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## 29.0 DECOMMISSIONING

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### 29.1 ANTICIPATED LIFE OF WIND TURBINES

The turbines for the Bingham Wind Project (project) are designed and certified by independent agencies for a minimum expected operational life of 20 years.

As the wind turbines approach the end of their expected life, it is expected that technological advances will make available more efficient and cost-effective generators that will economically drive the replacement of the existing generators.

Following the commencement of operation of the project, absent the existence of a Force Majeure event, as defined below, there will be a rebuttable presumption that the owner shall decommission the project in the event that there is an absence of electricity generated by the Project for a continuous period of twelve (12) months. In addition to the Force Majeure exception, the owner may also provide reasonable evidence that the project has not been abandoned and should not be decommissioned.

“Force Majeure” as used herein shall mean “fire, earthquake, flood, tornado or other acts of God and natural disasters; strikes or labor disputes; war, civil strife or other violence; any law, order, proclamation, regulation, ordinance, action, demand or requirement of any government agency; suspension of operations of all or a portion of the project for routine maintenance, overhaul, upgrade or reconditioning; or any other act or condition beyond the reasonable control of a party.”

### 29.2 ESTIMATED COST OF DECOMMISSIONING

The cost of decommissioning the project reflects the salvage value of the towers, the turbine components, and the electrical collection system and associated substation. The Operations and Maintenance building will retain independent value as a warehouse facility and thus will be sold. The proceeds from such a sale, however, have not been accounted for in the estimate of total decommissioning costs. As of the date hereof, estimated cost of decommissioning, taking into account salvage value is \$623,300 as shown in Table 29-1, and described further in Exhibit 29A. Note that as discussed in Exhibit 29A, these estimates reflect the costs associated measures to minimize or prevent adverse effect on the environment during implementation of the decommissioning plan. Also, although some of the component parts may have resale value, the salvage values are conservatively estimated based not on resale, but scrap metal values. The methodology for determining scrap values is set forth in Exhibit 29A.

**Table 29-1.** Estimated Decommissioning Costs and Salvage Values

Category	Decommissioning Cost	Scrap Value	Net
Project Management ( <i>contractor costs, equipment, etc.</i> )	\$1,707,600		\$1,707,600
Site work/Civil ( <i>site reclamation</i> )	\$451,900		\$451,900
Wind Turbine Foundations	\$489,800		\$489,800
Wind Turbine Generators and MET towers ( <i>towers/hub/nacelle/blades/etc.</i> )	\$2,994,700	\$5,601,300	(\$2,606,600)
Electrical Collection System	\$332,000	\$61,600	\$270,400
Electrical Substation and DRD	\$603,200	\$420,000	\$183,200
Electrical GenLead System	\$201,500	\$74,500	\$127,000
Total	\$6,780,700	\$6,157,400	\$623,300

### 29.3 FINANCIAL ASSURANCE AND SITE RESTORATION FUNDS

Consistent with decommissioning commitments made in other recent First Wind projects, the Applicants<sup>1</sup> believe that funding requirements for decommissioning should be commensurate with the risk that decommissioning will be required. The risk of decommissioning during the early years of a project is negligible. The turbines themselves have a useful life of 20 years and will be under warranty from the manufacturer for 2-5 years. As required by the lenders, the project is held in a separate operating company, so that in the event anything happened to First Wind, the lender can operate the facility. Moreover, once the project is constructed, the fuel cost is negligible, so there is substantial economic incentive to maintain operations. For these reasons there is de minimis risk that the project will require decommissioning in the early years. In response to a shift away from phased funding, the Applicants have agreed to fund the full amount of decommissioning costs, taking into account scrap values, prior to the start of construction. As set forth above, the decommissioning costs are currently estimated to be \$623,300. The Applicants will demonstrate the availability of this amount through a performance bond, surety bond, letter of credit or other acceptable form of financial assurance (the “Financial Assurance”).

In order to assess whether the estimated net cost of decommissioning has changed, for example, because of changes in removal costs or salvage value, the Applicants will update both the removal costs and scrap values on or prior to the end of calendar years 5, 10, and 15 of the project’s operation, and provide the updated information to the Maine Department of Environmental Protection.

<sup>1</sup> Blue Sky West, LLC is the wind energy project entity; Blue Sky West II, LLC is the electrical generator lead entity.

The Financial Assurance shall be kept in place until such time as the decommissioning work has been completed, provided, however, to the extent available as liquid funds, the Financial Assurance may be used to offset the costs of the decommissioning.

