

SPRUCE MOUNTAIN WIND, LLC
Site Location of Development Act/Natural Resources Protection Act
Spruce Mountain Wind Project

DECOMMISSIONING

- Excerpts from application, dated January 19, 2010
- Letter from licensee dated September 24, 2010 regarding salvage values

1702



PATRIOT RENEWABLES
Spruce Mountain Wind, LLC

Section 29 Decommissioning Plan

TABLE OF CONTENTS

29.0 DECOMMISSIONING.....29-1

29.1 Trigger for Decommissioning.....29-1

29.2 Description of Work Required.....29-1

29.3 Decommissioning Estimate29-2

29.4 Estimated Decommissioning Cost Itemization.....29-2

29.5 Financial Assurance of Decommissioning Costs.....29-2

29.0 DECOMMISSIONING

Utility-scale wind turbines are designed and certified by independent agencies for a minimum expected operational life of twenty years.

It is in the best interest of the applicant to utilize the full operational lifespan of each wind turbine. A proactive maintenance program will be enacted to ensure the turbines are in working order for at least the twenty years of their expected lives. When the turbines reach the end of their lifespan, Spruce Mountain Wind, LLC (SMW) may choose to decommission the entire Project or replace the turbines with new technology.

29.1 Trigger for Decommissioning

The Spruce Mountain Wind Project (Project) will follow all decommissioning standards set by the Maine Department of Environmental Protection (MDEP). Currently, "decommissioning is required if no electricity is generated for a continuous period of twelve (12) months."¹ An exception to this trigger may be granted to the applicant by providing evidence of a period of "force majeure" or an act of God where the cause of the interruption of generation is beyond the reasonable control of the applicant.

29.2 Description of Work Required

The decommissioning and restoration process will consist of removal of aboveground structures, removal of sub-grade structures, and restoration of the affected areas. 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 and restoration 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 best management practices for the decommissioning of the Project.

The turbines will be removed in 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 to accommodate crane, if necessary; 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 below ground components such as foundations, anchor bolts, rebar, etc. 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

¹ 38 M.R.S.A. s481-490

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 and road improvements 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.

29.3 Decommissioning Estimate

We estimate that decommissioning of the Project, while minimizing the effects on the surrounding area and following all applicable guidelines, will cost \$117,000 per turbine plus \$55,000 to remove the O&M building. The salvage or recycling cost recovered from the project materials is estimated at \$90,268 per turbine. The total estimated decommissioning cost of the proposed 11-turbine Project is \$349,052.

29.4 Estimated Decommissioning Cost Itemization

Item	Cost Per Turbine (\$)
Overhead	3,000
Crane Mobilization/Demobilization	19,000
Crane Pad Installation, Removal and Restoration	6,000
Turbine Takedown and Disassembly (blades, nacelle, tower)	50,000
Breakdown Components for Transport/Salvage (tower sections, blades, etc.)	18,000
Foundation Removal and Restoration (24 inches below grade)	15,000
Restoration of Access Roads	6,000
Decommissioning Cost per Turbine	117,000
Recovered Costs from Salvage/Restoration/Recycling	(90,268)
Net Decommissioning Cost per Turbine	26,732
 Number of Turbines ²	 11
	Cost for Project (\$)
Net Turbine Decommissioning Cost	294,052
Removal of O&M Building	55,000
Total Project Decommissioning Cost	349,052

29.5 Financial Assurance of Decommissioning Costs

Spruce Mountain Wind, LLC will provide financial assurance to fully fund the cost of decommissioning the project after year 12, eight years prior to the expected end of the useful life of the Project and three years earlier than required by MDEP. In addition, prior to year 15, Spruce Mountain Wind, LLC will provide increasing levels of financial assurance (the "Financial Assurance") according to the following schedule:

² If the project consists of 10 rather than 11 turbines, the Total Project Decommissioning Cost will be revised and submitted to MDEP for approval prior to construction



<u>Yr of Operation</u>	<u>Financial Assurance Level</u> % of Total Project Decommissioning Cost	<u>Reassess Total Project</u> <u>Decommissioning Cost</u> <u>at end of period</u>
1-3	20%	-
4-6	40%	Yes
7-9	60%	-
10-12	80%	Yes
13-15	100%	-
16-18	100%	Yes
19-21	100%	Yes
21 – end of life	100%	Every year

