to this Application. The Meeting Log will continue to be updated and filed on the Siting Board website through the entire Application process. The Applicant also distributed stakeholder mailings and held three open houses.

The Applicant has a Facility-specific website as well as a toll free number to call with any questions and comments. There is also a Facility Facebook page through which stakeholders and the public can submit comments and questions. The

Applicant has provided paper copies of all documents presented at the open houses at the following repositories: Cassadaga Branch Library, Sinclairville Free Library, and Farman Free Library Association of Ellington. Electronic copies of major Facility documents are on the website and all Article 10 documents and filings are on the Facility-specific DMM website.

(d) Brief Description of the Public Involvement Program after Submission of Application

The Applicant will continue to engage stakeholders following submission of the Application. The Applicant will continue to attend Town Board meetings at the host municipalities. In addition, the Applicant will continue to meet with other local public stakeholders such as the Town road departments.

The Applicant will also continue communication with non-public entities as identified in the PIP and through outreach activities. The Applicant continues to engage with equestrian and snowmobile groups regarding their trail network and use of the Facility's access roads for snowmobile use. Additionally, the Applicant has met with forest management groups that manage timbering activities on private land with the area of the Facility. All of the above ongoing PIP activities will continue to be tracked and filed in the monthly meeting log.

(e) Brief Overall Analysis

1. The relevant and material facts from this Application, together with the information and analysis from the studies conducted in support of this Application, provide a basis for the Siting Board to make the required Findings on the proposed Facility and a decision to grant the Certificate in accordance with PSL Section 168. The Application provides the Board with the information required to make its explicit findings regarding the nature of the probable environmental impacts of the construction and operation of the Facility on (a) ecology, air, ground and surface water, wildlife and habitat (b) public health and safety (c) cultural, historic and recreational resources and (d) transportation, communications, utilities and other infrastructure, as required by Article 10. Below is a brief overall analysis of the relevant and material facts for each required finding.

**(a) Ecology, Air, Ground and Surface Water and Wildlife and Habitat**

i. Ecology

Forestland is the dominant community type in the Facility Site, followed by active agriculture. Ecological communities on the Facility Site include forestland (5,142 acres), active agriculture (2,525 acres), successional shrubland (311 acres), successional old field (223 acres), open water (12 acres) and developed or disturbed land (113 acres). No threatened, endangered, candidate, rare plant species, or significant ecological communities were identified at the Facility Site. Therefore, Facility construction and operation are not expected to result in adverse impacts to protected plants or to significant ecological communities.

Construction and operation of the Facility will result in impacts to plant communities. These impacts include vegetation clearing and disturbance from construction, as well as permanent loss of vegetated habitats by conversion to build facilities.

A total of up to 606.6 acres of vegetation will be disturbed by Facility construction (i.e., less than 8% of the Facility Site). Of this area, 516.7 acres (85% of disturbance) will be disturbed only temporarily, including areas where collection line is buried underground, construction staging areas, and the margins of access roads and turbine construction workspaces. Approximately 89.9 acres of vegetation will be permanently converted to built facilities, which represents only 1% of the Facility Site.

No plant community will be extirpated or significantly reduced as a result of the Facility. Large areas of forest and wetland are being avoided to the extent practicable, and these ecological communities within the Facility Site will be largely protected from disturbance. In the limited areas where these impacts cannot be avoided or further minimized, the Applicant has identified mitigation measures that will off-set the potential impacts.

ii. Air

Wind turbines generate electricity without combusting fuel or releasing pollutants into the atmosphere. The operation of this Facility is anticipated to have a positive impact on air quality by producing electricity with zero emissions (except for very small emissions from vehicles servicing the Facility). Temporary minor adverse impacts to air quality could result from the operation of construction equipment and vehicles, as a result of emissions from engine exhaust and from the generation of fugitive dust during earth moving activities and travel on unpaved roads. Such impacts are anticipated to be minor. In addition to emissions from construction vehicles and equipment, two temporary emissions sources that may result from Facility construction include an on-site concrete batch plant and fuel-fired generators. However these temporary emission sources will not be idling or remain operational for extended periods of time, and are not anticipated to have adverse impacts to air quality. Overall the Facility will have a positive impact on air quality and will be a significant contribution to the renewable energy resources of the State.

