2.0 INTRODUCTION

This DEIS has been prepared for the proposed action and Project which consists of the construction and operation of up to 48 wind turbine generators and associated facilities, capable of producing and delivering up to 96 MW of electrical power to the New York State Power Grid.

The Town of Clayton Planning Board is the Lead Agency pursuant to SEQRA and its implementing regulations (6 NYCRR Part 617). The Town of Clayton Planning Board has required the preparation of this DEIS in order to evaluate the potential environmental, social and economic impacts of the Project, which is located in a 9,450-acre area (Project site or Project area) within the Town of Clayton, Jefferson County, New York. The purpose of this DEIS is to evaluate the potential adverse environmental impacts of the Project, evaluate alternatives and consider mitigation measures.

The proposed Project is described below in terms of its components, potential location, construction, and operation. The Project's purpose, need, and benefit; cost and funding; permits and approvals are also discussed below, along with a description of the regulatory process and opportunities for public and agency involvement in that process.

2.1 DESCRIPTION OF PROPOSED ACTION

Atlantic Wind, LLC, a wholly-owned subsidiary of Iberdrola Renewables, Inc. (Iberdrola), is proposing to develop an approximately 96 MW wind-powered generating facility in the Town of Clayton, Jefferson County New York (Figure 1). The Project is anticipated to include approximately 48 wind turbines, each with a generating capacity of 2.0 MW. As presently envisioned, the Project will consist of a maximum of 48 wind turbines, currently anticipated to be manufactured by Gamesa (G90 and/or G97, 2.0 MW models), or equivalent machines. The G90 model consists of a 100-meter (328-foot) tall tubular steel tower; a 90 meter (295-foot) diameter rotor consisting of three 44-meter (144-foot) long composite blades; and a nacelle which houses the generator, gearbox, and power train. With a rotor blade oriented vertically, each G90 turbine has a maximum height of 145 meters (476 feet) (including the concrete pedestal). The G97 model consists of a 90-meter (295-foot) tall tubular steel tower; a 97 meter (318-foot) diameter rotor consisting of three 48-meter (157-foot) long composite blades; and a nacelle which houses the generator, gearbox, and power train. With a rotor blade oriented vertically, each G97 turbine has a maximum height of 139 meters (456 feet) (including the concrete pedestal). It is noted that regardless of the wind turbine make and model used for the Project, the maximum total height will not exceed 500 feet as specified in the

Town of Clayton Wind Energy Facility Law, §12(M). One permanent meteorological towers will also be installed, along with an O&M facility, a system of gravel access roads, buried and overhead electrical collection or gathering lines (electrical interconnect), a collector voltage step-up substation and an interconnection switching station adjacent to the existing Lyme Tap (Perch Lake) – Lyme (Rockledge) 115 kV transmission line. .

The layout, location, and number of turbines presented in this DEIS have been sited to optimize the benefits of local wind conditions while either avoiding or minimizing adverse environmental impacts. Furthermore, the layout, location, and number of turbines are meant to assure that the Project is commercially viable. All potential turbine sites are located a minimum of 500 feet from existing roads and at least 1,250 feet from off-site neighboring residential structures, unless the affected property owner provides written consent for a reduced setback. Because of ongoing agency consultation/input, environmental considerations, landowner decisions, and potential unforeseen construction issues, all of the potential turbine locations are still subject to minor adjustments. However, this DEIS provides a basis for future decision-making that will assure that any such adjustments will, consistent with SEQRA, avoid or minimize adverse impacts to the maximum extent practicable pursuant to thresholds and criteria established by the Lead Agency.

2.2 PROJECT PURPOSE, NEED AND BENEFIT

The purpose of the Project is to:

- Create an economically viable wind-powered electric-generating facility;
- Provide renewable energy to the New York market at a competitive, low-cost price;
- Take maximum advantage of the unique wind resource within the Project area;
- Assist New York State in meeting its proposed Renewable Portfolio Standard goals for the generation of renewable energy in the State;
- Assist New York State in meeting the goals of the State Energy Plan and combating climate change;
- Promote the long-term economic viability of the host community located in a rural area of Upstate New York;
- Reduce the use and price volatility of fossil-fuel electricity generation in the region;
- Increase the amount of “in-state” electricity generated to lower New York’s dependence on imported energy from other states and foreign nations;
- Satisfy regional energy needs in an efficient and environmentally sound manner;
- Develop a wind powered electric-generation facility consistent with environmental and cultural requirements and community goals; and

- Create jobs and create revenue through PILOT payments to local taxing jurisdictions.

The need for the Project is well established in both State and Federal policy promoting wind powered electric generating facilities. The Project assists the State in meeting these policy objectives (including the State Energy Plan, Renewable Portfolio Standard targets and other Executive Orders) while minimizing potential environmental impacts and impacts of local concern typically associated with wind-powered electric generating facility siting, including visual and noise impacts, and development in New York State. In addition, the benefits of the proposed action include positive impacts on socioeconomics (e.g., PILOT revenues to local municipalities and lease revenues to participating landowners), air quality (through reduction of emissions from fossil-fuel-burning power plants), and climate (reduction of greenhouse gases that contribute to global warming).

The Project is consistent with the goals of, and will specifically help facilitate compliance with, the following state and federal initiatives:

New York State Energy Plan

The New York State Energy Plan (released in December 2009) establishes a list of objectives for State Energy Policy, which include: 1) maintaining electricity system reliability; 2) supporting energy systems that enable the State to significantly reduce greenhouse gas emissions; 3) stabilizing energy costs and improving economic competiveness; 4) reducing health and environmental risks associated with the production and use of energy, and; 5) improving the State's energy interdependence and fuel diversity by developing in-state energy supply resources.

The Project will contribute to New York achieving each of these objectives as set forth in the New York State Energy Plan. As a utility-scale wind project, the Project will help New York achieve the goal of a reliable energy system by diversifying the State's generation mix. The Project proposes to add a nameplate capacity of 96 MW of wind-powered electricity to the State's electrical grid. As such, the Project will play a significant role in diversifying the State's energy mix. Moreover, a diversified fuel mix is likely to lead to less volatile electricity prices and therefore lower rates for consumers. The diversification of the fuel mix also has the benefit of increasing New York's energy security.

In addition, the Project will result in significant reductions in greenhouse gas emissions compared with the use of fossil fuels for electricity generation. The Project, utilizing the wind rather than a carbon based energy source, will have a positive effect in reducing greenhouse gas and dangerous

contaminant emissions thereby reducing public health and environmental risks. The Project will assist in increasing New York State-based energy generation. Finally, as well as being an in-state source of renewable energy, the Project will also provide benefits to the State and local economy through, among other ways, a PILOT agreement totaling approximately $768,000 annually.

Executive Order No. 24

Many New York State policies have recognized that global climate change is one of the most important environmental challenges of our time. There is scientific consensus that human activity is increasing the concentration of greenhouse gases in the atmosphere and that this, in turn, is leading to serious climate change. By its nature, climate change will continue to affect the environment and natural resources of the State of New York. In response, Governor Paterson's Executive Order 24 establishes a goal to reduce greenhouse gas emissions 80 percent by the year 2050, and includes a goal to meet 45 percent of New York's electricity needs through improved energy efficiency and clean renewable energy by 2015. Emissions of CO_2 account for an estimated 88 percent of the total annual greenhouse gas emissions in New York State. The overwhelming majority of these emissions, estimated at 250 million tons of CO_2 equivalent per year, result from fuel combustion. Overall, fuel combustion accounts for approximately 88.3 percent of total greenhouse gas emissions. The Project promotes consistency with a policy of reducing greenhouse gas emissions.

Executive Order No. 24 also led to the formation of the State's Climate Action Council which issued an interim report in November 2010 setting forth an "action plan" to combat climate change. The interim plan relies on the development of renewable energy sources, such as wind, in order to reduce greenhouse gas emissions while continuing to ensure the reliable future supply of electricity and energy for New York. The plan is intended to serve as a policy "road map" to address the many challenges New York faces in reducing its dependence on fossil fuels, stimulating investment in clean energy alternatives, increase the availability of in-state sources of energy and moving toward a Clean Energy Economy in New York State. New York State has the most wind energy development potential in the Northeast and the mid-Atlantic region. This potential could allow the State to move toward an innovative, clean energy economy, which would put New York State at the forefront of the transition towards a more environmentally sustainable energy future. The Project will assist New York in meeting this goal.

