

Maple Ridge Wind Farm - 12 June, 2009

Based on interview with Mr. Vince Kessler and written materials available in Visitor Center of the Administration Building, Maple Ridge Wind Farm.

Interview: Vince Kessler, Site Manager
Vestas Americas
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Directions: Lowville, Lewis Co., NY; take route 12 north to route 177 west out of Lowville; Towns of Martinsburg, Lowville and Harrisburg

Owners: Horizon Wind Energy and PPM Energy (Iberdrola Renewables)

Horizon Wind Energy of Houston, Texas:
www.horizonwind.com/projects/whatwevedone/

PPM stands for Pulsed Power and Measurement, of Portland, Oregon
www.bizjournals.com/gen/company.html?gcode=9942C3E4494A4800A567F3231CCF14A2

Equipm. Vestas Americas headquarters in Portland Oregon; Martha Wyrsh appointed president June 15, 2009; c. 1,400 employees; \$250M headquarters building delayed because of recession; part of Vestas Wind Systems, leading wind power company in the world with more than 20% market share; Vestas centered in Denmark; c. 38,000 windmills produced – beginning 1979; largest windmills built are models V 90 and V 122 with 3.0 MW capacity; share value: DKK 205,704,103 (May,2009);
<http://en.wikipedia.org/wiki/Vestas>

Extent: c. 21,000 acres, 32.8 square miles, distribution of windmills – these covering c. 1% of area; each windmill at least 800' from a residence

Cost: \$380 M

On-line: Phase I: 140 windmills @ 231 MW active May, 2006 (enough power for 68,000 homes).
Phase II: 55 windmills @ 91 MW active December, 2006 (enough power for 27,500 homes)

No. units: 195

Total MW 322

Unit type: Vestas (Danish) V-82

Specs:

Sweep diameter	269' (82 m), i.e. blade + rotor + blade
No. blades	3
Composition	fiberglass and wood, hollow
Peak rotation	14 rpm
Observed rotation	10 rpm
Conversion	14 rpm to 1,200 rpm at generator
Power	1.65 MW
Ideal wind speed	32 mph
Full height	400'
Tower height	260'
Tower weight	162 tons
Blade length	130'
Blade weight	7,500 lbs.
Nacelle size	25' long; 10' wide', 12' high
Nacelle weight	52 tons
Access:	325 step ladder inside tower cylinder taking 4 to 10 min. to climb
Foundation	50' diameter; 8' deep; 350 cubic yards of concrete
Base to tower	82 bolts, each 4' long
Color	Mat white
Lightning	Frequent strikes without damage; copper cables from blade tips to ground
Manufacture	Blades: Windsor, Ca; Nacelle: Windsor, Ca; Generators: Portugal, Spain; electronics: Louisiana - and many other production sites

System	70 mi. underground cable, 10 mi. above ground cable: injection to grid at 230,000 volts; 200 sensors per unit covering c. 998 faults; gated and posted access to each windmill
Cost/turbine	\$2.8M
Service:	Two to three days every six months; typically 98% of complex on line; impaired unit off and on line in minutes compared to hours for conventional generation; (fabulous) new installation and maintenance cranes on site; weather damage and vandalism are minimal
Life expectancy	20-30 years
Biotic damage	Minimal bird and bat fatality; active grazing and cultivation to within 100 feet of windmills; minimal sound production by blades; many birds of various species are evident in the area;

<http://www.bizjournals.com/albany/stories/2008/10/13/daily57.html>

Up-grading	None underway or planned at this time
Site restoration	Assured after 20 years
Employment	28 full-time workers
Revenue	\$1M landowners; c. \$6,000 per turbine per year to landowners; Empire Zone PILOT \$6M; see NYSERDA for more details.
Education:	Parking lot, kiosk with map, interpretive text and handouts with some 90 windmills to be seen at site on lower Eagle Factory Rd.; visitor center with tours possible at administration building
Sociology	Some anger from children of landowners because of delayed inheritance; early impacts on TV reception; great enhancement of agricultural economy;

great improvement of regional economic
support for schools and regional
infrastructure.

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