iii. Ground Water

The Facility is not anticipated to result in any significant impacts to groundwater quality or quantity or drinking water supplies. However, there is potential for short-term, minor adverse impacts to groundwater from: accidental discharge of petroleum or other chemicals during construction, operation and maintenance; construction of the point of interconnect substation above a principal aquifer; the construction of impervious surfaces; installation of turbine foundations; and installation of buried interconnect lines. These potential impacts will be minimized through the implementation of spill control and other construction plans.

Construction of the proposed Facility could result in certain localized impacts to groundwater, and the use of that water by adjacent landowners. These impacts could include: minor localized disruption of groundwater flows down-gradient of



proposed turbine foundations; minor modification to surface runoff or stream-flow, thereby affecting groundwater recharge characteristics; minor degradation of groundwater chemical quality from accidental spills and installation of concrete foundations; impacts to groundwater recharge areas (wetlands); and groundwater migration along collection line trenches. However, it is not anticipated that these impacts will be significant and will be avoided through the implementation of stormwater control and other measures taken during construction. Impacts to drinking water are not anticipated as a result of Facility construction or operation.

iv. Surface Water

During construction, potential direct or indirect impacts to surface waters may occur as a result of the installation of access roads and wind turbine foundations, the upgrade of local public roads, the installation of above ground or buried electrical interconnects, the development and use of temporary workspaces around the turbine sites, the installation of the overhead generator lead line, and temporary workspaces around substations. Direct impacts include 1) an increase in water temperature and conversion of cover type due to clearing of vegetation, 2) siltation and sedimentation due to earthwork, such as excavating and grading activities, 3) disturbance of stream banks and/or substrates resulting from buried cable installation, and 4) the direct placement of fill in surface waters to accommodate road crossings. Indirect impacts to surface waters may result from sedimentation and erosion caused by construction activities (e.g., removal of vegetation and soil disturbance). These impacts have been avoided and minimized to the extent practicable through site planning and development criteria for Facility components.

Conservatively, the Facility is anticipated to result in up to approximately 8,845 linear feet of temporary disturbance to perennial and intermittent streams and up to approximately 341 linear feet of permanent disturbance to perennial and intermittent streams. Impacts have been estimated conservatively. It is anticipated that there will be seven stream crossings of NYSDEC protected streams, all of these crossings are limited to spans of the overhead generator lead line or overhead collection line, and no permanent impacts, fill or physical disturbance to the bed or banks of these streams currently anticipated.

Conservatively, the construction of the Facility is anticipated to result in disturbance of up to 23.11 acres of wetlands. Of this disturbance, 21.56 acres will be disturbed only temporarily, while 1.55 acres are anticipated to be permanently lost. The total impact to NYSDEC regulated adjacent areas is 3.4 acres. Of this area, 2.9 acres will experience temporary disturbance while 0.5 acre will be permanently impacted.

v. Wildlife and Habitat

The various plant communities that occur within the Facility Site each provide habitat for different wildlife species. These plant communities include forestland (5,142 acres), active agriculture (2,525 acres), successional shrubland (311 acres), successional old field (223 acres), and open water (12 acres).

A comprehensive wildlife inventory suggests that approximately 310 wildlife species could use the Facility Site at some time during the year.

Mammals known to occur in the Facility Site include bats, white-tailed deer, mink, eastern cottontail beaver, red fox, gray squirrel, red squirrel, eastern chipmunk, and coyote. Bat surveys confirmed that silver-haired bat, big brown bat, eastern red bat, tri-colored bat, hoary bat, and at least one species within the genus *Myotis* occur within the Facility Site. Additional mammals could include black bear, raccoon, porcupine, opossum, skunk, muskrat, woodchuck, weasels, and a variety of mice and shrews.