New York State Renewable Portfolio Standard

Originally, the New York State Public Service Commission (PSC) "Order Approving Renewable Portfolio Standard Policy" called for an increase in renewable energy used in the state to increase to 25 percent by the year 2013. According to the NYS Renewable Portfolio Standard (RPS) 2008

Performance Report, renewable energy production only reached 25 percent of its annual target in 2007 and it is projected to reach 75 percent of the 2008 main tier target. At this rate, it is unlikely that New York will meet the targets set forth in the RPS. PSC Staff have recently noted that "it is in the public interest to expand renewable energy investments in New York" and that the Main Tier of the RPS (the tier in which the Project would fall), "provides significant environmental benefits, does not result in large rate increase, improves generation resource diversity, provides a number of difficult to quantify benefits, and has a potential to act as a hedge against wholesale electricity price swings." Recognizing the need for increased renewable energy generation sources, the PSC recently increased the targets of the RPS to increase the proportion of renewable generation to 30 percent by 2015.

Further, Federal policy has recognized the need for increased supply of energy to the U.S., and for new renewable energy resources. The Project fulfills a need for the production and transmission of renewable energy, which would serve the public interest. The Project is consistent with Executive Order 13212 (dated May 18, 2001), which states:

"The increased production and transmission of energy in a safe and environmentally sound manner is essential to the well being of the American people. In general, it is the policy of this Administration that executive departments and agencies shall take appropriate actions, to the extent consistent with applicable law, to expedite projects that will increase the production, transmission, or conservation of energy."

In addition to assisting the achievement of many State and Federal policies, the Project will also promote a number of environmental, public health and both state-wide and local economic benefits:

- Environmental benefits:
    - Wind-generated electricity displaces the use of fossil fuels in conventional power plants, producing a reduction in the emission of key air pollutants; sulfur dioxide and nitrogen oxides (acid rain precursors); mercury; and carbon dioxide (tied to global climate change). NYSERDA found that if wind energy supplied 10 percent (3,300 MW) of the state's peak electricity demand, 65 percent of the energy it displaced would come from natural gas, 15 percent from coal, and 10 percent from electricity imports. This equates to an annual displacement of 6.400 tons of nitrogen oxides and 12,000 tons of sulfur dioxide (GE Energy, 2005).

- The precipitation on the Tug Hill plateau is among the most acidic of any place in the US, one effect of which could be damage to local stands of sugar maple trees due to [possible interference with their uptake of nutrients] (Allan, D. et al., 1995).
- Energy efficiencies and renewable energy generation together will reduce New York's greenhouse gas emission, helping to achieve the State's CO_2 reduction goals (NYSERDA, 2007).
- The well being of some ecosystems in the northeastern U.S., including New York State, is at serious risk as a result of the negative environmental externalities associated with fossil fuel based power plant emissions. Research conducted by scientists from the Hubbard Brook Research Foundation concluded that "hotspots" throughout the Northeastern U.S. have levels of mercury deposition "10 to 20 times higher than pre-industrial conditions, and 4 to 5 times higher than current EPA estimates". This research highlights "the connection between airborne mercury emissions from United States sources and the existence of highly contaminated biological hotspots… Emission reductions from high emitting-sources near biological hotspots in the United States will yield beneficial improvements in both mercury deposition and mercury levels in fish and wildlife" (Driscoll, *et al.*, 2007).
- Lower emissions of SO_2 and NO_x could also produce healthier rainwater for crops, and less pollution in sensitive ecosystems like the Adirondack area. The RPS started in January 2006 and according to the PSC, should reduce statewide air emissions of nitrogen oxide (NO_x) by 6.8 percent, sulfur dioxide (SO_2) by 5.9 percent, and carbon dioxide (CO_2) by 7.7 percent (PSC, 2004). By offsetting the emission of key air pollutants and greenhouse gases, the Project will clearly benefit local ecosystems, water resources as well as human health. Additional information on the air quality benefits of the proposed Project is included in Sections 3.9 and 3.4.

- Statewide economic benefits:
  - New York is the fourth largest energy user in the United States, yet only 10 percent of its requirements come from in-state resources. New Yorker's spent more than $57 billion for energy in 2005 and 90 percent of that was imported from outside New York (NYSERDA, 2007). The Project will ensure that more of the State's energy needs are provided from an in-State resource consistent with the State Energy Plan, as discussed above.
  - Reduction in the use of natural gas at New York State power plants will reduce the demand for and the cost of natural gas, creating benefits for both electric ratepayers

and natural gas consumers (ACENY, 2008). In addition, as a result of the RPS, and the displacement of natural gas use described above, the PSC anticipates that wholesale energy prices are likely to decline as the addition of substantial amounts of renewable energy offsets some of the program costs. The cumulative direct cost of RPS-related payments to renewable energy projects, expected to be in the range of $582 million to $762 million, is expected to be partly offset by approximately $362 million in wholesale energy cost reductions as New York reduces its reliance upon fossil fuels (PSC, 2004).

- Human health benefits:
    - Airborne mercury, released primarily by coal-fired power plants, has contaminated numerous rivers, lakes, and streams across the State. While eating fish from State water bodies is not prohibited, the NYSDEC has issued advisories pertaining to fish consumption. Eighty-seven (87) of the 136 bodies of water with health advisories in New York State are listed in part or wholly because of mercury contamination. Pregnant women, women who may become pregnant, or children under the age of 15 are advised not to consume any fish, at any time, from any of the water bodies listed by the NYSDEC (NYSDOH, 2007).
    - Sulfur dioxide and nitrogen oxide emissions react with volatile organic compounds in the atmosphere (i.e., gasoline vapors or solvents) and produce compounds that can result in severe lung damage, asthma, and emphysema (Wooley, 2000).
    - Researchers at the Harvard School of Public Health estimated that air pollution from conventional energy sources across the U.S. kills between 50,000 and 70,000 Americans every year (Levy, *et al.*, 2000).
    - Research undertaken by the American Cancer Society, Harvard School of Public Health, and the Environmental Protection Agency shows that residents in every single state across the Nation were at risk of premature death from air pollution (Cooper & Sovacool, 2007).
    - Some of the ecosystems in upstate and northern New York are especially at risk from the combustion of fossil fuels. Airborne mercury released by coal combustion has contaminated most lakes in New York State to the extent that the NYSDEC now prohibits the eating of fish caught in those bodies of water (NYSDOH, 2007)**.**
    - Lower emissions of SO_2 and NO_x could also produce healthier rainwater on crops, and less pollution in sensitive ecosystems like the Adirondack area. The RPS started in January 2006 and according to the PSC, should reduce statewide air emissions of nitrogen oxide (NO_x) by 6.8 percent, sulfur dioxide (SO_2) by 5.9

percent, and carbon dioxide (CO_2) by 7.7 percent (PSC, 2004). By offsetting the emission of key air pollutants and greenhouse gases, the Project will clearly benefit local ecosystems, water resources as well as human health. Additional information on the air quality benefits of the proposed Project is included in Sections 3.9 and 3.4.

- Local socioeconomic benefits:
    - Increased revenues to local municipalities.
    - Short-term employment of construction workers, and long-term employment of operating workers (Ouderkirk & Pedden, 2004).
    - Direct lease payments to participating landowners.
    - "Direct economic effects" in the form of immediate payments to consultants, contractors, and the labor pool required to develop, build, and operate the Project (Ouderkirk & Pedden, 2004).
    - "Induced effects" in the form of everyday purchases made by the firms and employees working at the Project site (i.e., groceries, gas and supplies, hotel accommodations, patronization of various local establishments, etc.) (Ouderkirk & Pedden, 2004).

