

# CPV Ashley Renewable Energy Company – Design Data Report

## Project Overview

- ❖ Approximately 200 megawatts (MW)
- ❖ Wind turbine generator type to be determined, two possible models are the Siemens SWT 2.3-101 and the GE 2.5xl
- ❖ Public Service Commission (PSC) to receive final layout after turbine micro-siting, but prior to construction

## Wind Turbine Generator

Potential Model Type	Siemens SWT 2.3-101	GE 2.5xl
Generator MW rating	2.3 MW	2.5 MW
Generator type	Asynchronous generator	Synchronous permanent magnet generator
Generator rated voltage	690 kV	690 kV
Rotor diameter	101 m	100 m or 103 m
Rotor swept area	8,000 m <sup>2</sup>	7,854 m <sup>2</sup> or 8332 m <sup>2</sup>
Hub height	80 m	85 m
Pitch system	Independent blade pitch control	Independent blade pitch control
Approximate cut-in wind speed	3 – 4 m/s	3 – 4 m/s
Approximate cut-out wind speed	25 m/s	25 m/s
Lighting	In accordance with FAA determination	In accordance with FAA determination
Likely foundation type	Spread footing	Spread footing

kV = kilovolt      m = meter      m / s = meter per second      FAA = Federal Aviation Administration

## Project Collector System

System voltage	34.5 kV
Approximate buried depth	4 ft
Cable sizes	1/O AWG, 4/O AWG, 500 kcmil, 750 kcmil, 1000 kcmil, 1250 kcmil
Approximate cable length	Approximately 268,500 circuit feet

ft = feet      kcmil = thousands of circular mils

## Project Substation

Approximate area	5 acres
Main transformer	34.5 kV/230 kV
Interconnection utility	Montana-Dakota Utilities, Co. (MDU)
Interconnection station standards	In accordance with Federal Energy Regulatory Commission, North American Electric Reliability Corporation, Midwest Independent Transmission System Operator and MDU standards