Sixty seven unique fish species were identified in the Facility Site including brown trout, brook trout, rainbow trout, smallmouth bass, largemouth bass, northern pike, muskellunge, bluegill, white crappie and black crappie. Three fish that are either state-listed or considered to be of special concern were identified by NYSDEC region 9 offices as occurring within streams that cross (or whose tributaries cross) the Facility Site. These include the endangered black redhorse (*Moxostoma duquesnei*), threatened eastern sand darter, and special concern redbin shiner. Impacts to any of the special status fish species are not anticipated as a result of Facility construction or operation.

It is estimated that 31 species of amphibians and reptiles could occur within the Facility Site. These include common species such as painted turtle, common snapping turtle, common garter snake, smooth green snake, four-toed salamander, northern dusky salamander, northern red-backed salamander, mudpuppy, red-spotted newt, American toad, spring peeper, bull frog, green frog, and wood frog. The four-toed salamander is a small salamander that is listed as species of greatest conservation concern. Impacts to populations of the four-toed salamander will be minimized by avoiding areas of mature forest adjacent to open-water wetlands to the extent practicable.

A variety of bird species were identified in the Facility Site. Bird surveys observed a variety of different native and migratory bird species including: Canada goose, American crow, cedar waxwing, blue jay, songbirds and 11 different raptor species. Raptor observations included Golden Eagle, Bald eagle, and Northern Harrier.

Three federally-listed species could occur within vicinity of the Facility Site. Two mollusks, the clubshell mussel and the rayed bean mussel, are both listed as federally endangered species. One mammal, the northern long-eared bat (*Myotis septentrionalis*) is a federally-listed threatened species. Two additional state-listed endangered species (golden eagle and short-eared owl) and four additional state-listed threatened species (bald eagle, Henslow's sparrow, northern harrier, and sedge wren) could also occur within the vicinity of the Facility Site. Seven species of special concern were also identified (common loon, Cooper's hawk, osprey, red-headed woodpecker, red-shouldered hawk, and sharp-shinned hawk). A great blue heron rookery (a breeding colony) is located within ten miles of the Facility Site. Although the great blue heron is not listed, it is considered Protected under New York State Law, and may not be hunted or taken at any time in New York State.

Construction-related impacts to wildlife are anticipated to be limited to incidental injury and mortality due to construction activity and vehicular movement, construction-related silt and sedimentation impacts on aquatic organisms, habitat disturbance/loss associated with clearing and earth-moving activities, and displacement of wildlife due to increased noise and human activities. However, none of the construction-related impacts described in the Application will be significant enough to affect local populations of any resident or migratory wildlife species.

Operation-related impacts to wildlife include direct habitat loss, habitat degradation through forest fragmentation, disturbance/displacement due to presence of wind turbines, and avian and bat mortality as a result of collisions with operating turbines.

A total of 85.7 acres of wildlife habitat will be permanently lost from the Facility Site (i.e., converted to built facilities). This habitat loss represents only approximately 1% of the 8062-acre Facility Site. Approximately 26% of this loss (approximately 22.7 acres) will occur in agricultural lands, which have limited wildlife habitat value. In addition, approximately 248.0 acres of forest are expected to be converted to a successional community (old field, shrubland, or saplings) for the life of the Facility, which will continue to provide wildlife habitat. Given the relatively small area of lost or converted natural communities, habitat loss/conversion resulting from Facility development is not considered significant.

The Facility has been designed to minimize bird and bat collision mortality. In an effort to reduce avian and bat impacts, electrical collection lines between the turbines will generally be buried to the maximum extent practicable. Lighting of the turbines will be minimized to the extent allowed by the Federal Aviation Administration (FAA), and will follow specific design guidelines to reduce collision risk (e.g., using blinking lights with the longest permissible off cycle). Guy wires, which have been shown to increase collision mortality, will not be used.