2.3 PROJECT COST AND FUNDING

The $230 million cost of developing, permitting and constructing the Project will be provided by Iberdrola, which has developed several other wind power projects in the United States, including the constructed Maple Ridge Wind Farm on the Tug Hill Plateau in Lewis County, New York. This 322 MW project, which includes 195 operating wind turbines in the towns of Martinsburg, Harrisburg and Lowville, is jointly owned by Iberdrola (formerly PPM Energy) and Horizon Wind Energy (formerly Zilkha Renewable). The Horse Creek Wind Power Project will also be funded as a commercial, for-profit enterprise with the approximately $230 million capital cost to be provided by Iberdrola, which may also elect to finance this expenditure through commercial debt and/or other private investors. Iberdrola intends to own and operate the Project, through a wholly owned subsidiary Atlantic Wind LLC, a standalone special purpose entity (an ownership structure that is typical for the independent or non-utility industry). The electrical output will likely be sold in the New York State Independent Service Operator (NYISO) wholesale power market or to other power buyers under bilateral power purchase agreements; and the “green tags” or renewable energy credits will likely be sold separately either to NYSERDA, under the RPS program, or to other buyers of clean power.

2.4 GENERAL PROJECT LOCATION

The Project is located on approximately 9,450 acres of private land in the northwestern portion of Jefferson County, northeast of Lake Ontario at Chaumont Bay and southeast of the St. Lawrence River. Located in the southeastern portions of the Town of Clayton, the Project is approximately five miles south-southeast of the Village of Clayton and three miles northeast of the Village of Chaumont. The Project boundary abuts the town boundaries of Brownville and Lyme between Perch Lake and the Chaumont River (See Figure 2).

The Project site is located in the nearly level lake plain of the Lake Ontario/St. Lawrence Seaway. The majority of the area consists of open crop fields (primarily hay and soybeans), reverting fields and pastures, with forested areas generally confined to small woodlots. The Project area also includes successional old-field, hedgerow, successional shrubland, residential yards, farms, streams, and wetlands. Existing built features within the Project boundaries include roads, single-family homes, seasonal homes, barns, silos, and other agricultural buildings.

2.4.1 Project Lease/Easement Terms and Conditions

The Project sponsor will offer all participating landowners within the Project area (landowners who consent to Project components occupying their land), a standard form lease agreement (for hosts of the wind towers) or easement (for hosts of access roads, power lines and related facilities), that provide for compensation during the Project's development, construction and operation. These leases and easements will secure all the land rights necessary to develop, construct and operate the wind turbine generators along with all ancillary facilities. These agreements include the following provisions:

- A term of 25 years with a 25 year extension (at the option of the Project sponsor),
- Lessee access rights as necessary to develop, build and operate the Project facilities,
- Quarterly rental payments for landowners hosting wind turbine towers, and one-time payments for easements (typically payable per foot of access road or power line),
- Standard indemnification provisions that protect the lessor-landowner from any damages related to the construction or operation of the Project facilities,
- A clean-up requirement of the lessee that obligates it to remove from the leased premises all refuse and other debris resulting from the development, construction or operation of the Project facilities, and to maintain the cleanliness of these premises,
- A decommissioning requirement that obligates the lessee (i.e. the Project sponsor) to remove all above-ground Project facilities at the end of the Project's useful life, and to return

the leased property to its original condition except for any facilities that are more than 36 inches below ground,

- Other commercial terms that are typical for long-term leases or easements in New York.

2.5 PROJECT SITING CRITERIA

The proposed location and spacing of the wind turbines and support facilities is preliminary based upon site developability, landowner participation, a wind resource assessment, environmental resource factors, and review of the site's zoning constraints. Factors considered during preliminary and final turbine and other Project component placement include the following:

Wind resource assessment: Through the use of modeling software, meteorological data, and topographic data, the wind turbines are sited to optimize exposure to wind from all directions, with emphasis on exposure to the prevailing wind direction in the Project area.

Sufficient spacing: Siting turbines too close to one another can result in decreased electricity production, and excessive turbine wear, due to the creation of wind turbulence between and among the turbines. Each operating wind turbine creates downwind turbulence in its wake. As the flow proceeds downwind, there is a spreading of the wake and recovery to free-stream wind conditions. The Project turbines will have a final placement with enough space between them to minimize wake losses and maximize the capture of wind energy.

Local Zoning: The Town of Clayton, pursuant to their Wind Energy Facilities Law have established a wind power overlay district, to provide an area within the Town of Clayton where wind energy facilities shall be permitted subject to the review and permitting requirements of their local ordinance. All wind turbines are located within this district. The Project complies with the terms and conditions of the town Wind Energy Facilities Law.

Distance from residences: The turbine locations will maintain a minimum setback of 1,250 feet between the tower and the nearest off-site residence, unless the affected property owner provides written consent for a reduced setback. Turbine setbacks will comply with the town of Clayton Wind Energy Facilities Law, and will minimize potential visual and sound effects of the turbines on Project neighbors.

Distance from Non-participating Land Parcels: The turbine locations will maintain a minimum setback of 500 feet from off-site property lines, in accordance with the town of Clayton Wind Energy Facilities Law.

Distance from roads: The turbine locations will also maintain a minimum setback of at least 500 feet from public roads, in accordance with the wind turbine siting requirements of the town of Clayton Wind Energy Facilities Law.

Distance from electric grid and other infrastructure: The Project will comply with the setback requirement established by the New York Public Service Commission, which is a 1.5 times setback from existing and proposed major transmission facilities operating at 115 kV or greater described in Case 07-E-0213.

Noise: Through adherence to required setback distances, turbine siting will comply with the town of Clayton Wind Energy Facilities Law noise standards for wind power projects. The standards indicate that the sound pressure level (L_{10}) due to any turbine operation shall not exceed 50 dBA when measured at any off-site residence, school, hospital, church or public library existing on the date of the "WECS application" unless the affected property owner provides written consent for the noise level to exceed this limit (§15.A of Town of Clayton Local Law No. 1 of 2007).

Wetlands and Waterbodies: The O&M Facility, temporary construction staging areas, substation and turbine foundations will not be located within delineated federal jurisdictional or state regulated freshwater wetlands. However, placement of interconnecting access roads, turbine workspaces, and electrical lines in wetlands may be unavoidable. These disturbances have been sited to minimize potential impacts.

Communication Interference: Turbines will be sited outside of known microwave pathways or Fresnel zones to minimize the effect that they may have on local communications.

Cultural Resources: All Project components will be sited and Project construction will be conducted in such a way that will avoid impacts to the maximum extent practicable. An Unanticipated Discoveries Plan will be implemented to further minimize the potential for adverse impacts to prehistoric or historic archeological resources, as recommended by the Project's Cultural Resources Specialists.

Wildlife Habitat: Atlantic Wind will avoid critical wildlife habitat to the maximum extent practicable and work closely with the U.S. Fish and Wildlife Service, NYSDEC and other appropriate entities to minimize the effect the Project may have on critical habitats through minimization, avoidance and/or mitigation measures.

The individual components of the Project layout are described individually in the following sections.

2.5.1 Wind Turbines

Gamesa Eolica manufactures the wind turbines anticipated to be used for this Project. Additional information regarding these turbines is included in the manufacture's product brochures in Appendix A. This type of wind turbine is selected because it is a state-of-the-art on-shore wind turbine, and because its performance and efficiency are most suited to the wind resource/wind conditions on site to maximize the generation of energy in the Project area. Because the Project is not scheduled to be built until 2013, market factors such as availability and cost could dictate use of an alternate turbine. However, any turbine ultimately selected will be similar in design and appearance to the Gamesa Eolica machine. Each wind turbine consists of three major components; the tower, the nacelle, and the rotor. The maximum height of the tower, or "hub height" (height from the base of the tower to the center of the rotor hub on top of tower) will be approximately 328 feet. The nacelle sits atop the tower, and the rotor hub is mounted on a drive shaft that is connected to the gearbox and generator contained within the nacelle. The maximum total turbine height (i.e., height at the highest blade tip position) will be approximately 476 feet. Descriptions of each of the turbine components are provided below.

