



DESERT WIND POWER PROJECT

PROJECT NARRATIVE

A. THE APPLICANT

(i) The Applicant's full and correct name, business address, and business telephone number are:

Atlantic Wind, LLC
c/o Iberdrola Renewables, Inc.
1125 NW Couch Street, # 700
Portland, OR 97209-4129
503.796.7000

(ii) Atlantic Wind, LLC ("Atlantic Wind") is an Oregon Limited Liability Company with its principal place of business in Portland, Oregon. Atlantic Wind is 100% owned by and sole-member managed by Iberdrola Renewables, Inc. ("IRI"). IRI's parent company is Iberdrola Renovables, S.A., a publicly traded company on the Madrid stock exchange. With more than 12,000 MWs of installed renewable capacity worldwide, Iberdrola Renovables is the largest owner and operator of renewable energy projects in the world. Iberdrola Renovables is 80% owned by Iberderola, S.A., the second largest integrated utility company in Spain engaged in the generation, transmission, distribution and marketing of electricity and natural gas. Iberdrola Renovables also maintains the world's largest development pipeline, with more than 62,000 MWs of sites in various stages of development.

IRI has successfully financed, constructed and operated more than 40 wind energy facilities and has more than 4,300 MWs of installed wind power capacity in the

United States as of September, 2010. This extensive experience in wind energy ownership, construction, operation and management will allow it to provide superior financial, managerial and technical capabilities to assure construction and operation of the Facility.

Atlantic Wind has obtained a Certificate of Authority from the North Carolina Secretary of State to conduct business in North Carolina. As a limited liability company, sole-member managed by Iberdrola Renewables, Inc., Atlantic Wind does not have officers and directors.

It is IRI's corporate policy to create new special purpose entities to own and operate each wind facility it develops, but not to do so until the facility has been fully permitted. After the Project is fully permitted and before construction begins, a new special purpose entity, wholly owned by Atlantic Wind, will be formed to own and operate the Project described in this application.

Correspondence, documents, and filings regarding this application should be sent as follows:

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with copies to:

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B. THE PROJECT

(i) The Project will be situated on approximately 20,000 acres, spanning Pasquotank and Perquimans counties in an area known locally as the "Desert" and will consist of up to 150 modern Gamesa turbines, each with a nameplate capacity of 2.0 MW, for a total maximum installed capacity of 300 MWs. The portion of the Project situated in Pasquotank County will consist of:

- Up to 82 2.0 MW Gamesa G97 wind turbine generators on 90M towers;
- Access roads and crane paths to each turbine;
- Underground and overhead 34.5 kilovolt ("kV") electrical collector lines connecting the turbines to the Collection Substation;

Turbines:

Each wind turbine consists of three major components: the tower, the nacelle and the rotor. These components are mounted on a foundation to provide structural support to the assembled turbine. The height of the tower, or "hub height" (height from the base of the tower to the center of the rotor hub on top of the tower), will be dependent on the final turbine selection and design, but will have a maximum height of 100 meters or 330 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 total turbine height (the height at the highest blade tip position) will have a maximum height of 475 feet.

Tower – The tubular towers proposed for the Project will be conical steel structures or a combination of steel and concrete, depending on final turbine selection. Each tower has a lockable access door, internal lighting and an internal

ladder and lift to access the nacelle. The towers will be painted off-white to make the structure less visually obtrusive, and in accordance with FAA regulations.

Nacelle – The main mechanical and electrical components of the wind turbine are housed in the nacelle. The nacelle is mounted on a sliding ring that allows it to rotate or “yaw” into the wind to maximize energy capture. The nacelle components include the drive train, gearbox, generator, and generator step-up transformer. The nacelle is housed in a steel reinforced fiberglass shell that protects internal machinery from the environment. The housing is designed to allow for adequate ventilation to cool internal machinery. It is externally equipped with an anemometer and a wind vane to measure wind speed and direction. The generated electricity is conducted through cables within the tower to a switch enclosure mounted at the base of the turbine tower. Attached to the top of selected nacelles, per specifications of the FAA, will be a single, medium intensity aviation warning light. These will be red flashing lights and operated only at night. The FAA determines lighting specification and determines which turbines must be equipped with lights.

Rotor – A rotor assembly is mounted on the drive shaft, and operates upwind of the tower. Electric motors within the rotor hub vary the pitch of each blade according to wind conditions to maximize turbine efficiency at varying wind speeds.

Access Roads:

Existing roads and field paths will be utilized to the extent possible to access Project facilities. The existing roads may require improvements before, during, or following construction. Where necessary, new access roads will be

constructed between existing roadways and the Project facilities. The new and improved access roads will be all-weather, gravel surfaced, and generally sixteen feet in width. During construction, some of the access roads will be widened to accommodate movement of the turbine erection crane.