Operational bird and bat protection measures will also reduce avian and bat collision mortality. Assuming the fatality rate for the Facility will be equal to the average calculated from wind energy projects within 50 miles, the Facility could result in approximately 296 bird fatalities per year. There is no evidence suggesting that a wind energy facility has caused significant population-level impact to any one species of bird. The cumulative operation of current and future wind energy facilities in New York State are not expected to cause population-level effects to avian resources, even those species of conservation concern.

Average bat mortality is 11.7 bats per turbine per year for wind energy projects across New York State and 9.7 bats per turbine per year for projects within 50 miles of the Facility. Using the local average of 9.7 bats per turbine per year derived from post-construction studies at four wind energy projects within 50 miles of the Facility, it is estimated that the Facility will result in 563 bat deaths per year. This is 4.7% of the total estimated bat mortality from currently installed wind projects in New York. However, the Applicant plans to abide by the American Wind Energy Association's recently published voluntary BMP for bat conservation which have been shown to reduce bat mortality up to 30% or more (Baerwald et al., 2009; Young et al., 2011; Stantec, 2013b; AWEA, 2015). Consequently, the implementation of these measures is expected to reduce

the actual bat mortality from Facility operation from 563 to 394 bat deaths per year. Over the 25-year operational life of the Facility, implementation of the voluntary BMP can be expected to lower bat deaths from approximately 14,000 to approximately 9,800.

**(b) Public Health and Safety**

Wind generated power is in many ways safer and healthier than other forms of electricity generation. Unlike conventional power plants, wind farms produce energy without emitting pollutants that decrease air quality. In addition, unlike other sources of power generation, wind farms produce energy without impacts to surface and ground water quality. These benefits to air and water resources are a major public health benefit since the negative effects of air and water pollution and climate change are well understood.

Potential risks associated with the operation of the Facility, are generally limited in nature to effects associated with movement of the blades and electrical components within the nacelle. Specific to wind power, blade throw and tower collapse, audible frequency and low frequency noise, ice shedding and ice throw, and shadow flicker are all possible. However, to the best of the Applicant's knowledge, there are no known instances of a member of the general public being injured at an operating wind farm in the United States. The Facility has been sited and setback from dwellings, roads, and other existing facilities to minimize the potential risks from blade throw, tower collapse, ice throw and ice shedding.

The Facility is not expected to result in any public health and safety issues due to infrasound and audible frequency noise. Modern pitch-regulated wind turbines of the type proposed for this Facility do not generate low frequency noise to any significant extent. No impact of any kind, whether related to annoyance or health, is expected from Facility-related low frequency noise.

Facility development will result in an increased level of sound at some receptor locations (residences) within the study area however, Facility sound levels are not expected to exceed 45 dBA at any non-participating residences.

Adverse shadow flicker impacts are not anticipated. Fifty-Five (55) potential receptors were identified that could exceed 30 hours of shadow flicker per year, 32 are Facility participants, while the remaining 23 are non-participating property owners. Additional evaluation through viewshed analysis revealed that 11 of the 23 non-participating receptors are not anticipated to receive any shadow flicker due to the extent of the screening by intervening vegetation. Where shadow flicker in excess of 30 hours per year at non-participating property owners does occur from the Facility wind turbines, it is anticipated that it can be readily mitigated by planting of trees to screen the affected windows from the sun, or by installing blinds or curtains. Closing blinds or curtains on windows that face the turbine(s) during periods of shadow flicker effectively mitigates shadow flicker impacts.

**(c) Cultural, Historic, and Recreational Resources, including Aesthetics and Scenic Values**

Construction and operation of the Facility will not require the demolition or physical alteration of any cultural, historical or recreational resource. The Facility layout is being intentionally sited to avoid archaeological resources and the Facility is not anticipated to affect any significant archaeological resources. The Facility's impact to cultural, historic, and recreational resources is limited to the Facility's potential visual impacts.

State Park resources will not be adversely impacted by the visual effects of the Facility's wind turbines. Midway Park, and Long Point State Park will be fully screened from view of the Facility, and Lake Erie State Park is 10.4 miles from the park boundary resulting in no significant visual effect.