Tower: The tubular towers used for this Project are conical steel structures manufactured in five sections, each of which are trucked separately to the site and bolted together using internal flanges. The towers have a base diameter of approximately 13.5 feet and a top diameter of approximately nine feet and are mounted on a concrete foundation (see Section 2.6.6). Each tower will have an access door, internal lighting, and an internal ladder to access the nacelle. The towers will be painted white to make the structure less visually obtrusive.

Nacelle: The main mechanical components of the wind turbine are housed in the nacelle. These components include the drive train, gearbox, and generator. The nacelle is housed by a steel reinforced fiberglass shell that protects internal machinery from the environment and dampens noise emissions. The housing is designed to allow for adequate ventilation to cool

internal machinery, and is approximately 28 feet long, 10 feet tall, and 11 feet wide. It is externally equipped with an anemometer and a wind vane that measure wind speed and direction (information used by the turbine controller to turn the machine on and off, and to yaw it into correct position). Attached to the top of some of the nacelles, per specifications of the Federal Aviation Administration (FAA), will be a single, medium intensity aviation warning light. These will be red flashing red lights (L-864) and operated only at night. The nacelle is mounted on a sliding ring that allows it to rotate or "yaw" into the wind to maximize energy capture.

Rotor: A rotor assembly is mounted on the drive shaft, and is operated upwind of the tower. Each rotor consists of three fiberglass composite blades a maximum of 157 feet in length (total rotor diameter of 318 feet). The rotor attaches to the drive shaft at the front of the nacelle. Electric servo motors within the rotor hub vary the pitch of each blade according to wind conditions, which enable the turbine to operate efficiently at varying wind speeds. The wind turbines begin generating energy at wind speeds as low as 3 meters per second (m/s) (6.7 mph) and automatically shut down at wind speeds above 25 m/s (56 mph). The maximum rotor speed is approximately 19 revolutions per minute (rpm).

2.5.2 Electrical System

The proposed Project is anticipated to have an electrical system that consists of the following parts: 1) a system of buried 34.5 kV shielded and insulated cables that will collect power from each wind turbine (electrical collection lines), 2) overhead 34.5 kV collector lines that will transmit larger amounts of power from the underground collector circuits to the collector substation, 3) a collector substation that will convert the generated electricity from the 34.5 kV voltage level to 115 kV which matches the voltage of the nearby transmission system, and 4) a switching station located south of County Road 126 and east of County Route 54 in the southern section of the Project site, that interconnects the project and delivers energy to the existing 115 kV transmission line and regional power grid. Each of these components is described below.

Electrical Collection Line System: A transformer located in the interior of the nacelle, will raise the voltage of electricity produced by the turbine generator up to the 34.5 kV voltage level of the collection system. From the transformer, three power cables along with the fiber optic communication cables will collect the electricity produced by a group of wind turbine generators. These power lines will be underground, and typically will be installed adjacent to Project access roads, with each circuit connecting a set of turbines to the overhead collector

lines. The general locations of proposed underground and overhead collection lines are indicated in Figure 3. The total length of buried interconnect will be approximately 16.1 miles and the total length of overhead interconnect carrying electricity to the collection station will be approximately 5.5 miles.

Collector Substation: The collector substation will be located south of County Road 126 and east of County Road 54 in the southern section of the Project site. It is the terminus of the collection system, and will transform the voltage of this system from 34.5 kV to 115 kV. The fence line of the station will be approximately 100 by 200 feet in size and will include 34.5 and 115 kV busses, a transformer, circuit breakers, towers, a control enclosure, and related structures. The collector substation will be enclosed by chain link fencing and will be accessed by a new gravel access road 16 feet in width.

Interconnection Switching Station: An interconnection switching station, to be owned and operated by National Grid, will be located adjacent to the collector substation. It provides the facilities necessary to reliably interconnect the project to the existing 115 kV transmission line and regional power grid. The fence line of the station will be approximately 250 by 300 feet in size and will include 115 kV busses, circuit breakers, towers, a control enclosure, and related structures. The interconnection switching station will be enclosed by chain link fencing and will be accessed by a new gravel access road 16 feet in width.

2.5.3 Access Roads

The Project will require the construction of new or improved access roads to provide access to the proposed turbines, collector substation, interconnection switching station, and O&M facility sites. The proposed location of Project access roads is shown in Figure 3. The total length of access road required to service all proposed wind turbine locations is approximately 13.6 miles, some which will be upgrades to existing farm lanes. The temporary construction roads will be gravel-surfaced and typically are 50 feet in width (with a temporary disturbance up to 100-feet wide). The permanent roads will be gravel-surfaced and typically are 16 feet in width (however, for impact calculation purposes a maximum finished width of approximately 20 feet is assumed). See Appendix A for typical access road specifications.

2.5.4 Wind Measurement Tower

One 100-meter (328-foot) tall wind measurement tower (meteorological tower) will be installed to collect wind data and support performance testing of the Project. The tower will be a self-supporting

galvanized tubular or lattice steel structure, and will be equipped with wind velocity and directional measuring instruments at three or more different elevations. As presently planned, the meteorological tower is located in the southern portion of the project area, northwest of the CR 54/Morris Tract Road intersection, near turbines 5 and 6 (See Figure 3).

2.5.5 Staging Area

Construction of the Project will require the development of up to three construction staging areas, which will accommodate construction trailers, storage containers, large Project components, and parking for construction workers. The additional staging may be required for the operation of a batch plant and the storage of component deliveries. The staging area(s) is anticipated to occupy approximately up to a maximum of 35 acres, and will be centrally located on agricultural land (cropland or pasture). The final location of the staging area(s) is undetermined, however three potential sites have been identified (see Figure 3). No fencing or lighting of the staging area is proposed. The staging area(s) is temporary for use during construction of the Project. The areas used for this purpose will be restored to pre-Project conditions following completion of all project construction activities.

2.5.6 Operations and Maintenance Facility

An operations and maintenance facility (O&M) will include a storage yard adjacent to the O&M building that will house equipment and materials necessary to service the Project. The O&M facility will be located on a leased parcel of land, approximately five acres in size. Currently, the sites of potential staging areas are anticipated to serve as the future O&M facility site. It will consist of a single story building up to 6,000 square feet in size, a fenced area for outdoor equipment and material storage, and a parking area for staff and visitors.

2.6 PROJECT CONSTRUCTION

Project construction is anticipated to occur in a single phase. Pending the receipt of all appropriate permits, construction anticipated to commence in the spring of 2013 and be completed by December 31 of that year. Site restoration will occur during project construction, as appropriate, and in the spring following completion of construction activities. Although a detailed schedule has not yet been developed, Project construction is anticipated to proceed in the following order: a) civil work (e.g., public road improvements, access roads construction, turbine foundation construction); b) electrical work (e.g., installation of buried and overhead collector lines and construction of the Project substation and interconnection switching station); c) wind turbine installation; d) Project testing and commissioning; and e) site restoration.

Project construction will be performed in several stages and will include the following main elements and activities:

- Grading of the staging/field construction office area and substation areas
- Construction of access roads, crane pads, and turn-around areas (turbine workspaces)
- Construction of turbine tower foundations
- Installation of the underground and overhead electrical collection systems
- Assembly and erection of the wind turbines
- Construction and installation of the substation
- Plant commissioning and energization
- Site restoration

Prior to the initiation of construction, various environmental protection and control plans will be developed and shared with the Town. These will include a final construction routing plan, road improvement plan, emergency response plan, public safety plan, and complaint resolution procedures. These and other plans and procedures are described in greater detail in Section 3 of the DEIS. Actions included in these plans and procedures will be reviewed, coordinated and approved by the town prior to implementation, to assure that the impacts of Project construction on local residents are avoided, minimized, or mitigated to the extent practicable. The following section describes the various activities that will occur as part of Project construction. Representative photographs of wind power project construction activities are included in Figure 4. Typical construction dimensions are included in Appendix A.

