

2021Q1

(RATES)

One Energy's wind turbines feature components that travel to the turbine yard in Findlay, Ohio from across the country. These components include the tower sections, blades, hub, generator, and nacelle. The distance each component travels to get to Findlay is shown in the table below. Each component is loaded on its own truck (i.e., 3 blades requires 3 trucks).

COMPONENT	DISTANCE TRAVELED (MI)
Tower Sections (4)	70
Blades (3)	998
Hub	1,210
Generator	1,210
Nacelle	1,210

Level 1: If the trucks carrying the components have an average speed of 55 mph, how many total driving days will it take for all components to reach Findlay? Assume the trucks drive around the clock and there is no stopping time.

Level 2: The truck carrying the generator left its origin point and traveled towards Findlay. Three hours later, the truck carrying the nacelle left from the same point, traveling at 60mph. After the nacelle has traveled for 6 hours, it caught up with the generator's truck. What was the generator's truck's average speed? Assume neither vehicle had any stopping time.

The components of a wind turbine.