The Applicant has identified 175 NRHP-eligible properties in the Facility study area. Scenic views and/or association with the landscape are not specifically identified as contributing to the significance of any of the historic resources in the study area.

Forty four (44) eligible properties (10 of which are completely screened from all views of turbines) occur between 0.5 and 2.0 miles of the nearest turbine and only 8 eligible properties (three of which are completely screened from all views of turbines) occur between 2.0 and 3.5 miles of the nearest turbine. The remaining 101 eligible properties (56 of which are completely screened from all views of turbines) are more than 3.5 miles from the nearest turbine. Overall, the visual impacts of the Facility on NRHP-eligible historic properties have been reduced by siting the Facility in rural areas (i.e., away from town/village centers where the majority of eligible properties occur). Furthermore, the majority of proposed turbines are located in wooded areas where forest vegetation provides additional visual screening and the diffuse nature of the proposed turbine layout (small groups of turbines widely scattered across the landscape) helps to minimize the number of turbines visible and/or in close proximity to any individual historic property.

Vibrations are not anticipated to impact any NRHP-eligible properties and noise-related impacts are anticipated to be relatively minimal, due in large part to the Facility's siting in remote rural areas away from areas of higher historic and modern population density. Elevated noise and vibration levels related to Facility construction will be temporary in nature. Therefore, there will be no permanent noise-related adverse impacts to NRHP-eligible properties. Additionally, there will be no permanent noise-related adverse impacts to any of the archaeological sites identified within or near to the Facility site. The Applicant will be working with the local community and SHPO to identify potential mitigation projects to off-set the potential visual impact associated with historic and cultural resources.

**(d) Transportation, Communications, Utilities and Other Infrastructure**

i. Transportation

During construction of the proposed Facility, there will be a temporary increase in truck traffic on area roadways served by the Facility. Construction vehicles for the Facility will include conventional construction trucks, crane transporters, concrete trucks, and oversized semi-trailers. The construction of each wind turbine will require the use of approximately 11 overwidth/overweight trucks. While oversized/overwidth vehicles are traveling within the project area and delivery route

roadways, the existing traffic may experience minor delays as escort vehicles and/or flag persons stop traffic to allow the safe passage of the overwidth/overweight vehicles. As the existing traffic volumes are low, local traffic flow should not be significantly impacted by the normal construction traffic or during the turbine delivery vehicles. No damage to roads due to normal operation of the built Facility is expected to occur. However, any damage to local, County, or State roads caused by the construction and operation of the Facility will be repaired at the Applicant's expense. The Applicant's obligations will be memorialized in Road Use Agreements with the local communities. The Facility is not expected to have any impact on nearby airports, heliports, and the Facility has received Determinations of No Hazard to Air Navigation (DNH) for 62 turbine locations from the FAA.

ii. Communication

Twelve licensed full-power off-air television stations and one Class C station may have their reception disrupted in and around the Facility, primarily in locations on the opposite side of the Facility Site relative to the station antennas.

It is not expected that the Facility will have an impact on cable or satellite television, microwave communications, AM or FM radio broadcast coverage, first responder communication, municipal/school district services, industrial/business land mobile sites, areas of public safety and mobile phone communication. The Facility is also not anticipated to result in any adverse impacts to federal communications systems. It is also not anticipated that the Facility will have any effect on NEXRAD (next-generation radar) or Doppler weather radar operated by the National Weather Service. The closest NEXRAD radar communication is more than 60 miles from the proposed Facility.

The Applicant sent a written notification of the proposed Facility to the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce.

NTIA identified one potential area of concern: Buffalo WSR-88D radar, which is approximately 76.1 kilometer from the nearest wind turbine, and 56 of the wind turbines in the proposed Facility would be in the radar's line of sight. However, due to the distance and terrain drop-off from the radar, impacts to radar data should be low and confined to the area where the Facility would be located. NTIA therefore concluded that mitigation for impacts to the radar were not necessary.