2.6.1 Pre-construction Activities

Before construction commences, a site survey will be performed to stake out the exact location of the wind turbines, access roads, electrical lines, and substation areas. Once the surveys are complete, a detailed geotechnical investigation will be performed to identify subsurface conditions and allow development of final design specifications for the access roads, foundations, underground trenching, overhead lines, substations and electrical grounding systems. The geotechnical investigation involves a drill rig obtaining borings to identify the subsurface soil and rock types and strength properties. Testing is also done to measure the soil's electrical properties to ensure proper grounding system design. A geotechnical investigation is generally performed at some or all turbine locations, at the substation location, along the access roads, and at the O&M facility site.

Using all of the data gathered for the Project (including geotechnical information, environmental conditions, site topography, etc.), the Project sponsor will develop a set of site-specific construction specifications for the various components of the Project. The design specifications will comply with construction standards established by various industry practice groups such as:

- American Concrete Institute (ACI)
- Institute for Electrical and Electronic Engineers (IEEE)
- National Electric Code (NEC)
- National Fire Protection Agency (NFPA)
- Construction Standards Institute (CSI)

The Project engineering team will ensure that all aspects of the specifications, as well as the actual on-site construction, comply with all applicable federal, state, and local codes and good industry practice. The Project developer and/or contractor will coordinate directly with the local code enforcement officers in order to assure that all aspects of Project specifications/inspections are properly communicated and understood.

To assure compliance with various environmental protection commitments and permit conditions, Atlantic Wind will hire an environmental monitor to oversee construction (and post-construction) activities. Prior to the start of construction at any given site, an environmental monitor, the contractor, and Atlantic Wind representatives will conduct a walk-over of areas to be affected, or potentially affected, by proposed construction activities. This pre-construction walk-over will identify sensitive resources to avoid (e.g., wetlands, archeological, or agricultural resources), as well as the limits of clearing, location of wetland and stream crossings, location of drainage features (e.g., culverts, ditches), location of underground utilities and tile lines, and layout of sedimentation and erosion control measures. Upon identification of these features, they will be marked in the field (by staking, flagging, fencing, etc.), specific construction procedures will be determined, and any modifications to construction methods or locations will be proposed before construction activities begin. Landowners and agency representatives will be included on these walk-overs or consulted as needed. See Section 4.3 (Environmental Compliance and Monitoring Program) for additional detail.

2.6.2 Staging Areas

Construction staging areas will be developed by stripping and stockpiling the topsoil and grading and compacting the subsoil. Geotextile fabric and an appropriate depth of gravel will then be installed to

create a level working yard. Electric and communication lines will be brought in from existing distribution poles to allow connection with construction trailers. At the end of construction, utilities, gravel, and geotextile fabric will be removed (from staging areas that do not overlap with the proposed operations and maintenance facility) and the sites restored to their preconstruction condition.

2.6.3 Site Preparation

Actual Project construction will be initiated by clearing woody vegetation (as necessary) from all tower sites, access roads, and electrical interconnect routes. The work area will be cleared with a chainsaw, brush hog and typical heavy construction machinery. Trees cleared from the work area will be cut into logs and removed, while limbs and brush will be chipped and spread in upland areas onsite so as not to interfere with agricultural practices or other land uses. Wetland and stream crossings will be conducted in accordance with applicable state and federal permits.

2.6.4 Public Road Improvements

The travel route to be used for hauling gravel, concrete and other heavy items has yet to be finalized, but will be determined in consultation with the turbine supplier, its transportation provider, the local towns and Jefferson County. Certain town roads with widths of less than 16 feet may need to be widened, and turn-outs at the intersection of Project access roads and certain town roads will be temporarily established, to allow an uninterrupted flow of construction activity. Public roadway intersections along the construction and delivery routes may also require spot radii improvements to accommodate the turning radius of over-length delivery vehicles (see Section 3.8 for further detail).

Any stockpiled soil and/or spoil material will only be temporary (i.e., spread and graded to match original contours following construction activities). In addition, appropriate sediment and erosion control measures (see Section 3.1 for additional information and Appendix E for details) will be implemented, which will ensure that temporarily stockpiled soil and/or spoil material will not result in significant sedimentation or turbidity to local surface waters.

2.6.5 Access Road Installation

Wherever possible, existing roads and farm drives will be upgraded for use as Project access roads in order to minimize impacts to both active agricultural areas and wetland/stream areas. Where an existing road or farm drive is unavailable or unsuitable, new gravel- surfaced access roads will be constructed. Road construction will involve topsoil stripping and grubbing of stumps, as necessary. Stripped topsoil will be stockpiled along the road corridor for use in site restoration. Any grubbed

stumps will be removed, chipped, or buried. Following removal of topsoil, subsoil will be graded, compacted, and surfaced with an appropriate depth of gravel or crushed stone. A geotextile fabric or grid may be installed beneath the road surface, if necessary, to provide additional support. The typical access road will be 16 feet in width, with occasional wider pull-offs to accommodate passing vehicles. Appropriately sized culverts will be placed in any wetland/stream crossings in accordance with state and federal permit requirements. In other locations culverts may also be used to assure that the roads do not impede cross drainage. Where access roads are adjacent to, or cross, wetlands, streams or drainage ditches/swales, appropriate sediment and erosion control measures (e.g., silt fence) will be installed.

During construction, access road installation and use could result in temporary disturbance of a maximum width of 100 feet along linear segments, with larger impact areas at curves and intersections. The minimum temporary road corner radius is 150 feet, larger in some areas depending on the alignment of the proposed roadways. In agricultural areas, topsoil will be stripped and wind-rowed along the access road to prevent construction vehicles from driving over undisturbed soil and adjacent fields. Once construction is complete, temporarily disturbed areas will be restored (including removal of excess road material, de-compaction, and rock removal in agricultural areas) and returned to their pre-construction contours. Typical access road details are included in Appendix A. Photos of access road construction are included in Figure 4.

2.6.6 Foundation Construction

Once the roads are constructed for a particular group of turbine sites, turbine foundation construction will commence on that completed access road section. Foundation construction occurs in several stages including excavation, outer form setting, rebar and bolt cage assembly, casting and finishing of the concrete, removal of the forms, backfilling and compacting, and site restoration. Excavation and foundation construction will be conducted in a manner that will minimize the size and duration of excavated areas required to install foundations.

Initial activity at each tower site will involve stripping and stockpiling topsoil within a 175-foot radius around each tower (maximum area of disturbance of 2.2 acres). Following topsoil removal, backhoes will be used to excavate a foundation hole. In agricultural areas excavated subsoil and rock will be segregated from stockpiled topsoil. If bedrock is encountered it is anticipated to be ripable, and will be excavated with a backhoe. If the bedrock is not ripable, it will be excavated by pneumatic jacking, hydraulic fracturing, or blasting. If blasting is required, it will be conducted in compliance with a Blasting Plan, and in accordance with all applicable laws to avoid impacts to

sensitive receptors. Pre- and post-blasting inspections of all sensitive receptors in the potential impact areas will be conducted, to document any changes that may be due to blasting. If necessary, dewatering of foundation holes will involve pumping the water to a discharge point, which will include measures/devices to slow water velocities and trap any suspended sediment. Dewatering activities will not result in the direct discharge of water into any streams or wetlands.

The foundation is anticipated to be a spread footer. This foundation type is approximately 11.5-13 feet deep, approximately 60 to 65 feet in diameter, and requires approximately 550 to 600 cubic yards (cy) of concrete. Once the foundation concrete is sufficiently cured, the excavation area around and over it is backfilled with the excavated on-site material. The top of the foundation is a nominal 18-foot diameter pedestal that typically extends 6 to 8 inches above grade. The base of each tower will be surrounded by a 8-foot wide gravel skirt, and an area approximately 100 feet by 75 feet will be developed as a permanent gravel crane pad.

