

# **APPENDIX B**

## **Design Data Report**

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# New Frontier Wind Project – Design Data Report

- Up to 102 MW (Gross Capacity) Project
- Final layout to be completed after micrositing and prior to construction

## Wind Turbines

Turbine Type and MW Rating	Generator Type	Generator Rated Voltage	Rotor Diameter	Rotor Swept Area	Cut-In Wind Speed	Cut-Out Wind Speed	Hub Height	Lighting	Foundation Type
<b>Siemens SWT-2.3-113</b>	Synchronous, PMG	2,300 kW	113 m (371 ft)	10,000 m <sup>2</sup> (107,639 ft <sup>2</sup> )	3 m/s (7 mph)	25 m/s (56 mph)	80 m or site specific	Accordance with FAA	Likely spread footing
<b>Siemens SWT-2.3-101</b>	Asynchronous	2,300 kW	101 m (331 ft)	8,000 m <sup>2</sup> (86,111 ft <sup>2</sup> )	3-4 m/s (7-9 mph)	25 m/s (56 mph)	80 m or site specific	Accordance with FAA	Likely spread footing
<b>Vestas V90-1.8</b>	4-pole (50 Hz)/6-pole(60 Hz) doubly fed generator, slip rings	1,800 kW (50 Hz) or 1,815 kW (60 Hz)	90 m (295 ft)	6,362 m <sup>2</sup> (68,480 ft <sup>2</sup> )	4 m/s (9 mph)	25 m/s (56 mph)	80 m or site specific	Accordance with FAA	Likely spread footing
<b>GE 1.6-82.5</b>	Asynchronous, Partial Power Converter	1,600 kW	82.5 m (271 ft)	5,345 m <sup>2</sup> (57,533 ft <sup>2</sup> )	3.5 m/s (8 mph)	25 m/s (56 mph)	80 m or site specific (262 ft)	Accordance with FAA	Likely spread footing

## Project Collector System

System Voltage	Approximate Buried Depth	Approximate Cable Length	Cable Sizes
34.5 kV	4 ft	114,400 to 163,800 ft (44 to 63 turbines)	1/O AWG, 4/O AWG, 500 kcmil, 750 kcmil, 1000 kcmil, 1250 kcmil

## Project Substation

Approximate Area	Main Transformer	Interconnection Station Standards
5 acres	34.5 kV/115 kV	FERC, NERC, and MISO

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