Bluestone Wind Project

Case No. 16-F-0559

1001.12 Exhibit 12

Construction

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EXHIBIT 12 CONSTRUCTION

(a) Preliminary Quality Assurance and Quality Control Plan

The Applicant has developed a preliminary construction-related Quality Assurance and Quality Control Plan (Preliminary QA/QC Plan) based on its general experience and on quality assurance and quality control plans developed in conjunction with construction of other wind farms. See Appendix P for a copy of the Preliminary QA/QC Plan. The Plan is designed to convey basic QA/QC procedures, guidelines, and instructions that must be followed by all employees, consultants, and contractors involved in construction of the Facility. The Preliminary QA/QC Plan will be provided to the Balance of Plant (BOP) contractor, who is responsible for the construction of the Facility and development of the Final Construction QA/QC Plan (Final QA/QC Plan). The Final QA/QC Plan is site specific and therefore cannot be developed until the BOP contractor has been selected and construction of the Facility is proceeding. The Applicant is willing to condition the Certificate on submission of the Final QA/QC Plan to the Siting Board within 30 days prior to the start of construction.

The key components of the QA/QC program are summarized below.

(1) Statement of Authority and Responsibility

Effective quality systems are essential when developing, constructing, and operating wind powered electricity generating facilities. Therefore, it is the policy of the Applicant, its contractors, and affiliates to adhere strictly to this quality control program for the Facility. Full authority for the implementation and administration of the quality controls described below and in the Preliminary QA/QC Plan (see Appendix P) has been delegated to the Quality Control Manager (QCM). The QCM has the responsibility and organizational freedom to identify quality control problems, stop work, recommend solutions, and verify resolution of problems. The QCM also has the responsibility for documenting that the QA/QC procedures and instructions comply with generally accepted industry standards, federal, State, and local regulating authorities, and Facility-specific specifications and standards established by the Applicant.

Construction Site Managers are responsible for their assigned construction-related QA/QC activities. Although Construction Site Managers may delegate the performance of their assigned duties to qualified individuals, they retain full responsibility for ensuring that construction of the Facility is completed in strict accordance with QA/QC Plan set forth for this Facility.

The quality of all subcontractors and vendors will be the joint responsibility of the QCM and the appropriate Construction Site Manager. Construction of the Facility will be executed in a manner that emphasizes safety, quality, environmental responsibility, schedule, and cost effectiveness.

(2) Organization

The Applicant is responsible for defining and documenting its policy and objectives for, and commitment to, quality and for ensuring that its policy is understood, implemented, and maintained at all levels of the organization. All employees are responsible for considering the QA/QC implications of their jobs and for identifying potential QA/QC concerns. Where a problem is identified, resolution of that problem will flow through a chain of organization identified in the Final QA/QC Plan.

In addition, it is the responsibility of any employee that manages, performs, or verifies work affecting quality to initiate action to prevent the occurrence of work or service nonconformity; identify and record any quality problems; initiate, recommend, or provide solutions through designated channels; verify the implementation of solutions; and control further processing, delivery, or installation of non-conforming work until the deficiency or unsatisfactory condition has been corrected.

(3) Safety

See Exhibit 18 for information on site safety.

(4) Quality Assurance Program

The Applicant's Preliminary QA/QC Plan is a controlled document. A reference copy is available to all employees through their immediate supervisor.

The Applicant's Quality Assurance program, as outlined in the Preliminary QA/QC Plan, and any program set forth by any approved BOP Contractor working on behalf of the Applicant, will consist of the following key components;

a) Established QA/QC procedures and instructions that comply with generally accepted industry standards, federal, State, and local regulating authorities, and the Facility-specific specifications and standards established by the Applicant;

b) Identification and timely issuance to the Facility team of any required controls, processes, inspection equipment, fixtures, tools, and materials needed to properly construct the Facility;
c) Assurance that personnel have required labor skills;
d) Updating, as necessary, of quality control, inspection, and testing techniques, including the development of new methods and procedures, as necessary;
e) Identification of any commitments made that exceed available resources in sufficient time to properly acquire the required resources;
f) Clarification of the standards of acceptability as required to support the overall QA/QC program;
g) Review of the Facility process, construction, installation, inspection, and test procedures to ensure that applicable documentation reflects how activities are performed; and
h) Effective maintenance of quality records to document and track performance and improvement.

