

# **Heritage Wind Project**

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

**1001.29 Exhibit 29**

## **Site Restoration and Decommissioning**

## EXHIBIT 29 SITE RESTORATION AND DECOMMISSIONING

(a) Performance Criteria

The Applicant anticipates the projected life-span for the Facility is 25 or more years with the potential for repowering the turbines. In the event the Facility ceases operations without expectation of returning to operation, or if the initial construction cannot be completed, the Facility will be decommissioned per the Decommissioning Plan and Decommissioning Obligation Cost Evaluation (Decommissioning Plan), a draft of which is included with this Application as Appendix 29-A.

Should decommissioning be required, it will be conducted in accordance with the following performance standards/criteria:

**Table 29-1: Decommissioning Performance Criteria**

Consideration	Performance Standard or Criteria
Safety and Removal of Hazardous Conditions	Decommissioning will be conducted in accordance with the construction-related Emergency Action Plan and Site Security Plan, as relevant, to ensure the safe removal of Facility components.
Environmental Impacts	The Applicant commits to using existing roads and infrastructure at the Facility Site to the maximum extent practicable. As a result, no or minimal new environmental impacts are anticipated from decommissioning. To address stormwater concerns, the Applicant will comply, as needed, with the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity, GP-0-15-002, or its successor, and will implement appropriate soil and erosion control best management practices to avoid impacts to local surface waters. The Applicant also will implement appropriate dust control measures to minimize impacts from fugitive dust.
Aesthetics	Upon decommissioning, the landscape character of the Facility Site will be restored by removing the aboveground structures and restoring the land as detailed in this Exhibit 29 to the

Consideration	Performance Standard or Criteria
	maximum extent practicable. As such, no specific aesthetic criteria are required.
Salvage and Recycling	Turbines and other major wind energy facility components are constructed of various metals and so have significant salvage value. Under certain circumstances, these components also can be sold for reuse. The Applicant will sell for reuse or salvage/recycle Facility components to the maximum extent practicable. See Section (b) below for an additional discussion of salvage issues.
Potential Future Uses for the Site	The Applicant will perform decommissioning in a manner consistent with the allowed future intended use of the parcels within the Facility Site. All underground components (i.e., foundations and collection lines) will be removed to 48 inches consistent with New York State Department of Agriculture and Markets (NYSDAM) requirements/guidelines for agricultural lands.
Useful Life of the Facility and Repowering	Life span is assumed to be 25 or more years.

(b) Decommissioning and Restoration Plan

The Decommissioning Plan addressing the decommissioning process, schedule and funding, including a detailed cost estimate, is included as Appendix 29-A. As previously stated, megawatt-scale wind turbine generators typically have a life expectancy of approximately 25 years or longer. The current trend in the wind energy industry has been to replace or “re-power” older wind energy projects by upgrading existing equipment with newer, more efficient turbines. The performance criteria applicable to decommissioning set forth in Section (a) above would also be applicable to re-powering.

If the Facility is not re-powered via upgrading or if one or more turbines are non-operational for 12 months with no expectation of their returning to operation, the non-operational turbines will be decommissioned within 6 months of that determination in accordance with the Decommissioning Plan, unless a longer period is otherwise agreed to by the Town and New York State Department of Public Service (DPS) staff or unless the Applicant demonstrates to the Town and DPS staff that it has been making good faith efforts to restore the turbine to an operable condition.

Decommissioning will consist of the following activities:

- All aboveground structures, including turbines, blades, nacelles, towers, transformers, aboveground collection cables and poles, permanent meteorological towers, and the collection substation, including the storage batteries, will be disassembled and transported off-site for reuse, recycling, reclamation, sale, or disposal.
- The point of interconnection (POI) substation, which will remain be owned and operated by National Grid following construction, will remain in place.
- Foundations and collection lines buried above a depth of 48 inches will be removed; however, portions of the foundations that are 48 inches or more below grade will be left in place, provided the decision does not violate any permits or legal requirements.
- Crushed rock surfacing will be removed from the Facility's access roads; however, the Applicant may allow access roads to remain in place upon receipt of written approval by the landowner.
- The Applicant will own the property on which the O&M building will be located and may elect to retain the building or sell it with the land.
- Batteries, transformers, and other equipment and materials will be removed and disposed of in accordance with applicable federal, State and local requirements.
- Ground disturbance during decommissioning will be minimized to the extent practicable and the site will be restored to its original ground contours to the extent practicable. Soils stockpiled during site restoration will be used in the restoration and not transported off site. Vegetation will be re-established using a native seed mix. With respect to agricultural land, including drainage tiles, the Applicant will restore the land in accordance with the NYSDAM's 2018 *Guidelines for Agricultural Mitigation for Wind Power Projects* to the maximum extent practicable.

