

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of **SENECA WIND, LLC** for a Certificate to Site Wind-Powered Electric Generation Facilities in Seneca County, Ohio.)
Case No. 18-488-EL-BGN)

**SENECA WIND, LLC'S RESPONSES TO STAFF'S DATA REQUESTS
RECEIVED FROM THE OPSB ON DECEMBER 4, 2018**

Question 1: On page 94 in the blade shear section, the application states:

The distance between proposed turbine locations and the nearest nonparticipating property line ranges from 735 to 2,030 feet, averaging 1,180 feet.

Are the adjacent property line setbacks 1,312 feet and 1,329 feet?

Turbine Model	Rated Power (MW)	Hub Height	Rotor Diameter	Blade Length	Maximum Total Height	Adjacent Property line setback 1,125 feet + blade length
GE 2.3-116	2.3	94 m (308 feet)	116 m (381 feet)	56.9 m (187 feet)	152 m (499 feet)	1,312 feet
GE 2.3-116	2.3	90 m (295 feet)	116 m (381 feet)	56.9 m (187 feet)	148 m (486feet)	1,312 feet
GE 2.3-116	2.3	80 m (262 feet)	116 m (381 feet)	56.9 m (187 feet)	138 m (453 feet)	1,312 feet
GE 2.5-127	2.52	134 m (440 feet)	127 m (417 feet)	62.2 m (204 feet)	198 m (649 feet)	1,329 feet

RESPONSE TO QUESTION 1:

No. The adjacent property line setbacks are 1,315.5 feet and 1,333.5 feet for the General Electric (GE) 2.3-116 and GE 2.5-127 wind turbine generators (WTGs), respectively. For the Siemens Gamesa (SG) Model 2.7-129 WTG, the adjacent property line setback is 1,337.75 feet.

Ohio Administrative Code (OAC) 4609-4-08(C)(2)(b) states:

The wind turbine shall be at least one thousand, one hundred, twenty-five feet in horizontal distance from the tip of the turbine's nearest blade at ninety degrees to the property line of the nearest adjacent property,

including a state or federal highway, at the time of the certification application.

The identified 1,125 feet must be added to one half the rotor diameter (to include the radius of the turbine hub in addition to the length of the blade). Based on this calculation, the table below summarizes the appropriate setback distances for the proposed turbines, as a correction to the table provided above.

Turbine Model	Rated Power (MW)	Rotor Diameter (feet)	Adjacent Property Line Setback (1,125 feet + ½ Rotor Diameter)
GE 2.3-116	2.3	381 feet	1,315.5 feet
GE 2.3-116	2.3	381 feet	1,315.5 feet
GE 2.3-116	2.3	381 feet	1,315.5 feet
GE 2.5-127	2.52	417 feet	1,333.5 feet
SG 2.7-129	2.75 ^(a)	425.5 feet	1,337.75 feet

^(a) Power boost to 2.9 MW is available under certain ambient wind and temperature conditions.

Question 2: What is the probability of ice throw impacts at the nearest property boundary and public road?

RESPONSE TO QUESTION 2:

As discussed in the application at Sections 4906-4-08(A)(8) and 4906-4-09(E), studies have shown maximum ice throw distances of 302 to 410 feet, which is well below the Project's distances from all property boundaries and public roads.

In addition, sPower relies upon the setbacks recommended by turbine models proposed for its projects. Previously, Seneca Wind provided the GE Renewable Energy document "*Technical Documentation Wind Turbine Generator Systems All Onshore Turbine Types, General Description: Setback Considerations for Wind Turbine Siting*," which details potential turbine failures, including ice throw. For ice throw, GE recommends a distance of 1.1 x tip height (453 to 649 feet) or a minimum of 170 meters (558 feet) from residences, public roads, and other facilities¹. The proposed turbines meet or exceed this requirement in all cases.

¹ GE Renewable Energy. 2018. *Technical Documentation Wind Turbine Generator Systems All Onshore Turbine Types, General Description: Setback Considerations for Wind Turbine Siting*.

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Summary: Response of Seneca Wind, LLC to Staff Data Request Received on December 4, 2018 electronically filed by Teresa Orahod on behalf of Devin D. Parram