(5) Facility Communication

The Applicant will provide adequate resources and trained personnel as needed to promote the communication of QA/QC plans and procedures through the organization. Communication will flow through the chain of command outlined in Section (a)(2).

(6) Document Control

Facility-specific QA/QC procedures and instructions for individual activities are maintained by the QCM and issued to Construction Site Managers as controlled documents. It is the applicable Construction Site Manager's responsibility to ensure QA/QC procedures and instructions for specific activities are conveyed to the individuals or subcontractors performing the specified tasks.

Prior to the commencement of construction, a "Facility Job File" will be created. This file will contain a complete set of all Facility-related contract documents, specifications, drawings, etc. All information generated during the life of the Facility will be maintained in this job file in accordance with the Preliminary QA/QC Plan (see Appendix P).

(7) Control of Client/Customer Supplied Material and Services

The Preliminary QA/QC Plan provides a basis for the review of materials and services that are either delivered by, or provided to, the Applicant. Conformance to specified requirements can be confirmed or confuted while

providing certainty to management, agencies, and stakeholders. Proper control of materials and services will include:

a) Adequately defined and documented requirements and acceptance specifications of the Applicant;
b) Documented quality system procedures and instructions to ensure that all activities are performed in accordance with established requirements;
c) Effective management support to ensure compliance and the use of the QA/QC procedures and instructions; and
d) Client/Customer interfaces, communications, and review meetings that are well-defined, documented and maintained for future reference.

(8) Inspections and Test Control

All materials and equipment will be inspected and tested to ensure conformance with the Facility requirements before they are released for use. Verification that all items conform to specified requirements of the QA/QC Plan will be documented and filed in a QA/QC file established for this purpose. In determining the amount and nature of inspections, consideration will be given to the control exercised at the manufacturing source and documented evidence of quality conformance provided from the supplier.

During Facility construction, the Applicant in coordination with the BOP contractor will ensure:

a) Inspection and testing activities are performed in accordance with the QA/QC Plan and documented procedures;
b) Established process monitoring and control methods are used to ensure specification and drawing conformance;
c) Required inspections and tests have been completed and necessary reports have been received and verified before the finished work is released to the Applicant; and
d) Non-conforming work is identified and corrected.

Any accepted Facility-specific BOP contractor QA/QC programs will include documented procedures for final inspection and testing requirements, including those specified either by established quality procedures or the Applicant.

The Applicant in coordination with the BOP contractor will ensure that all final inspections and testing activities are completed in accordance with the QA/QC Plan, Facility-specific BOP contractor QA/QC programs, and other

documented procedures. Upon completion, all associated data and documentation will be properly filed in the Facility QA/QC file.

(9) Non-Conformance Reporting

The Applicant in coordination with the BOP contractor will ensure that all materials, products, equipment, and workmanship that are furnished, installed, and/or delivered to the Applicant meet Facility specifications. Any non-conforming products, equipment, materials, or items of work will be documented, recorded and reported to the Applicant immediately. Proper notification to the Applicant of any unsuitable materials, equipment, configuration issues, design issues, design calculation errors, or workmanship will be subject to non-conformance reporting procedures, which are further described in the Preliminary QA/QC Plan (see Appendix P).

(10) Corrective and Preventive Action and Continual Improvement

The established QA/QC policies and procedures will be reviewed at appropriate intervals by management to ensure continuing suitability and effectiveness. These reviews will include assessment of the results of internal audits and overall conformance to the Applicant's requirements and expectations (see also Section (a)(12)). Records of such reviews and audits will be maintained.

The QA/QC program is a process of continuous improvement which requires input from everyone in the Applicant's organization. The Applicant will comply with the program and endeavor to improve the process where possible.

(11) Documentation

See Section 12(a)(6) for a description of documentation.

(12) Field Audits and Surveillances

Field audits and surveillance are critical elements of the QA/QC Plan. Conducting field audits provides a means of reviewing established QA/QC procedures to ensure ongoing suitability and effectiveness. Additionally, field audits are necessary to:

a) Verify the manner of executing the work to ensure that an acceptable level of safety and quality is maintained;
b) Monitor and control suitable process and work characteristics during execution of the work;
c) Establish or review criteria for workmanship which will be stipulated, to the greatest practicable extent, in written standards or by means of representative samples; and
d) Provide clear identification of the required approval processes.