The closest air traffic control tower is located approximately 47 miles north-northeast of the Facility Site at the Buffalo Niagara International Airport. NTIA has reviewed the proposed Facility and no concerns with air traffic control or other federal communication systems were identified. The Facility also received a Determinations of No Hazard to Air Navigation (DNH) for 62 turbine locations from the FAA.

The nearest Armed Forces installation to the Facility Site is the Niagara Falls Air Force Reserve, located approximately 54 miles north of the proposed Facility. NTIA has review the proposed Facility, and no concerns regarding military or other federal communication systems including GPS were identified.

iii. Utilities and Other Infrastructure

There are no anticipated impacts to other utilities or infrastructure.

2. In addition, this Application provides the Siting Board with the information needed to determine: (a) that the Facility is a beneficial addition or substitution for electric generation capacity of the State, (b) the construction and operation of the Facility will serve the public interest, (c) that the adverse environmental effects of the construction and operation of the Facility will be minimized or avoided to the maximum extent practicable, d) if the Facility results in or contributes to a significant and adverse disproportionate environmental impact in the community in which the Facility would be located, that the Applicant will avoid, offset or minimize impacts caused by the Facility upon the local community for the duration of certificate to the maximum extent practicable using verifiable measures; (e) and that the Facility is designed to operate in compliance with applicable state and local laws and regulations, or in the alternative that such laws and regulations as applied to the Facility are unreasonably burdensome and therefore not applicable.

**a) The Facility is a beneficial addition or substitution for electric generation capacity of the State**

The Facility is a beneficial addition and substitution for the electric generation capacity of the State as it helps the State achieve the goals of the 2015 State Energy Plan and reduce carbon emissions through development of renewable, zero carbon energy sources.

Based on the results of the System Reliability Impact Study, the Facility is not anticipated to have any adverse effects on the New York State Power Grid and will improve fuel diversity within the State by increasing the electric capacity from renewable wind power. By producing additional electricity that does not require fuel the Facility will contribute toward reducing overall demand for fuel and easing fuel delivery constraints in the State.

Electricity generated from zero-emission wind energy facilities like the proposed Facility can displace the electricity generated from conventional power plants, thereby reducing the emissions of conventional air pollutants, such as mercury; sulfur and nitrogen oxides (acid rain precursors); and carbon dioxide (linked to global climate change). On a long-term basis, increasing the production of wind generated power will reduce the need to construct and operate new fossil fueled power plants.

**b) The construction and operation of the Facility will serve the public interest**

The benefits of the Facility are anticipated to include positive impacts on socioeconomics (e.g., increased employment, increased revenues to local municipalities and lease revenues to participating landowners and neighbors), air quality (through reduction of emissions from fossil-fuel-burning power plants), and climate (reduction of greenhouse gases that contribute to global warming). By eliminating pollutants and greenhouse gases, the Facility will also benefit ecological and water resources and human health.

The Facility will have a significant positive impact on the local tax base, including local school districts and other taxing districts that service the area where the proposed Facility is to be located. The Facility will not significantly affect the

workforce, tourism/second homes, or small businesses in the area but instead will increase revenues to the local economy while providing clean renewable energy.

The construction and operation of the Facility will serve the public interest by reducing New York's reliance on fossil fuels while providing a direct financial and socioeconomic benefit to the communities where the Facility is located.

**c) Adverse environmental effects of the construction and operation of the Facility will be minimized or avoided to the maximum extent practicable**

The information contained in this Application thoroughly addresses the Facility's environmental impacts, including but not limited to impacts of Facility construction and operation on geology, seismology and soils; impacts to terrestrial ecology and wetlands, impacts to avian and bat species; impacts to water resources and water ecology; and impacts to land cover types, including impacts to agricultural land. The studies and information in this Application also address direct environmental impacts on people including health and safety, visual impacts, noise and vibration impacts, cultural resource impacts, traffic and road management issues, electric and magnetic field impacts, impacts to communication, socioeconomic effects and environmental justice concerns, the consistency of the Facility with local regulations and land use requirements, and decommissioning and site restoration considerations.

