

2021A1**(RATES)**

Level 1: The total driving days is determined by the number of days it takes each component to arrive.

$$\text{Drive time (hr)} = \frac{\text{Distance Traveled (mi)}}{\text{Average Speed (mph)}} * \text{Number of components}$$

$$\text{Drive time (hr)} = \frac{70 \text{ (mi)}}{55 \text{ (mph)}} * 4 \text{ Tower Sections}$$

$$\text{Drive time (hr)} = 5.1$$

$$\text{Drive time (hr)} = \frac{998 \text{ (mi)}}{55 \text{ (mph)}} * 3 \text{ blades}$$

$$\text{Drive time (hr)} = 54.4$$

$$\text{Drive time (hr)} = \frac{1,210 \text{ (mi)}}{55 \text{ (mph)}} * 3 \text{ (Hub, Generator, Nacelle)}$$

$$\text{Drive time (hr)} = 66$$

$$\text{Total Drive time (hr)} = 5.1 + 54.4 + 66$$

$$\text{Total Drive time (hr)} = 125.5$$

$$\text{Total Drive time (day)} = \frac{\text{Drive time (hr)}}{\text{hr/day}}$$

$$\text{Total Drive time (day)} = \frac{125.5 \text{ (hr)}}{24 \text{ hr/day}}$$

$$\text{Total Drive time (day)} = 5.2$$

Level 2: Because the nacelle's truck caught up to the generator, we know they traveled the same total distance.

$$\text{Nacelle Distance} = \text{Generator Distance}$$

$$\text{Nacelle Speed} * \text{Nacelle Time} = \text{Generator Speed} * \text{Generator Time}$$

$$60 \text{ mph} * 6 \text{ hours} = \text{Generator Speed} * (6 \text{ hours} + 3 \text{ hours})$$

$$360 \text{ miles} = \text{Generator Speed} * 9 \text{ hours}$$

$$\frac{360 \text{ miles}}{9 \text{ hours}} = \text{Generator Speed}$$

$$40 \text{ mph} = \text{Generator Speed}$$

WIND STUDY

Wind Study is intended for grades 5-8 and 8-11
Questions posted on: Monday Answers posted on: Friday
Find downloadable one pages at www.oneenergy.com/one-energy-feed

Blades arrive at a project site.

