

1.0 Project Description

The Rollins Wind Project is a 60-megawatt (MW) wind project with approximately 8.8 miles of associated 115-kilovolt (kV) transmission line located in Penobscot County, east and south of Lincoln (Figure 1). The project also includes permanent meteorological towers, an electrical interconnection facility in Mattawamkeag, an electrical substation in Lee, and an operations and maintenance facility in Lincoln.

The turbine portion of the project consists of 40 General Electric 1.5-MW turbines located in two clusters, Rollins North and Rollins South. Each turbine is 262 feet to the center of the hub, and a total of 389 feet to the tip of a fully extended blade. The project involves permitting 41 potential turbine locations to allow for flexibility in final location; only 40 turbines will be constructed. There will be four permanent 80-meter meteorological towers, as well as temporary 80-meter meteorological towers at certain turbine locations during initial testing. The majority of the land utilized for turbine sites is presently used for commercial forestry operations and contains developed logging roads that will be upgraded and used, where appropriate, to minimize clearing and wetland impacts.

Turbines are planned to be located in the towns of Winn, Lee, Lincoln, and Burlington. Rollins North is expected to be 18 turbines located east of Lincoln, and will include the operations and maintenance building. Rollins South, located primarily in Lincoln and Burlington, is expected to include 22 turbines. Power from the 40 turbines will be collected in an overhead 34.5-kV collector line and delivered to an on-site substation on Rollins North. At the substation, the power will be converted to 115 kV for transmission to an interconnection point on Line 56 near Mattawamkeag.

The second major component of the project is the electrical lines: an 8.8-mile 115-kV transmission line that will deliver electrical power from the proposed substation in Lee to the Line 56 transmission line (currently under construction) in Mattawamkeag, and a 5.4 mile 34.5-kV connector line between Rollins North and Rollins South. The 115-kV transmission line will travel through Winn and Mattawamkeag and will consist primarily of two pole, H-frame structures with triple pole structures as necessary at critical points. The 34.5-kV connector line will be primarily single pole structures, and located in Lincoln.

Conceptually, the project can be considered in four sections:

1. the 115-kV transmission line from Rollins North to the interconnect at Line 56;
2. Rollins North, the turbines and 34.5-kV collector line on the northern summits;
3. the 34.5-kV connector line between Rollins North and Rollins South; and
4. Rollins South, the turbines and 34.5-kV collector line on the southern summits.

Environmental studies completed before filing include two seasons of avian and bat surveys; wetland delineations of the affected areas; "in season" vernal pool surveys; and a deer wintering area assessment. Additional reports and surveys include an analysis of historic architecture; Euro-American and Pre-Contact archaeology; visual impact analysis; shadow flicker analysis; sound analysis; and soils evaluation.

The final design for the project includes approximately 35 acres of wetland clearing, 5.6 acres of temporary fill associated with mats for transmission line construction, and 6,266 square feet of wetland fill associated with roads in the summit areas and poles unavoidably located in wetlands. In addition, there are 3 expanded and 2 new stream crossings by roads totaling 310 square feet of stream impact for culverts.

2.0 Construction Plan

Construction is expected to take eight months from the commencement of construction, with the project fully operational by the end of 2009. Construction of the summit portion of the project will generally follow the sequence of events detailed below.

1. Mobilization and preliminary layout and staking of new road segments, turbine clearings, laydown areas, operations and maintenance building (“ O&M”), and Substation site.
Week 1 – Week 4
2. Commence clearing operations for roads, laydown areas, transmission lines, O&M building, and substation. Installation of erosion control measures in areas specified or required.
Week 3 – Week 8
3. Installation of erosion control measures in areas specified or required.
Week 4 – Week 15
4. Stumping, grubbing, and initial rough grading for roads and turbine laydown areas.
Week 5 – Week 16
5. Blasting as necessary and on-site stockpiling of reusable blasted bedrock/ledge.
Week 6 – Week 18
6. Stockpiling of imported road aggregate from local borrow pits (if required).
Week 7 – Week 19
7. Final grading for roads and turbine areas.
Week 7 – Week 20
8. Construction of turbine foundations and substation transformer pad.
Week 11 – Week 24
9. Installation of overhead/underground 34.5 kV on-site electrical collection system including pad-mount transformers.
Week 13 – Week 30
10. Delivery of turbines components to individual turbine sites.
Week 16 – Week 26
11. Erection of base/mid tower sections, assembly of rotors, erection of top tower section and nacelle, erection of assembled rotor. Tower wiring, final cleaning, and final quality checks of wind turbine.
Week 18 – Week 30
12. Substation and operation and maintenance building construction.
Week 16 – Week 31
13. Energization of substation and collection system with quality checks, “backfeed” power available from Line 56 and 115kV transmission line.
Week 32
14. Commissioning and testing of wind turbine generators and electrical interconnections.
Week 32-Week 40
15. Start of commercial operations.
Week 40
16. Reseeding of temporary cleared areas.
Week 30 – Week 42

The construction of the 115-kV transmission line and the 34.5-kV connector line between the northern and southern parts of the project will follow a similar schedule, detailed below.

1. *Right-of-Way Centerline and Boundary Flagging* – Surveyors follow the right-of-way and flag property lines, clearing limits, easements, laydown areas, and the centerline of the transmission line.
2. *Wetland and Resource Flagging* – Wetland scientists follow the right-of-way and flag the wetland boundaries, buffer setbacks, and other sensitive areas.

3. *Tree and Brush Clearing* – Harvesting crews cut and remove trees and brush from right-of-way areas and laydown areas.
4. *Installation of Erosion Control* – Contractor installs various silt fence, hay bales, erosion control berms, and other best management practices along right-of-way and laydown areas.
5. *Stump Grubbing at Laydown Areas* – Stumps are removed at laydown areas, and where required along access corridor, and areas for storage of equipment and materials are created.
6. *Temporary Access Ways and Timber Matting at Wetlands* – Minor earthwork activities are performed as needed to allow access along right-of-way and installation of timber matting at wetland areas where they are required to prevent excessive rutting.
7. *Grubbing of Stumps at Pole and Pulling Locations* – Stumps are removed as needed around pole locations and pulling areas to provide safe work area.
8. *Framing of Hardware on Poles* – Contractor installs davet arms, insulators, and other necessary hardware on each pole, usually prior to installation of pole.
9. *Excavation for Each Pole* – Contractor augers, excavates, or blasts (depending on subsurface conditions) hole for pole and any other subsurface requirements (guy anchors) per the design documents.
10. *Setting of Poles* – Poles are lifted and set into previously excavated hole.
11. *Setting of Anchors and Guy Wires* – Anchors at dead-end and corner poles are installed in the ground; guy wires are attached to pole and anchors.
12. *Pulling and Stringing of Wire* – Wire is pulled from spools and connected to poles in segments approximately three miles in length.
13. *Sagging and Clipping of Wire* – Previously strung wire is adjusted for equal sag and strain on the poles and then clipped to the insulators with the proper tension in the wire.
14. *Energizing of Line* – Line is energized at the switch (intersection at Line 56) and checked. This provides “backfeed” power to the substation, which can then be subsequently energized.
15. *Removal of Matting* – Matting is removed from wetland areas.
16. *Cleanup and Restoration* – Temporary earthwork and topsoil disturbances are restored and areas are seeded and mulched. Temporary erosion control measures are removed upon permanent stabilization and reseeded of all disturbed areas.