



# PASSADUMKEAG WIND

**CLIENT:** Quantum Utility Generation

**LOCATION:** Greenbush, Maine

**CONTRACT VALUE:** Greater than \$1M

**START DATE:** June 2014

**COMPLETION DATE:** January 2016

## PROJECT DETAILS

The Passadumkeag Wind Project is a 13 - turbine 39.975 MW wind project interconnected to the Emera Maine 115 kV transmission system. The wind turbines are Vestas V112-3.075 MW wind turbines equipped with the grid stramer control system.

The project collector system is configured as a combination underground/aerial 34.5 kV, three phase, 4 wire system interconnected to a newly constructed 115 - 34.5 kV substation located 17 miles from the wind turbines. The 17-mile aerial collector system is configured as 9 miles of jointly occupied line with Emera Maine and 8 miles of solely occupied line to the ridgeline. The collector substation consists of a Prolec 100 MVA, 115000 Delta - 34500Y/19920 Grd Wye, power transformer, one Schneider 1200 Amp - 34.5 kV line breaker, one Schneider 1200 amp - 34.5 kV DVAR breaker and a 3 unit - 4 MVAR American Superconductor (AMSC) DVAR system. The project interconnection to the Emera Maine bulk transmission system is completed via a 115 kV - 3000 amp, three-breaker ring bus switching station tied into a bundled conductor (2-795 kcmil ACSR conductors per phase) 115 kV transmission line. High voltage interconnecting protection to the project

is provided via two of the three ring bus breakers in the Emera Maine switching station.

## SCOPE OF SERVICES

- Developed the design of the 17-mile combination underground and aerial 34.5kV collector system to tie 13 wind turbines together.
- Developed design for 115kV to 34.5kV substation including specification for the 115kV Delta-34.5/19.92kV grounded wye power transformer.
- Developed design of the transmission line interconnection via a 115kV, 3000A three-breaker ring bus switching station.
- Provided construction support services including RFI's, submittal reviews and on sight visits for installation verifications.
- Provided commissioning support during contractors and utilities required commissioning evolutions.
- Supported interconnection applications and utility studies including ISO-NE.