2.6.7 Electrical Cable Installation

As mentioned previously, electrical interconnects will generally be sited parallel with Project access roads, but will also follow field edges and cut directly across fields in places. The proposed layout of the electrical interconnect system is illustrated in Figure 3. Where buried cable is proposed to cross active agricultural fields, the location of any subsurface drainage (tile) lines will be determined (through consultation with the landowner), if possible, to avoid damaging these lines during cable installation. Direct burial methods through use of a cable plow, rock saw, and/or trencher will be used during the installation of underground electrical interconnect lines whenever possible. Direct burial via a cable plow will involve the installation of bundled cable (electrical and fiber optic bundles) directly into a “rip” in the ground created by the plow blade. The rip disturbs an area approximately 24 inches wide with bundled cable installed to a minimum depth of 36 inches. An area up to 20 feet wide (for one circuit) must be cleared of tall-growing woody vegetation and will be disturbed by the tracks of the installation machinery. However, this disturbance does not involve excavation of the soil. Generally, no restoration of the rip is required, as it closes in on itself following installation. Similarly, surface disturbance associated with the passage of machinery is typically minimal. Should surface restoration be required, a small excavator or small bulldozer will closely follow the installation, smoothing the area. In order to reduce overall Project impacts, collection routes may be used to support crane walks. In these areas, the collection route would be temporarily widened for this use rather than creating a separate 100-foot width clearing.

Direct burial with a trencher involves the installation of bundled cable in a similar fashion to cable plow installation. The trencher or rock saw uses a large blade or "saw" to excavate an open trench. Alternatively, an excavator or backhoe is used to open a 24-inch-wide trench with a sidecast area immediately adjacent to the trench. Similar to cable plow, this direct burial method installs the cable a minimum of 36 inches deep (48 inches in active agricultural fields) and requires only minor clearing and surface disturbance (up to 20 feet wide for the installation machinery). Sidecast material will be replaced with a small excavator or small bulldozer. All areas will be returned to pre-construction grades, and restoration efforts will be as described above for cable plow installation. Where three or more cables run parallel through active agricultural fields, the topsoil will be stripped and stockpiled prior to cable installation, and replaced, regraded, and stabilized by seeding and mulching following installation. Any tile lines that are inadvertently cut or damaged during installation of the buried cable will be repaired as part of the restoration effort.

Installation of utility lines with an open trench will be used only in areas where the previously described direct burial methods are not practicable. At this time, no open trench installation is proposed unless conditions at the time of construction make direct burial unfeasible. Areas appropriate for open trench installation will be determined at the time of construction and may include areas with unstable slopes, excessive unconsolidated rock, and standing or flowing water. Open trench installation will be performed with a backhoe and will generally result in a disturbed trench 36 inches wide and a minimum of 36 inches deep. The overall temporary footprint of vegetation and soil disturbance may be a maximum of 100 feet due to machinery dimensions and backfill/spoil pile placement during installation and the possibility of a crane walk traveling along the collection system corridor. In agricultural areas, all topsoil within the work area will be stripped and segregated from excavated subsoil. Replacement of spoil material will occur immediately after installation of the buried utility. Subgrade soil will be replaced around the cable, and topsoil will be replaced at the surface. Any damaged tile lines will be repaired, and all areas adjacent to the open trench will be restored to original grades and surface condition. Restoration of these areas will be completed through seeding and mulching of all exposed soils.

The overhead 34.5 kV electrical interconnect will be carried by electrical conductor suspended on treated wood poles (similar to existing roadside utility poles supporting distribution lines). The ROW of the overhead electrical interconnect will be clear cut to a width of 100 feet prior to construction and it is assumed that vehicular activity will disturb a corridor up to 20 feet wide within the ROW for installation of the poles and stringing of the line. Following construction, the cleared ROW will be reduced to a width of 75 feet, which will be maintained free of tall woody vegetation for the duration of Project operation.

2.6.8 Wind Turbine Assembly and Erection

Beyond the tower, nacelle, and rotor blades, other smaller wind turbine components include hubs, nose cones, cabling, control panels and internal facilities such as lighting, ladders, etc. All turbine components will be delivered to the Project site on flatbed transport trucks and specialized large component transport vehicles, and the main components will be off-loaded at the individual turbine site. Turbine erection is performed in multiple stages including setting of the bus cabinet and ground control panels on the foundation, erection of the tower, erection of the nacelle, assembly and erection of the rotor, connection and termination of the internal cables, and inspection and testing of the electrical system prior to energization.

Turbine assembly and erection involves mainly the use of large track mounted cranes, smaller rough terrain cranes, boom trucks, and rough terrain fork-lifts for loading and off-loading materials. The tower sections, rotor components, and nacelle for each turbine will then be delivered to each site by flatbed trucks and specialized large component transport vehicles and unloaded by crane. A large erection crane will set the tower segments on the foundation, place the nacelle on top of the tower, and following ground assembly, place the rotor onto the nacelle (see photos in Figure 4).

The erection crane(s) will move from one tower to another along a designated crane path. This crane travel path will generally follow Project access roads; sometimes will follow existing public roads with protective matting as required; sometimes will follow the collection system from turbine string to turbine string; and in a few places may traverse open fields if field conditions permit. In such areas, a proof roller will be used to test soil stability and level and compact the soil prior to crane passage. If this approach is not feasible, topsoil will be stripped and stockpiled and temporary roads up to 50-feet wide (with a temporary disturbance up to 100-feet wide) will be installed in these areas. In many locations, the crane will be partially disassembled and carried from one tower site to another by a specialized flatbed tractor-trailer. This mode of crane transport will not require a 50-foot-wide travel surface, but could require some additional clearing and grading adjacent to the roads to accommodate the width of the crane tracks (which will extend well beyond the edges of the trailer). Upon departure of the crane from each tower site, all required site restoration activities will be undertaken. Restoration of crane paths will include removal of all temporary fill/road materials. In agricultural fields, restoration will also include subsoil de-compaction (as necessary) and rock removal, spreading of stockpiled topsoil, and reestablishing pre-construction contours. Exposed soils at restored tower sites and along roads and crane paths will be stabilized by seeding and/or mulching.

2.6.9 Substation and Switching Station

Substation and interconnection switching station construction will begin with clearing each site and stockpiling topsoil for later use in site restoration. Sites will be graded, and a laydown area for construction trailers, equipment, materials, and parking will be prepared. Concrete foundations for major equipment and structural supports will be poured, followed by the installation of various conduits, cable trenches, and grounding grid conductors. Above-ground construction will involve the installation of structural steel, bus conductors and insulators, switches, circuit breakers, transformers, control enclosures, etc. The final steps involve laying down crushed stone across the stations, erecting the chain link fence, connecting the high voltage links, and testing the control systems.

During all aspects of Project construction, the contractor and/or construction manager will minimize fugitive dust and airborne debris to the maximum extent practical by implementing appropriate control measures. These measures will include (but are not limited to) the application of mulch, water, stone, or an approved chemical agent on any public roads, access roads, exposed soils, or stockpiled soils when dry and windy conditions exist. Other mechanisms to initiate dust control procedures include a determination from the Environmental Monitor that control measures shall be implemented, and a complaint by a landowner or local resident. A watering vehicle shall be available for use for the duration of Project activities, including restoration. No chemical dust control measures will be implemented in the vicinity of organic farms (if applicable).

2.7 OPERATIONS AND MAINTENANCE

Operation of the wind turbines and associated components is almost completely automated. For the wind turbines anticipated for the Project, turbines will automatically be brought on line at a minimum wind speed of approximately 6.7 mph and high-speed shutdown occurs at around 56 mph. The turbines are equipped with two fully independent braking systems that allow the rotor to be brought to a halt under all foreseeable conditions. The system consists of aerodynamic braking by the rotor blades and by a separate hydraulic-disc brake system. Both braking systems operate independently, such that if there is a fault with one, the other can still bring the turbine to a halt. Each wind turbine has a computer to control critical functions, monitor wind conditions, and report data back to a SCADA system.

