

# **Heritage Wind Project**

**Case No. 16-F-0546**

**1001.12 Exhibit 12**

**Construction**

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## EXHIBIT 12 CONSTRUCTION

### (a) Facility Execution Plan

The Applicant has developed a Facility Quality Assurance and Quality Control (QA/QC) Plan based on its general experience and on existing QA/QC plans for its parent company's operational wind facilities. See Appendix 12-A for a copy of the Preliminary Facility 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 Facility 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). At that point, the specific staffing positions and qualifications of the individuals/entities responsible for demonstrating how the Applicant will monitor and assure conformance of Facility installation with all applicable design, engineering and installation standards and criteria will be identified. 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 quality of all subcontractors and vendors will be the joint responsibility of the Quality Control Manager (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. The key components of the Facility Execution Plan 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 Facility QA/QC Plan (see Appendix 12-A) has been delegated to the QCM, who 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 Plans and guidelines 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) Facility 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 the organizational chain of command 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) Quality Assurance Program

The Applicant's Quality Assurance program, as outlined in the Facility 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 and labor skills needed to properly construct the Facility;
- c) Updating, as necessary, of quality control, inspection, and testing techniques, including the development of new methods and procedures, as necessary;

- d) Identification of any commitments made that exceed available resources in sufficient time to properly acquire the required resources;
- e) Clarification of the standards of acceptability as required to support the overall QA/QC program;
- f) Review of the Facility process, construction, installation, inspection, and test procedures to ensure that applicable documentation reflects how activities are performed; and
- g) Effective maintenance of quality records to document and track performance and improvement.

#### (4) Facility Communication

The Applicant and management personnel will provide adequate resources and trained personnel as needed to promote the communication of QA/QC plans and procedures through the organization. Requirements for inspection, testing or monitoring processes, and audits of the QA/QC Plan will be communicated to all personnel associated with the construction, operation, and maintenance of the Facility.

#### (5) Document Control

Facility-specific QA/QC procedures and instructions for individual activities will be maintained by the QCM and issued to Project Managers as controlled documents. It is the applicable Project 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 both paper and electronic formats. A complete set of all documents required for proper execution of the work will be maintained at the Facility Site. Any revisions made to these documents will be immediately forwarded to the Facility Site for use while executing the Project.

#### (6) 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 to, or provided to, the Applicant. Conformance to specified requirements can be confirmed or refuted 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.

(7) Inspections and Test Control

All materials and equipment will be inspected and tested before they are released for use to ensure conformance with the Facility requirements. 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 by 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.

(8) 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 12-A).

(9) Corrective and Preventive Actions

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.

(10) 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.

(11) 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 12-B 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 regarding the locations of buried infrastructure (i.e., water lines). Based on a review of a map dated November 2017 provided by the Town of Barre of local water districts that indicates approximate locations of buried water lines, ground disturbance are anticipated to occur at a few



locations within close proximity to local water infrastructure (see Section (c)(4) below). However, at these locations, impacts will be avoided by through implementation of the following:

- Coordination with local water department(s) prior to construction to confirm avoidance to valve boxes or hydrants;
- Coordination of trenchless technologies along roadsides so that these extend beyond location of water lines; and
- Confirmation of water lined depth prior to construction to avoid impacts.

See Section (c) for additional information.

## (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

The Applicant has reviewed publicly available databases and consulted with local municipalities and other stakeholders to identify major utility systems within the Facility Site.<sup>1</sup> In reviewing publicly available databases, the Applicant identified the following utility systems within the Facility Site: one 115 kV transmission line owned by National Grid, multiple overhead electric distribution and telecommunications lines, and municipal water lines within various Town of Barre Water Districts.

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.

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<sup>1</sup> 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 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).

(1) Gas Pipelines

The nearest natural gas pipeline is located over 2 miles from the Facility Site (see Exhibit 4); therefore, this section is not applicable.

(2) Transmission and Distribution Lines

The Applicant has been coordinating with National Grid, which owns the Lockport-Mortimer 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. Additional details regarding coordination between the Applicant and National Grid are discussed throughout Exhibits 5 and 34.

Facility collection lines and access roads cross National Grid distribution lines and the Lockport-Mortimer 115 kV transmission line in several locations. In these locations, the Applicant will comply with National Grid standards and coordinate as needed to ensure that existing distribution lines are not interfered with.

(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 oversized/overweight vehicles travelling through the Facility Site will be mitigated using the same measures taken to avoid interference with transmission and distribution lines outlined above.

(4) Municipal Water Lines

Based on a review of mapped water district information provided by the Town of Barre, the Applicant has identified 13 locations where proposed ground disturbance is located in close proximity to municipal water lines. See Table 12-1 below for a listing of these activities.

**Table 12-1. Location of Proposed Work Near Local Water Infrastructure**

Type of Disturbance	Water District No.	Associated Roadway
Collection line crossing and access road	6	Root Rd
Collection line crossing and access road	6	Gillette Rd
Collection line crossing	4 Ext	W Barre Rd
Collection line crossing	1	State Rt 98

Type of Disturbance	Water District No.	Associated Roadway
Collection line crossing and access road	3	Oak Orchard Rd
Collection line crossing	3	Oak Orchard Rd
Collection line crossing and access road	3	Culver Rd
Collection line crossing	3	Culver Rd
Collection line crossing	4	E Barre Rd
Collection line crossing	3	E Barre Rd
Access road	3	State Rt 31A
Access road	1	State Rt 98
Access road	4 Ext	Maple St

Municipal water lines are primarily located within road rights-of-way (ROWs), situated more than 5 feet below grade. As a result, turbine locations will not conflict with water lines. At certain locations, ground disturbances near water lines may occur as a result of installing temporary or permanent access roads and/or buried collection lines. Crossings will comply with local water department regulations. Impacts will be avoided as described above in section (b)(1).

(5) Other Utilities

The Applicant’s review of oil and gas wells from the NYSDEC Division of Mineral Resources identified one dry, wildcat well<sup>2</sup> within the Facility Site. The well is located over 1,100 feet from the nearest turbine and over 75 feet from the nearest collection line. Given that the NYSDEC has identified this is a dry exploration well, and the distance from site work, no impact is anticipated.

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 contractors follow the One Call process through Dig Safely New York to verify the extent and known location of utilities. 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, etc.). 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 In Exhibit 6(a):

<sup>2</sup> A general term for a well drilled in an unproven area. Also known as an “exploration well”.

(d) Procedures for Addressing Public Complaints and Disputes

The Applicant has developed a Complaint Resolution Plan (see Appendix 12-B) 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:

- Communications protocol and contacts for construction, operation and decommissioning, including how contact information will be disseminated to the public;
- A description of the complaint reporting process;
- A description of the complaint response program, including complaint identification, investigation and response procedures;
- 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 staff and the Town of Barre.

## REFERENCES

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