## **29.4 DECOMMISSIONING PROCESS**

The decommissioning and restoration process comprises removal of aboveground structures; removal of belowground structures to a depth of 24 inches; grading, to the extent necessary; restoration of topsoil and seeding. Roads and turbine pads will not be removed, as they can be utilized by the landowners for ongoing timber management activities. Appropriate erosion and sediment controls will be installed prior to earth disturbing activities.

The process of removing structures involves evaluating and categorizing all components and materials into categories of recondition and reuse, salvage, recycling, and disposal. In the interest of increased efficiency and minimal transportation impacts, components and material may be stored on-site in a pre-approved location until the bulk of similar components or materials are ready for transport. The components and material will be transported to the appropriate facilities for reconditioning, salvage, recycling, or disposal.

Aboveground structures include the turbines, overhead collector lines, the electrical substation, dynamic reactive device (DRD), generator lead, and meteorological towers. Belowground structures include turbine foundations, collection system conduit and cable, fiber optic facilities, and subterranean drainage structures (if any). The aboveground structures and belowground structures are collectively referred to as the "Wind Project Components."

In connection with the decommissioning and removal of the Wind Project Components and as described in Exhibit 29A, in the event that on or prior to decommissioning, the current owner provides evidence of a plan of continued beneficial use of any of the Wind Project Components, such items would be excepted from the requirements of decommissioning and the existing license would be amended to reflect such revisions.

**Turbine removal.** Access roads to turbines will be widened to a sufficient width to accommodate movement of appropriately sized cranes, trucks, and other machinery required for the disassembly and removal of the turbines. Control cabinets, electronic components, and internal cables will be removed. The rotor, nacelle, and tower sections will be lowered to the ground where they may be transported whole for reconditioning and reuse, or disassembled/cut into more easily transportable sections for salvageable, recyclable, or disposable components.

**Turbine foundation removal.** Topsoil will be removed from an area surrounding the foundation and stored for later replacement, as applicable. Turbine foundations will be excavated to a depth sufficient to remove all anchor bolts, rebar, conduits, cable, and concrete to a depth of 24 inches below grade. The remaining excavation will be filled with clean sub-grade material of quality comparable to the immediate surrounding area. The sub-grade material will be compacted to a density similar to surrounding sub-grade material. Areas compacted by equipment used in decommissioning shall be de-compacted in a manner to

adequately restore the topsoil and sub-grade material to the proper density consistent and compatible with the surrounding area.

**Access roads and construction pads.** Unless requested otherwise by the underlying landowner, permanent access roads constructed to accommodate the project will remain in place.

**Overhead and generator lead lines.** The conductors, insulators, and other pole-top material will be removed. The supporting poles and anchors will be removed and the holes filled in with compatible sub-grade material. In areas where environmental damage from complete removal may outweigh the benefits, the poles will be sawed flush with the surrounding grade. Line components may be stored on-site during deconstruction of the line but will then be transported off-site for salvage or disposal.

**Underground collection cables.** The cables and conduits contain no materials known to be harmful to the environment. As part of the decommissioning, these items will be cut back to a depth greater than 24 inches. Cable and conduit buried greater than 24 inches will be left in place and abandoned, unless required for any future site development.

**Substation and DRD facilities.** Disassembly of the substation and DRD facilities will include only the areas owned by the Applicants. Components (including steel, conductors, switches, transformers, fencing, and control houses) will be removed from the site and reconditioned and reused, sold as scrap, recycled, or disposed of appropriately at the Applicants' sole discretion. To the extent possible to remove foundations and underground components without damaging or impacting adjacent facilities, such foundations and underground components will be removed to a depth of 24 inches, and the excavation filled, contoured, and re-seeded.

## 29.5 SITE RESTORATION PROCESS

Topsoil will be removed prior to removal of structures from all work areas and stockpiled, clearly designated, and separate from other excavated material. Appropriate erosion and sediment controls will be installed prior to earth disturbing activities. The topsoil will be de-compacted to match the density and consistency of the immediate surrounding area. The topsoil will be replaced to original depth, and original surface contours reestablished where possible. Any topsoil deficiency and trench settling will be mitigated with imported topsoil consistent with the quality of the affected site. The affected areas will be inspected, thoroughly cleaned, and all construction-related debris removed.

Disturbed areas will be reseeded to promote re-vegetation of the area to a condition reasonably similar to the original condition, reasonable wear and tear excepted. In all areas, restoration shall include, as reasonably required, leveling, terracing, mulching, and other necessary steps to prevent soil erosion, to ensure establishment of suitable grasses and forbs, and to control noxious weeds and pests.

**Exhibit 29A: Decommissioning Budget**