Field surveillance is integral to the QA/QC process since certain aspects of work cannot be fully verified by subsequent inspection and testing. Accordingly, continuous monitoring through surveillance provides a means of verifying compliance with documented procedures and/or specifications.

(13) Security

See Exhibit 18 for information on site security.

(14) Environmental Compliance Monitoring Program

The Applicant is committed to developing and operating the Facility in a safe and environmentally responsible manner. The Environmental Compliance Monitoring Program to be implemented by the Applicant is described in full in the Environmental Compliance and Monitoring Plan (Appendix Q). In brief, the program involves; a) appointment of a qualified independent third-party as an environmental monitor, b) preparation of an Environmental Compliance Manual by the environmental monitor, c) mandatory environmental training of all contractors by the environmental monitor, d) pre-construction coordination between the environmental monitor and all contractors, and e) daily inspection of construction and restoration work by the environmental monitor.

(15) Public Notification Regarding Construction Activities

In the planning phases of this Facility, general Facility information will be posted on the Applicant's website and communicated in local town hall meetings, as appropriate. Facility information will be regularly posted on the website during the construction phase. Posted information will include the anticipated construction schedule, transportation routes and traffic control measures, and all other appropriate safety and security measures as needed. See the Complaint Resolution Plan at Appendix R for additional information regarding project notification and complaint receipt/resolution procedures.

(b) Conformance with Public Service Commission Requirements

(1) Protection of Underground Facilities

The Applicant affirms its intent and obligation of its contractors to conform to the requirements of the New York State Public Service Commission's regulations regarding the protection of underground facilities contained in Public Service Law §119-b, as implemented by 16 NYCRR Part 753. In keeping with that obligation, the Applicant will become a member of Dig Safely New York and require all contractors, excavators, and operators associated with its facilities to comply with these requirements.

All Facility construction and maintenance work that requires excavation will follow the One Call process with Dig Safely New York. This process helps prevent damage by alerting the excavator to the locations of underground utilities, including electric, gas, oil, stream, water, sewer, and communication lines. The excavator flags the area to be excavated and provides information to Dig Safely New York about the company performing the excavation, the duration of the job, the locations of digging, the depth of excavation, and other information. Dig Safely New York members, who are utility operators, respond to the request either by noting that the area is clear, or by providing the locations of their facilities. These facilities are then marked above ground, and either avoided or protected during the excavation. If an underground facility cannot be avoided and must be exposed, the excavator will provide proper support and protection so that the facility is not damaged. Upon completion of work, the excavator backfills around any exposed utilities.

The Applicant has consulted with local municipalities and no underground facilities, such as public water or sewer lines, were identified near proposed ground disturbances.

(2) Pole Numbering and Marking Requirements

The Applicant affirms its intent to require all contractors to comply with pole number and marking requirements, as implemented by 16 NYCRR Part 217.

(c) Plans to Avoid Interference with Existing Utility Systems

There are few public utility systems with which the Facility may interfere because the Facility is in a rural area. The Applicant has reviewed publicly available databases[1] and consulted with local municipalities and other stakeholders

[1] Information on the location of natural gas and oil wells was acquired from the database maintained by the New York State Department of Environmental Conservation (NYSDEC) Division of Mineral Resources. Information on the location of pipelines was obtained from publicly available data sources, including historic and current U.S. Geographical Survey (USGS) topographic maps (National Geographic Society, 2013; NYS Office of Information Technology Services, 2017), U.S. Department of Transportation (USDOT) planimetric maps (NYS Office of

to identify major utility systems within the Facility Site. In reviewing publicly available databases, the Applicant identified the following utility systems within the Facility Site: two natural gas pipelines, one owned by Millennium Pipeline Co., LLC and one owned by the Bluestone Gas Corporation; one 115 kV transmission line owned by New York State Electric and Gas (NYSEG);[2] and multiple overhead electric distribution and telecommunications lines. No other existing utility systems were identified within the Facility Site in consultation with local municipalities and other stakeholders. Note, the proposed Constitution Pipeline—a natural gas pipeline proposed to be constructed by Constitution Pipeline Co.—also intersects the Facility Site. Measures to avoid interference with this proposed pipeline's cathodic protection system are discussed in this section.