Financial Assurance may be in the form of a performance bond, surety bond, letter of credit, parental guaranty or other acceptable form of financial guarantee. The initial Financial Assurance Level (yrs 1-3) will be in place prior to the commercial operation date, and will be increased 20% every three years until the Financial Assurance Level reaches 100% of the Total Project Decommissioning Cost. Financial Assurance will be in place at all times during the operation of the project according to the above schedule. Prior to the end of years 6, 12, 18, 20, and each year thereafter, the estimated Total Decommissioning Cost (decommissioning costs minus salvage value) will be reassessed and submitted to MDEP for review and approval, and the Financial Assurance will be adjusted to cover 100% of the revised Total Decommissioning Cost.

SMW will make the MDEP the obligee of any performance bond used for Financial Assurance, and the MDEP will have the right to call the bond in the case of non-performance. The trigger for MDEP's third party right is the dissolution of the project's owner, or the non-compliance of SMW with the decommissioning trigger described in 29.1. Upon decommissioning of the site, any remaining balance of the Financial Assurance shall be returned to Spruce Mountain Wind, LLC.



PATRIOT RENEWABLES

Spruce Mountain Wind, LLC

1787

September 24, 2010

Ms. Dawn Hallowell
Project Manager
Maine Department of Environmental Protection
312 Canco Road
Portland, ME 04103

RE: Spruce Mountain Wind Project, DEP #L-24838-24-A-N, #L-24838-2G-B-N

Dear Ms. Hallowell,

Spruce Mountain Wind, LLC is being developed by Patriot Renewables, LLC (Patriot), a wind development company affiliated with Jay Cashman, Inc. (Cashman), a well-established heavy civil and marine construction contractor. Cashman's main offices are located in Massachusetts and it has construction experience throughout the United States. 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.

One of its affiliated companies, Stoughton Recycling Technologies (SRT) located in Stoughton, MA, has been in business since 2007. SRT 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. This facility has handled approximately 23,000 tons of ferrous and non-ferrous metals since 2007.

Quincy Recycling, LLC, another affiliated company, is expressly a metal salvage and reclamation company based next to Patriot's office in the Quincy, MA shipyard. As a result of our affiliation with these companies, we are keenly aware of the value of recycled materials.

Representatives from SRT and Quincy Recycling were consulted to assess the current salvage value (in January 2010) of the individual components from Gamesa G90 wind turbines with 78-meter towers. The salvage value took into account component weights, composition, and current market rates.

We have attached additional information that informed our decommissioning cost estimate of January 2010. Some of the turbine specifications are confidential, so we have compiled the data in a form that is based on publicly-available data. Our estimate was based on an 11-turbine project; however we would expect the net cost of decommissioning a 10-turbine project to be approximately the same.

Please let me know if you need any additional information.

Regards,

Andy Novey

1708

Salvage Cost				
Component	Material	Approx Weight per Turbine (GT)	Cost per gross ton (GT)	Total
Tower (less copper)	Carbon Steel (HMS #2)	192 \$	200.00	\$ 38,400.00
Nacelle	Cast Iron/various	70 \$	120.00	\$ 8,400.00
Inside Tower (6 percent)*	Copper	11 \$	4,451.23	\$ 48,963.50
Blades	Fiberglass/Carbon Fiber mix (waste)	18 \$	(100.00)	\$ (1,800.00)
Hazardous Materials	Oil/miscellaneous (waste)	0.5 \$	(100.00)	\$ (50.00)
Miscellaneous	Miscellaneous (waste)	15 \$	(100.00)	\$ (1,500.00)
Transportation Off-Site		306.5 \$	(7.00)	\$ (2,145.50)
Transmission	# of Lines	Length (ft)	Cost per foot (ft)	
Transmission Line (ft.)	4	6864	Assumed No Salvage Value for Transmission	
Total Salvage Value Per Turbine				\$ 90,268.00

Salvage values are based on January 2010 market rates. Subject to change.

**Estimate. Actual weights unavailable*