The Applicant has designed the Facility layout to optimize the balance between energy generation and the protection of agricultural, environmental, and aesthetic resources, as well as public health and welfare.

Although adverse environmental impacts will occur, they will be minimized through the use of various general avoidance and minimization measures to the maximum extent practical, as well as site-specific mitigation measures. These avoidance and minimization measures include but are not limited to: complying with New York State Department of Agricultural & Markets agricultural protection guidelines to the maximum extent practicable, implementing an environmental monitoring and remediation phase post construction, siting the Facility to avoid impacting large tracts of forest to the maximum extent practicable, siting components to minimize impacts to undisturbed wildlife habitat, siting turbines outside of known microwave pathways or Fresnel zones to minimize the effect that they may have on existing communications, conducting Facility construction in such a way that it avoids any effect to prehistoric or historic archeological resources, limiting forest clearing to between October 1 and April 30 to reduce potential bird and bat mortality, feathering turbines below normal cut-in speed during the fall bat migration period, implementing an avian and bat monitoring program post construction to monitor any adverse impacts to avian and bat species to determine if they are significant, and minimizing light pollution by lighting turbines to the extent allowed by the Federal Aviation Administration.

With the implementation of the numerous avoidance and minimization measures outlined in the Application, the Facility is expected to result in positive, long-term overall impacts that will offset the adverse environmental effects that cannot otherwise be avoided.



- d) **The Applicant will avoid, offset or minimize impacts caused by the Facility upon the local community for the duration of the certificate to the maximum extent practicable using verifiable measures**

As outlined above, the Applicant is committed to avoiding and minimizing adverse environmental impacts during construction and operation of the Facility. In addition to the avoidance and minimization measures, which will be implemented in the design, construction and operation of the Facility, the Applicant has also developed a number of programs designed to ensure that the impacts caused by the Facility will be offset or minimized for the duration of the Certificate such that no significant and adverse disproportionate environmental impact is anticipated.

These programs include but are not limited to: a Complaint Resolution Plan which will identify and address concerns which may develop during the project's construction and operation; an environmental compliance program during construction which will provide funding for an independent, third party environmental monitor to oversee compliance with environmental commitments and permit requirements; implementation of a post-construction invasive species management plan; for agricultural land impacted by the Facility, the Applicant will provide a monitoring and remediation period of no less than two years immediately following the completion of initial restoration to ensure the remediation goals and objectives are met; an Operations and Maintenance Plan will be implemented which will optimize the Facility's operational capacity and availability through best in class maintenance guidelines and inspections that are designed to pro-actively detect any significant safety or maintenance issues; and the Applicant will implement an avian and bat monitoring program post construction to monitor any adverse impacts to avian and bat species and determine any additional mitigation measures which may need to be developed to avoid significant adverse impacts.

- e) **The Facility is designed to operate in compliance with applicable state and local laws and regulations or in the alternative that such laws and regulations as applied to the Facility are unreasonably burdensome and therefore not applicable**

The Applicant will construct and operate the Facility in a manner that conforms to all State substantive requirements for those approvals, consents, permits, certificates, or other conditions needed to construct and operate the Facility. The Applicant's compliance with State requirements is thoroughly outlined in Exhibit 32.

The Facility's compliance with local laws and regulations is addressed in Exhibit 31 of this Application. As currently proposed the Facility will be in compliance with the vast majority of local laws and regulations. The Applicant is only requesting that a few local provisions be waived as unreasonably burdensome. The Facility will be compatible with the existing land uses that dominate the Facility Site and surrounding area, construction and operation of the proposed Facility will help the County achieve the objectives articulated in the Chautauqua County Comprehensive Plan, and the Facility will meet and or exceed all local set back requirements. The Applicant is also committed to entering into Host Community Agreements and/or Road Use Agreements with the local municipalities to ensure compliance and mitigation efforts.