SECTION 29 DECOMMISSIONING PLAN

A. Introduction

Modern, utility-scale wind turbines are designed and certified by independent certifying bodies for a minimum expected operational life of 20 years.[33]

Turbine components all come with a full manufacturer's warranty for at least 2 years after commissioning, and the Applicant may elect to extend the warranty for a longer period. Vestas wind turbines have been independently certified to have a useful life of at least 20 years (see Section 27 [Public Safety]).

A proactive maintenance program will ensure that the turbines are in working order for at least the 20 years of their expected lives. This is in fact required by banks or other financial institutions that provide debt (Lenders) throughout the term of the bank loan (typically 12–15 years) to ensure that the Project repays its debt; and it also is in the best interest of the Applicant to utilize the full operational lifespan of each wind turbine. In addition, the Project is expected to enter into a long-term (15–20 years) contractual obligation with one or more electric utilities to produce electricity under a Power Purchase Agreement (PPA). The PPA will define the power price over the life of the contract, which will be higher than the cost of owning and operating the Project. After the term of the PPA, it will remain economic to keep the turbines operating until the end of their useful lives because wind turbines have low fixed operating costs (approximately $0.015 – $0.030 per kilowatt-hour generated—well below the average market price for electricity and Renewable Energy Credits). When the turbines do reach the end of their lifespans the Applicant may choose to decommission the entire Project or replace the turbines with new technology.

The Project will be funded through a combination of debt financing and private investment, and the financing will be secured by the Project's assets. As part of the financing process, banks and investors perform exhaustive due diligence before funding a project, and all the project's contracts, risks, and potential downsides are thoroughly evaluated prior to closing. Financing entities will review all aspects of the Project: expected power generation and the studies that were conducted to estimate this value; the PPA terms and the financial strength of the entities promising to purchase power; electrical interconnection agreements, and any transmission conditions that may impede Project generation; all Project permits; certification and past performance of the specified turbines; foundation design; electrical system design, including grid interconnection; and all manner of contracts involved in the Project. In addition, the Project will carry property insurance with coverage for damage due to weather or other unforeseen events, including business interruption insurance, which protects against a loss of revenue while the Project is undergoing repairs after an insured event.

The PPA, the Project's permits, contracts and agreements, and the overall strength of the Project's revenue stream serve as the guarantee for the financing entity. Lenders are risk averse, and they require cash flows that exceed debt payments by a pre-determined amount. This is called "debt service coverage," or "coverage." Coverage is calculated as revenue minus all operating expenses divided by the debt payment and is typically no less than 1.5, meaning that even if a project generates a third less coverage than estimated it can still cover its debt payment. In the highly unlikely event that a project fails to make its debt payments, and after a reasonable period fails to cure its default, the Lender has the right to take over the project to protect its investment. If a Lender steps in to cure a default, it has every incentive to bring in skilled personnel to operate the project, generate revenue and return the project to profitability. Because the loan balance is secured by the assets of the project, the Lender is in effect a backstop in the unlikely event that original management team fails to perform. In this way, these highly structured, project-

[33] Independent certifying bodies include engineering firms GLGH and Tuv Nord. Certifications are issued based on compliance with standards set by the International Electrical Commission.

financed entities, like, the Applicant, are more stable than a typical business exposed to the uncertainties of the marketplace over a period of 10–20 years.

The strength of the power purchaser also is an important indicator of a project's soundness. Entities that purchase large blocks of renewable power are almost exclusively utilities or other large, public or government entities with investment-grade ratings. Entities that are not rated would be required to post a letter of credit to the Project that would cover a period of lost revenue if that entity were to become insolvent. Finally, unlike pricing for other commercial goods, power pricing in PPAs for wind projects is typically a fixed or predefined price over the full term of the PPA, which gives both the Project and the Lender predictability in revenues.

In the highly unlikely event that a PPA counterparty becomes insolvent or fails to purchase power from the Project as stipulated in the PPA, the Project would continue to generate and sell electricity to a new offtaker or into the regional New England power pool at market prices. As previously noted, wind projects are extremely competitive because operating costs are low and because they have no fuel costs. This is a major advantage over competing sources of electricity generation in the spot market, and virtually guarantees that the Project will be able to sell power into the spot market if needed. This also is one of the reasons that wind power projects lower the overall cost of electricity prices in the wholesale power market. For both the reasons noted above and the dramatic improvement in turbine reliability over the past 30 years, there is an extremely low risk that the Project will not operate successfully throughout its useful life.

B. Trigger for Decommissioning

In accordance with Title 38 M.R.S. § 3455; 06-096 CMR 382(7) the Applicant will decommission the Project or individual turbines if electricity is not generated for a continuous period of 12 months except (1) in the case of a force majeure event; or (2) if the Applicant provides reasonable evidence that the Project has not been abandoned and should not be decommissioned. The Applicant will notify MDEP in writing within 2 days of when it determines that a turbine failure event will result in a turbine being offline for more than 6 months. If required, decommissioning will be completed within 12 months of notification to the MDEP. The Applicant may request an extension of time to repair or replace a turbine in accordance with 06-096 CMR 382(7)(E).