However, the Project is anticipated to employ a staff of approximately eight to eleven O&M staff (four wind technicians, a plant manager and an administrative support person). Operations and

maintenance staff offices will be located in the O&M building, and staff will be on duty during core operating hours (eight hours a day, five days per week) with weekend shifts and extended hours as required. In the event of turbine or facility outages, the SCADA system will send alarm messages to on-call technicians to notify them of the outage. The Project will always have an on-call local technician who can respond quickly in the event of any emergency. The wind turbines selected for the Project have been chosen in part for their high functional reliability. Each wind turbine manufacturer studies and reports on the frequency of operation problems and malfunctions that arise when the turbines are generating electricity. Data on the turbines' reliability is summarized by the manufacturer in the turbine's availability rating, which estimates the percentage of time that the turbine will function. More detailed specifications on the wind turbines being proposed for the Project are included in Appendix A.

Each wind turbine will receive scheduled preventive maintenance inspections during the first year of operation and twice a year in subsequent years. Given the high availability rating of the turbines, Atlantic Wind estimates that once operational, individual wind turbines will require maintenance and repair calls an average of three to six times per year in addition to their scheduled inspections. In certain circumstances, heavy maintenance equipment, such as a lifting crane, may need to be brought in to repair turbine problems (such as nacelle component replacement).

The Project sponsor has a proven track record in both constructing and operating commercial-scale wind farms. This should provide assurance that Project maintenance and repair work will be completed quickly and with as little impact to the surrounding community and landowners as possible.

The Horse Creek Wind Power Project is expected to have an average annual capacity of approximately 30 percent, which is comparable to other commercial wind farms in New York State. Total net generation delivered to National Grid's existing 115 kV line is expected to be approximately 260 GWh, or enough electricity to meet the average annual consumption of approximately 48,000 average NYS households. By way of comparison, the U.S. Census Bureau indicates a total of 43,938 households in Jefferson County (U.S. Census Bureau, 2005-2009 American Community Survey).

2.8 DECOMMISSIONING AND CLOSURE PLANS

At the start of construction, an acceptable form of security, including a combination of corporate guarantees and a funded escrow account along with the projected salvage value of the towers and

turbines (expected to be available from the dismantling of the Project), will be available to pay for the decommissioning of the Project at the end of its useful life. Specifically, the Project sponsor will provide a bona fide estimate from an independent engineer for the town's review and approval, in order to establish the cost of decommissioning the wind energy facility. Project sponsor will commence funding the decommissioning account in accordance with the provisions of the agreement entered into with the host town. In the event that Project sponsor uses only a portion of the fund or uses other means than the fund to effect decommissioning it will be entitled to such unused fund amounts with interest upon completion of such decommissioning.

Prior to the granting of local approvals for Project development, Project sponsor will formulate a decommissioning plan with the town, or demonstrate that the private land leases provide adequate requirements for this plan.

Unless otherwise agreed between the town and Project sponsor, and unless Project sponsor can show that its land leases adequately address this issue, the Decommissioning Plans will include:

- Provision describing the triggering events for decommissioning of wind power facilities.
- Provisions for the removal of all above-ground structures and debris, but not the removal of anything below a 36-inch depth (e.g., tower foundations or collection line).
- Provisions for the restoration of the soil and vegetation.
- A timetable approved by the town for site restoration.
- An estimate of decommissioning costs certified by an independent Professional Engineer.
- Financial Assurance, secured by Atlantic Wind, LLC, for the purpose of adequately performing decommissioning, in an amount equal to the Professional Engineer's certified estimate of decommissioning cost, less the expected salvage cost of the wind farm components.
- Identification of procedures for the town to access financial assurances.
- A provision that the terms of the Decommissioning Plan shall be binding upon Atlantic Wind or any of their successors, assigns, or heirs.
- A Provision that the town shall have access to the site, pursuant to reasonable notice, to inspect the results of complete decommissioning.
- Removal of machinery, equipment, tower, and all other materials related to the Project is to be completed within one year of decommissioning.
- All town, county or state roads, impacted by Project activity, if any, will be restored to original condition upon completion of decommissioning.

Megawatt-scale wind turbine generators typically have a life expectancy of 20 to 25 years. The current trend in the wind energy industry has been to replace or "re-power" older wind energy Projects by upgrading older equipment with more efficient turbines. However, if not upgraded or if the turbines are non-operational for an extended period of time (such that there is no expectation of their returning to operation), they will be decommissioned, in accordance with the local wind power ordinance. Decommissioning would consist of the following activities: all turbines, including the blades, nacelles, and towers will be disassembled, and transported off site for reclamation and sale. All of the transformers will also be transported off-site for reuse or reclamation. All underground infrastructure at depths less than 36 inches below grade will be removed. All underground infrastructure at depths greater than 36 inches below finished grade (including the subsurface collection conductors, and foundations) will be left in place. Areas where subsurface components are removed will be graded to match adjacent contours, stabilized with an appropriate seed mix, and allowed to re-vegetate naturally.

As mentioned, a decommissioning plan that details the process, estimated cost, salvage value, and site restoration will be provided to the Town of Clayton prior to Project operation. All decommissioning and restoration activities will be in accordance with all applicable federal, state, and local permits and requirements and will include the following:

Turbine removal: Cranes and/or other machinery will be used for the disassembly and removal of the turbines. Electronic components and controls, and internal cables will be removed. The rotor and nacelle will be lowered to the ground for disassembly. The tower sections will be lowered to the ground where they will be further disassembled for transporting. The rotor, nacelle, and tower sections will either be transported whole for reconditioning and reuse or dissembled into salvageable, recyclable, or disposable components.

Turbine foundation removal: Turbine foundations will be partially removed down to the base level of the foundation pedestal, below grade. The remaining excavation will be filled with clean sub-grade material, compacted to a density similar to surrounding sub-grade material, and finished with topsoil.

Underground collection cables: Any buried cables located within 36 inches of the ground surface will be removed. Buried cables at a depth greater than 36 inches will be kept in place if it is determined that their presence does not adversely impact land use and they do not pose a safety hazard.

Access roads and crane pads: At the discretion of the landowner, gravel will be removed from access roads and crane pads and transported to a pre-approved disposal location. Any drainage structures will be removed and backfilled with sub-grade material (if necessary). The ground will be de-compacted (in agricultural areas only), surfaced with topsoil, contoured, and re-vegetated.

Monitoring. In accordance with the guidelines of the New York State Department of Agriculture and Markets, a monitoring and remediation period of two years immediately following the completion of any decommissioning and restoration activities in agricultural land will commence. Any remaining agriculture impacts can be identified during this period and follow-up restoration efforts will be implemented.

2.9 REQUIRED REVIEWS, APPROVALS AND APPLICABLE REGULATORY PROGRAMS

Implementation of the Project will require certain regulatory reviews, permits and/or approvals from local, state, and federal agencies. The permits and approvals that are expected to be required are listed in Table 1.

Table 1. Reviews, Permits and Approvals for the Horse Creek Wind Project

Agency	Agency Status	Description of Permit or Approval Required
Town of Clayton		
Town of Clayton Planning Board	Lead Agency	Site Plan Approval. Acceptance of DEIS, FEIS, and issuance of Findings (as Lead Agency under SEQRA). Wind Energy Facility Permit. Approval of Town Road Agreements.
Town of Clayton Departments (Public Works, Codes, etc.)	Interested Agency	Issuance of building permits. Review and approval of highway work permits.
Jefferson County		
Department of Public Works	Interested Agency	Highway work permits.
Jefferson County Planning Board	Interested Agency	Advisory Opinion pursuant to General Municipal Law 239-m.

Agency	Agency Status	Description of Permit or Approval Required
New York State		
Department of Environmental Conservation	Involved Agency	Article 24 Permit for disturbance to state jurisdictional wetlands. Article 15 Permit for disturbance of protected streams. SPDES General Permit for Stormwater Discharges from Construction Activity. Article 11 Permit for Incidental Take of Endangered/Threatened Species. Section 401 Water Quality Certification. Issuance of SEQRA findings.
Public Service Commission	Involved Agency	NY Public Service Law §68 Certificate of Public Convenience and Necessity. Issuance of SEQRA findings.
Department of Transportation	Interested Agency	Special Use Permit for oversize/overweight vehicles. Highway work permit.
NYSOPRHP	Interested Agency	Consultation pursuant to NY Parks, Recreation and Historic Preservation Law (PRHPL) § 14.09 and § 106 of the National Historic Preservation Act.
Federal		
U.S. Army Corps of Engineers	N/A	Section 404 Individual Permit or Nationwide Permit for placement of fill in federal jurisdictional wetlands/waters.
U.S. Fish and Wildlife Service	N/A	Consultation and conference activities pursuant to Section 7 of the Endangered Species Act, associated with the aforementioned Section 404 Permit.
Federal Aviation Administration	N/A	Lighting Plan and clearances for potential aviation hazard.