Plans to avoid interference with existing utility systems are outlined below. These plans are based on consultation with these utilities, standard requirements, and best management practices (BMPs). Note, however, that consultations with the utilities and participating landowners are ongoing; accordingly, the specific procedures for avoiding interference with utilities may change as construction details are finalized.

(1) Pipelines

The Applicant has made efforts to site turbines away from gas pipelines within the Facility Site and has established a minimum setback from these lines of 808 feet (1.2x fall zone). See Exhibit 6 for additional information regarding setbacks.

The Applicant has consulted with the Millennium Pipeline Co., LLC, an energy company that has a natural gas pipeline crossing the Facility Site—the Millennium Pipeline. Facility collection lines will cross the Millennium Pipeline in two locations and will be located adjacent to the Millennium Pipeline right-of-way (ROW) for several miles (see Figure 4-3). The Applicant will cross the pipeline at 90 degrees and will underbore the entire width of the pipeline easement width using Horizontal Directional Drilling (HDD). Facility access roads will cross the pipeline at four locations. For each of these locations, the Applicant will obtain accurate pipeline depth information and will design the road to ensure sufficient coverage over the

Information Technology Services, 2017), U.S. Energy Information Administration (USEIA) dataset of major pipelines in the United States (USEIA, 2017), and National Pipeline Mapping System (NPMS) (USDOT, 2017). Information on the location of both overhead and underground electrical utility lines, and existing substations, was acquired from historic and current USGS topographic maps (National Geographic Society, 2013; NYS Office of Information Technology Services, 2017), USDOT planimetric maps (NYS Office of Information Technology Services, 2017), the USEIA dataset (USEIA 2017), and satellite and aerial imagery (Earthstar Geographics, 2009).

[2] DTE Energy (Bluestone Pipeline Company is a subsidiary of DTE Energy), Millennium Pipeline Co., LLC, Constitution Pipeline Company, and NYSEG were included in the stakeholder list for the Public Involvement Program (PIP). These utilities have received and will continue to receive notifications on the Facility through implementation of the PIP and Article 10 regulatory notifications.

pipeline with appropriate materials. A soil bubble and/or heavy timber matting will be used whenever construction or other heavy equipment crosses the pipeline on Facility access roads. Note that although the Applicant is locating collection lines adjacent to the Millennium Pipeline ROW, direct collocation is not possible because the Applicant has not secured rights to the ROW. Facility access roads will be collocated with existing pipeline access roads, where the Applicant has legal access, reducing new road construction and thus impacts to sensitive resources (e.g., forests).

The Applicant has consulted with the Bluestone Gas Corporation, an energy company that has a natural gas pipeline crossing the Facility Site—the Bluestone Pipeline. Pipeline crossing requirements for the Bluestone Pipeline mirror those of the Millennium Pipeline, for both collection lines and access roads. Facility collection lines will cross the Bluestone Pipeline at two locations and will be located adjacent to the Bluestone Pipeline ROW for one-half mile (see Figure 4-3). Facility access roads will cross the pipeline at one location. Note, as with the Millennium Pipeline, the Applicant is locating collection lines adjacent to the Bluestone Pipeline ROW. Direct collocation is not possible because the Applicant has not secured rights to the ROW.

The Applicant has consulted with the Constitution Pipeline Company, an energy company that has proposed a natural gas pipeline that would cross the Facility Site. The proposed pipeline would cross three Facility collection lines in one location. Any cathodic protection measures required at these crossings will be discussed prior to the construction of the pipeline and will be implemented by the Applicant and/or the pipeline company concurrent with construction.

(2) Transmission and Distribution Lines

The Applicant has been coordinating with NYSEG, which owns the Afton to Stilesville 115 kV transmission line and many distribution lines within the Facility Site. Discussions to date have focused on the point of interconnection (POI) for the Facility and substation design standards. Through this coordination, the Applicant has identified the following measures to be implemented at the POI site:

1) Tree plantings around the substation will be minimized and the planting plan will conform to NYSEG standards (see POI Site Plans, Appendix H)
2) Specific design measures—detailed in the Preliminary Design Drawings (see Exhibit 11)—will be implemented at the POI; and
3) Timing coordination will occur to minimize interference with this utility.