C. Description of Work Required

The decommissioning process will consist of removal of aboveground structures, removal of subgrade structures to a depth of 24 inches, and restoration of the affected areas (see Equipment Removal and Site Restoration in Section E [Estimated Decommissioning Cost Itemization], below). Components that can be salvaged, restored, or recycled will be removed and transported to the appropriate facilities. Components for disposal may be disassembled on-site to ensure compliance with applicable disposal regulations. The decommissioning process will follow all requirements of the overseeing authority and be in accordance with all applicable local, State, and Federal permits. The Applicant will follow all BMPs during the decommissioning of the Project.

The turbines will be removed in approximately the reverse order that they were constructed. Equipment and support vehicles will need to be mobilized, along with a crane that will be assembled on-site. Turbine deconstruction will likely proceed as follows: provide erosion control; widen road if necessary, to accommodate crane; assemble the crane; remove electrical components and internal cabling; and lower the blades, nacelle, and tower sections to the ground. Depending on the most cost-effective transportation methods and destinations of the decommissioned tower, nacelle, and blades, the turbine components may be transported in their entirety for restoration or disassembled into more maneuverable sections for salvage, recycling, or disposal.

Any non-turbine components will be removed according to MDEP guidelines. The belowground components such as foundations, anchor bolts, rebar, and other infrastructure. will be removed to a depth of 24 inches below grade. Any soils that are disturbed during the extraction of these below-grade components will be backfilled with soil similar to soil found in the immediate area.

The transmission system, including poles and electrical wires, will be removed and salvaged in the most cost-effective manner, following all applicable regulations. All holes created by the transmission poles will be filled in with soil similar to soil found in the surrounding area. Any subsurface cables or conduits that are buried deeper than 24 inches and do not contain any material that may be harmful to the environment will be left at the Applicant's discretion. Any materials that cannot be salvaged will be transported to the appropriate disposal sites.

Stream crossings, road improvements, the O&M building, the Substation, and the Substation access road will be left in place; all other affected areas will be restored unless otherwise instructed by the landowner in writing. After all components have been disassembled, removed, and disposed of, the site will be graded and reseeded in compliance with all applicable guidelines.

D. Material Recycling Experience

The Project is being developed by Patriot and Cianbro. Cianbro has completed the construction of numerous renewable energy projects in the northeastern U.S., including Fox Island, Georgia Mountain, Jiminy Peak, Spruce Mountain, Groton, Passadumkeag, Pisgah, and Big Level Wind. Cianbro has a national reputation for successfully completing complex projects safely in environmentally sensitive areas and has expertise in site disassembly, including on-site material separation.

Patriot is a well-established, heavy civil and marine construction contractor. Cashman's main offices are located in Quincy, Massachusetts, and it has construction experience throughout the U.S. Cashman and affiliated companies have significant experience in the metal recycling and salvage business, as well as an extensive estimating department that regularly bids demolition jobs.

As part of a joint venture, Cashman built and operated Stoughton Recycling Technologies located in Stoughton, Massachusetts, from 2007 to 2011. Stoughton Recycling Technologies is a processing facility for construction and demolition debris that handles approximately 500 tons of material a day. This facility specializes in sorting, removing and reclaiming any materials of value, especially metals. At the time that Cashman sold the facility in 2011 it had handled approximately 23,000 tons of ferrous and non-ferrous metals since its opening in 2007.

E. Estimated Decommissioning Cost Itemization

The Applicant estimates that Equipment Removal and Site Restoration will cost $140,000 per turbine, including $10,000 per turbine to remove distribution lines, and disregarding any value that may be available from recycled materials. Equipment Removal and Site Restoration costs were provided by the Cashman Estimating Department in accordance with common industry practice.

(1) Vestas 4.2 MW 150

Item	**Cost per Turbine**
Equipment Removal and Site Restoration	
Overhead	$ 5,000
Crane Mobilization/Demobilization	$ 25,000
Crane Pad Installation, Removal and Restoration	$ 8,000
Turbine Takedown and Disassembly (blades, nacelle, tower)	$ 50,000
Breakdown Components for Transport/Salvage (tower sections, blades, etc.)	$ 20,000
Foundation Removal and Restoration (24 inches below grade)	$ 15,000

Restoration of Access Roads	$ 5,000
Other (removal of transmission lines, etc.)	$ 12,000
Subtotal	$ 140,000
Project Decommissioning Cost	***$ 1,960,000***

F. Financial Assurance of Decommissioning Costs

In response to MDEP's stated concern about possible early failure and decommissioning, the Applicant proposes to provide financial assurance to fully fund the Decommissioning Cost of the Project, as described herein, prior to the commencement of construction. Financial assurance may be in the form of a performance bond, surety bond, letter of credit, parental guarantee or other acceptable form of financial guarantee (the Financial Assurance). The Decommissioning Cost will be reassessed prior to commencement of construction of the Project, and Financial Assurance for 100% of the estimated Decommissioning Cost will be in place prior to commencement of construction. Financial Assurance will be in place at all times during construction and operation of the Project. Every 3 years after commencement of construction, the estimated costs will be reassessed and submitted to Maine DEP, and the Financial Assurance will be adjusted accordingly to reflect the revised Decommissioning Cost for the Project.

The Applicant will make MDEP the obligee for any Financial Assurance, and MDEP will have the right to claim the Financial Assurance in the case of non-performance of decommissioning requirements. The trigger for MDEP's right to draw on the Financial Assurance will be non-compliance with the decommissioning requirements referenced in Section B (Trigger for Decommissioning) above. Upon decommissioning of the site, any remaining balance of the Financial Assurance shall be returned to the Applicant.