2.10 PUBLIC AND AGENCY INVOLVEMENT

Since first initiating development work on this Project in 2003, the Project sponsor has had numerous meetings with the Town Board and the Planning Board of the town of Clayton and federal and state agencies. The development process was temporarily delayed from 2007 to 2009 in order to observe the potential effects of White Nose Syndrome on bat populations and assess measures being studied to reduce impacts to bats.

The earliest public action in the town was a variance application required for the installation of the first two wind measurement towers. The Project sponsor representatives met with Clayton town officials on December 11, 2004 to apply for a height variance needed to install a meteorological tower.

In November 2005, the Project sponsor staffed a booth at the National Association of Conservation Districts conference, held in Jefferson County, with information about wind energy and Iberdrola's proposed projects in New York State, including the wind farm proposed in the Clayton area. Additionally, in September and November Atlantic Wind staff attended informational meetings with the USFWS, U.S. Army Corps of Engineers (USACOE), and NYSDEC.

The Project sponsor appeared at a public hearing called by the Clayton Town Board on May 24th, 2006 to make a general wind power representation, with specific information about Atlantic Wind's proposal for a wind farm in the Clayton area, and to answer questions from members of the public. A Site Plan application was submitted to the Town of Clayton on January 6, 2011 for the Project.

Additionally, the Project sponsor met several times with a citizens wind committee, as well as the Town Board itself as these bodies considered adoption of new wind power facility ordinance. Meetings with the Town and citizens committee are summarized as follows:

- August 23, 2006: Appeared before the Town Board to discuss the concept of a wind ordinance for Clayton;
- October 3, 2006: Met with a citizens committee that had been established to consider zoning changes;
- October 23, 2006: Met with the Town Board again to discuss schedule;
- December 6, 2006: Attended a special Town Board meeting to discuss the proposed wind farm;
- January 3, 2007: Attended a Town Board meeting to discuss adoption of the ordinance;
- January 11, 2007: Attended a Planning Board meeting;
- January 15, 2007: Attended a ZBA meeting to discuss a variance for another meteorological tower to be installed in Clayton;
- On January 25, 2007: Attended a joint Town Board/Planning Board meeting to discuss the SEQRA review schedule.

The Project sponsor has also held two receptions with local landowners interested in participating in Horse Creek Wind Farm on April 27, 2006, and on December 5, 2006, both at the Depauville Fire Hall.

In addition, representatives of the Project sponsor have met with both staff at both USFWS and NYSDEC to discuss development of a wind farm in Clayton, and additional consultations with these and other State and Federal Agencies are expected in coming months.

2.10.1 SEQRA Process

In January 2007, the Project sponsor proposed an alternate Project layout and configuration that was the subject of an environmental impact analysis and local review (see Larger Project Area Alternative in Section 5). A summary of the environmental review process under taken for this previous Project may be reviewed in the *Draft Generic Environmental Impact Statement for the Horse Creek Wind Farm* accepted by the Town of Clayton as Lead agency on February 22, 2007. This documentation of the alternative project was reviewed by the public and subsequently was withdrawn. The Project sponsor suspended the Project, largely in consideration of agency concerns related to potential bat impacts.

On January 6, 2011, a site plan application was submitted by Atlantic Wind to the Town of Clayton Town Board pursuant to SEQRA. The formal submittal of the local site plan review application initiated the SEQRA process for the subject action. Subsequent to this action, a solicitation of Lead Agency status was forwarded to involved SEQRA agencies by the Clayton Planning Board, along with a copy of the EAF document. No agency objected to the Town Board's assuming the role of Lead Agency. The Town Clayton Planning Board, as Lead Agency, issued a Positive Declaration in requiring the preparation of this DEIS.

This document has been prepared in accordance with the requirements of SEQRA (6 NYCRR Part 617). The purpose of the DEIS is to assess the environmental impacts associated with construction of the Project. The SEQRA process for the Project will include the following actions and time frames:

- DEIS accepted by Lead Agency (Clayton Planning Board).
- File notice of completion of DEIS and notice of public hearing and comment period.
- Public hearing on DEIS
- A minimum 30-day public comment period.
- Prepare the Final EIS (FEIS) to address relevant comments received during the public comment period/public hearing.
- FEIS accepted by Lead Agency.
- File notice of completion of FEIS.

- Minimum 10-day public consideration period.
- Lead Agency issues Findings Statement, completing the SEQRA process.
- Involved agencies issue Findings Statements.

This DEIS, along with a copy of the public notice, will be distributed for review and comment to the repositories, agencies and parties listed in Table 2. Additionally, a 2005 amendment to SEQRA, (Chapter 641 of the NYS Laws of 2005; "Ch. 641") requires every Environmental Impact Statement to be posted on a publicly accessible Internet website, as of February 26, 2006. A DEIS is to be posted as soon as it is accepted and remain posted until the FEIS is accepted. The FEIS should be posted when completed, and must remain posted until one year after all final approvals have been issued for the Project that is the subject of the FEIS. In accordance with this amendment to SEQRA, the DEIS will be posted to www.iberdrolarenewables.us/horsecreek.

2.10.2 Agency and Public Review

Opportunities for detailed agency and public review will continue to be provided throughout the SEQRA process, as well as in conjunction with the review of applications for the other permits and approvals needed for the Project. With respect to the SEQRA process, the DEIS will be available for public review and agency comment as outlined above. In addition to a public comment period (during which time written comments will be accepted), a duly noticed public hearing concerning the DEIS will be organized and held, in accordance with SEQRA requirements.

This DEIS, along with a copy of a public notice, will be distributed for review and comment to the public and to the parties identified in Table 2.

Table 2. Public DEIS Repositories

Town of Clayton	
Town of Clayton Town Supervisor Justin A. Taylor 405 Riverside Drive Clayton, New York 13624	Town of Clayton Town Clerk Kathleen E. LaClair 405 Riverside Drive Clayton, New York 13624
Town of Clayton Planning Board Roland Barril 405 Riverside Drive Clayton, New York 13624	Town of Clayton Highway Department Robert Boulton 615 East Line Rd Clayton, New York 13624
Hawn Memorial Library John Street Clayton, New York 13624	

Jefferson County	
Jefferson County Industrial Development Agency 800 Starbuck Avenue, Suite 800 Watertown, New York 13601	Jefferson County Planning Department Donald R. Canfield, Director 175 Arsenal Street Watertown, New York 13601
Jefferson County Highway Department Highway Superintendent 21897 County Road 190 Watertown, NY 13601	County Legislature District 1 Michael Docteur 33112 NYS Route 12E Cape Vincent, New York 13624
New York State	
NYS Department of Environmental Conservation 635 Broadway Albany, New York 12233-1011	NYS Department of Public Service Three Empire State Plaza Albany, New York 12223-1350
NYS Department of Environmental Conservation Region 6 Regional Permit Administrator 317 Washington Street Watertown, NY 13601	NYS Department of Transportation 50 Wolf Road 6th Floor Albany, New York 12232
NYS Department of Agriculture and Markets 10 b Airline Drive Albany, New York 12235	NYS Energy Research and Development Authority Corporate Plaza West 286 Washington Ave. Ext. Albany, New York 12203-6399
NYS Department of Transportation Region 2 Regional Director Utica State Office Building 207 Genesee Street Utica, NY 13501	NYS Office of Parks, Recreation and Historic Preservation Field Services Unit Peebles Island Waterford, New York 12118