The cranes used to erect the wind turbines will rarely follow an existing field path or road. In these cases a crane path will be constructed between turbine locations. The crane path will have sufficient bearing capacity to support the crane.

Underground and Overhead Electrical Collector Lines:

The electrical collector lines will consist of an underground cable system between the main-line collection circuits and the individual turbine locations. The cable system will be designed for operation at 34.5 kV. The collection system will generally be routed to follow the access roads developed for the Facility. The cables will be installed in a trench at a depth sufficient to avoid potential impact from the existing land uses. The cable will be installed 2-3' below the bottom elevation of existing ditches and canals in order to allow for the landowners' routine maintenance of the ditches and canals. The cable will be accompanied by a fiber-optic cable which is used for telemetry, control and communication purposes. Junction boxes will be installed to connect portions of the electrical collection system.

The main-line collection circuits will be higher capacity, underground, 34.5 kV cables that connect the electrical collection system to either the Collector Substation or overhead collector lines which transport larger amounts of electricity to the Collector Substation. These higher capacity, underground cables, along

with fiber optic communication cables, will be installed in trenches as described above. The overhead collector lines will be installed on wood or metal poles within easements.

Collector Substation:

The Collector Substation will be situated in Perquimans County and will consist of main transformers, circuit breakers, switching devices, auxiliary equipment, and a control enclosure containing equipment for proper control, protection, monitoring, and communications. The principal function of the substation is to increase the voltage from the collector circuits (34.5 kV) to that of the Sub-Transmission Line (115 kV) which will transport the generated electricity of the entire Facility to the vicinity of the regional transmission system. The collector substation will be located within a fenced area. The fence will be designed in accordance with industry standards to provide safety and security.

Sub-Transmission Line:

In order to transmit the electrical output of the Project to the location where it will be connected to the regional transmission system, a 115 kV Sub-Transmission Line will be constructed on easements between the Collector Substation and the Transmission Voltage Step-up Substation. The Sub-Transmission line will traverse properties in Perquimans

Transmission Voltage Step-up Substation:

The Transmission Voltage Step-up Station ("Step-up Substation") will be situated in Perquimans County and will consist of a main transformer, circuit breakers, switching devices, auxiliary equipment, and a control enclosure

containing equipment for proper control, protection, monitoring, and communications. The principal function of the Step-up Substation is to increase the voltage from the Sub-Transmission Line (115 kV) to that of the transmission line (230 kV) to which the Project will interconnect with the regional transmission system. The Step-up Substation will be located within a fenced area. The fence will be designed in accordance with industry standards to provide safety and security.

Interconnection Switching Station:

Associated with the Project, but owned and operated by Virginia Electric and Power Company (doing business as Dominion North Carolina Power and herein after referred to as "VEPCO"), will be an Interconnection Switching Station ("Switching Station"). This Switching Station will be situated in Perquimans County adjacent to an existing VEPCO 230 kV transmission line. The Switching Station will serve as the electrical interconnection between the Project and the regional transmission system. The Switching Station will consist of 230 kV circuit breakers, disconnect switches, bus conductors, auxiliary equipment, and a control enclosure containing equipment for proper control, protection, monitoring, and communications. The Switching Station will be located within a fenced area. The fence will be designed in accordance with industry standards to provide safety and security.

Meteorological Tower:

One permanent meteorological tower will be installed near Turnpike Road in Perquimans County. The permanent met tower is used to obtain clean and unobstructed wind data for performance management. These towers will be self-

supporting and not taller than 100 meters (328 feet) in height. The tower will be lighted as specified by the FAA.

Operations and Maintenance Facility:

An O&M facility will be constructed in Perquimans County, central to the Project and well suited for access to the turbines as well as the substations. The facility will be comprised of a single story, 4,000 to 6,000 square foot building which will house operating personnel, offices, operations and communication equipment, parts storage and maintenance activities, and a vehicle parking area. An area for outdoor storage of larger equipment and materials will also be included within a fenced area for safety and security.

The Facility will be operated by a team of approximately fifteen to twenty full time, locally based O&M personnel who will operate and maintain the Project during normal working hours. The Facility's central Supervisory Control and Data Acquisition system provides capability for remote operation of the wind turbines and collects operating and performance data 24 hours per day. In addition to local staff, the project will be remotely monitored and controlled by the IRI control center located in Portland, Oregon. The control center is staffed 24 hours a day, 7 days a week and is responsible for monitoring the project outside of normal working hours of the on-site O&M personnel.