In addition to providing detailed information concerning the site decommissioning process, the Decommissioning Plan includes:

- A detailed estimate to support proposed decommissioning site restoration and funding upon cessation of operation of the Facility based on the expected turbine model(s) to be used and actual decommissioning costs from other similar projects, to the extent available.
- A procedure and timeframe for providing written notice to the Town of Barre and potentially impacted landowners concerning site decommissioning and restoration activities. As set forth in the Plan, the Applicant will provide written notice to the Town and potentially impacted landowners two weeks prior to the start of decommissioning activities
- A schedule for completion of site decommissioning and restoration activities.

The Applicant plans to enter into a Road Use Agreement (RUA) with the Town and County for delivery of turbine components. The provisions of the RUA will also apply to the decommissioning of the Facility in order to ensure that roads are adequately restored to their pre-decommissioning condition upon completion of decommissioning activities. Consultation with the Town and County Highway Departments prior to commencement of decommissioning activities will be included in the RUAs to address future changes in transportation patterns.

The Applicant proposes that financial security be provided in the form of a letter of credit, guarantee, bond, cash escrow, or other form reasonably satisfactory to the Town (the "Security") to be held by the Town of Barre. Information concerning how the amount of the financial security will be established and updated is contained in the Decommissioning Plan included as Appendix 29-A. Generally, the Security will be in an amount equal to the Net Removal Cost. To determine the Net Removal Cost, the Company shall choose a licensed professional engineer with knowledge of the operation and decommissioning of wind farms. The Professional Engineer will determine the removal cost per turbine times the total number of decommissioned turbines minus the estimated resale or salvage value of any Project equipment included in the Decommissioning (the "Net Removal Cost"). The Security will stay in place until the Decommissioning of all of the turbines in the Project is complete; provided that in the event Decommissioning of a turbine is completed prior to the remaining turbines in the Project, the Security will be reduced by the amount applicable to such turbine.

In estimating site decommissioning costs, the Applicant has considered the salvage value of the turbines and certain other equipment. Each turbine contains a significant amount of salvageable metals and other materials/equipment. Accordingly, salvage value has been included in the estimates to offset the cost of decommissioning and demolishing the Project. The Decommissioning Plan included at Appendix 29-A includes scrap data from the American Metal Market (AMM), which was applied to the steel, copper and aluminum quantities estimated to be generated from decommissioning the Project to obtain an approximate salvage value. In preparing the cost estimate for the Heritage Wind project, the scrap value used was based on an average of monthly AMM prices for October 2018 through September 2019 (i.e., one calendar year). These values include the cost to haul the scrap via truck and/or rail to the major market which provided the best price.

To further ensure that the estimate is sufficiently conservative, it includes a 10% contingency factor. The contingency is included to address variability in pricing based on scrap pricing, labor rates, and unit pricing.

An updated cost estimate will be prepared as a compliance filing and condition of the Article 10 certificate prior to commencing construction of the Facility based on the final Facility design and turbine selected. The decommissioning

estimate will be prepared on a per-turbine basis by an independent and registered engineer, licensed to practice engineering in the State of New York. The estimate will be submitted to DPS staff and the Town for review to ensure consistency with the methodology approved in this Application. After the first year of operation, an independent and registered engineer will prepare an updated cost estimate, with a new estimate prepared every five years thereafter until the Facility is decommissioned and site restoration is complete. New financial security will be issued based on the cost estimates.

In light of the significant salvage value of the turbines, financial security will be based on the costs of decommissioning and restoration less the salvage value of the turbines. To address the potential fluctuations in the value of the salvaged materials, the Applicant will deduct the average salvage value for each of the metals measured over the 5-year period preceding the preparation of the cost estimate from the total decommissioning and site restoration costs. In addition, the Applicant will add an additional contingency factor of 10% to the net cost. Although other materials may also have scrap value (most notably the substation and O&M building), the scrap value of these materials will not be included in estimating decommissioning costs for purposes of establishing the value for the financial security.

As a review of past scrap metal costs, even during times when scrap prices are comparatively low, the metals in the turbines have significant value. The conservative approach to determining future costs outlined above will ensure that the costs of decommissioning and restoration are fully covered by the financial security issued to the Town.

(c) Description of Decommissioning/Restoration Agreements between Applicant and Landowners

All Facility components will be located on private land under lease agreement with the landowners, and all leases with private landowners contain a provision on decommissioning. Although the specific terms of these lease agreements, including the decommissioning provisions, are confidential, decommissioning will involve the removal of all above and below ground Facility components consistent with the discussion in Sections (a) and (b) above. The Applicant may allow access roads to remain in place upon receipt of written approval by the landowner. Also, the POI substation will be owned and operated by National Grid following construction and will not be decommissioned with the remainder of the Facility. Finally, the Applicant will own the property on which the O&M building will be located and may elect to retain the building or sell it with the land.

(d) Nuclear Power Facilities

This section is not applicable and therefore is not addressed in this Article 10 Application.