Across the Facility Site, Facility collection lines will cross NYSEG distribution lines in 25 locations and Facility access roads will cross NYSEG distribution lines in eight locations. As all Facility collection lines will be below ground and all NYSEG distribution lines are above ground, no interference between Facility collection lines and NYSEG transmission and distribution lines is anticipated and no interference avoidance measures have been identified by NYSEG. Regarding Facility access roads, the following measures will be taken to ensure that existing utility transmission and distribution lines are not interfered with:

1) Field information will be collected prior to the transport of oversize/overweight (OS/OW) vehicles through the Facility Site to determine the height of the transmission and distribution lines along proposed haul routes. This information will be used to develop mitigation measures where necessary to avoid interference (see Exhibit 25 and the Appendix AAA Route Evaluation Study for additional information on this topic); and
2) Design software with the anticipated vehicle delivery configuration will be used to ensure OS/OW vehicles do not interfere with transmission or distribution poles. Any issues will be identified in advance and any mitigation necessary will be coordinated with the utility owner.

These measures and other details regarding coordination between the Applicant and NYSEG are discussed further throughout Exhibits 5 and 34.

(3) Telecommunications

The Applicant has worked to coordinate with the telecommunications utilities that have distribution lines within the Facility Site. Telecommunication distribution lines within the Facility Site appear to be carried entirely overhead. As with overhead transmission and distribution lines, no interference between these lines and Facility access roads and collection lines is anticipated and no interference avoidance measures have been identified. Potential interference between overhead telecommunication lines and OS/OW vehicles travelling through the Facility Site will be mitigated using the same measures outlined for and transmission and distribution lines in Section (c)(2).

(4) Other Utilities

The Applicant's review of publicly available information has not identified any other utility systems within the Facility Site. XTO Energy owns one gas well within the Facility Site. However, based on the NYSDEC spatial data, it was determined that this well, along with several other wells near the Facility Site, are inactive and have had their fees refunded. As these utilities are not active, consultation and coordination to avoid impacts is not necessary.

The Applicant will continue to work with participating landowners to help identify the location of utilities on their properties. In addition, prior to construction, the BOP contractor will be required to conduct a One Call service to verify the extent and known location of utilities. This effort will include a confirmation of utility response through the Dig Safely New York system. The BOP contractor will also be required to mark out any locations of planned excavation. This will ensure that both the Facility excavation and existing utilities are marked to determine any conflicts. Should conflicts with existing utilities arise during the One Call process, the Applicant will microsite Facility components and/or work with the utility to avoid and minimize impacts to existing utilities (e.g., installing mats, dirt pads, or other protective materials for gas line crossings). Post-construction, the Applicant will register with One Call to alert others to the location of its buried collection lines and thus ensure that the lines are not impacted by future utility work.

For all utilities within the Facility Site and those in proximity to Facility Site boundaries, the Applicant has committed to siting Facility wind turbines at specific setback distances. Adherence to these setbacks will prevent interference between Facility components and existing utilities. A list of these setbacks in relation to relevant utility infrastructure is provided below:

- Substations: 841 feet (1.25x fall zone[3])
- Transmission lines (115 kV and greater): 841 feet (1.25x fall zone[3])
- Natural gas pipelines: 808 feet (1.2x fall zone)

(d) Procedures for Addressing Public Complaints and Disputes

The Applicant has developed a Complaint Resolution Plan (see Appendix R) to establish a process for receiving and responding to public complaints, including noise-related complaints, during construction and operation of the Facility. This Complaint Resolution Plan includes the following components:

- Steps for informing the public about the Complaint Resolution Plan and the process for filing a complaint (i.e., written, electronic and oral).
- A description of the complaint response program, including complaint receipt and verification, resolution development and implementation, and complaint follow-up. This program also includes anticipated timeframes, and the actions the Applicant will take if the complaint remains unresolved.

[3] The fall zone or fall-down distance is an area with a radius equal to the maximum blade tip height, i.e., the height of the turbine, measured from the base of the tower to the tip of the blade oriented in its highest position. For example, a turbine with a maximum blade tip height of 500 feet would have a "fall zone" with a radius of 500 feet.

- Procedures or protocols that are unique to each phase of the project (i.e., construction and operation) and to the specific type of complaint (e.g., noise, stormwater, fugitive dust, blasting, shadow flicker, and communications interference).
- Procedures for documenting receipt and processing of complaints, including preparation of a complaint log and transmittal of complaints, updates, and resolutions to New York State Department of Public Service (DPS) staff.

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