

5 High Profile Wind Turbine Fires

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Fire in wind turbines is the second most common type of accident reported after blade failure. While certain types of wind turbines have a higher occurrence rate of fire, all wind turbines have fire risk factors. Within the nacelle, highly flammable materials including, hydraulic oil and plastics, are located near electrical wiring and equipment. A fire can quickly start and spread if there is an ignition source like an electrical arc or a fault within the transformer. When comparing to other energy industries, fire incidents in turbines are less frequent, but the cost implications are significant, upward of \$4.5M. In the post, we will explore five wind turbine fire incidents.

#1 San Geronio Pass

In June 2012, a wind turbine fire caused the View Fire in the Whitewater area east of Cabazon in Riverside County, California. Despite precautions being taken of clearing brush and debris from the base of the turbines, the fire from the turbine still caused a wildfire, burning 367 acres. Several witnesses reported the fire to authorities, and residences in the box canyon were evacuated. Over 100 firefighters, on the ground, and from aircrafts, fought the fire to contain it in less than 24 hours. There were no reports of injuries or damage to structures.

#2 Piet de Wit Wind Farm

Up until 2013, no human deaths were a result of a wind turbine fire incident. That all changed on Tues., October 29, 2013, when two of the four mechanics servicing a wind turbine in Ooltgensplaat, Netherlands, were killed. The mechanics, aged 19 and 21, became trapped on the top of the turbine after a fire broke out and died as a result. Due to the height of the turbine and location of the fire, the fire department had trouble extinguishing the fire. A specialized team of firefighters was called in with a large crane, which took hours, to battle the fire. One mechanic was found on the ground near the base of the turbine, while the other victim was recovered from the top of the turbine by the specialized team. The other two mechanics were able to escape safely. According to Deltawind, a short circuit was the cause of the fire.

#3 Harvest Wind II

On Monday, April 1, 2019, a wind turbine caught fire in Oliver Township, near the village of Elkton, located in Michigan's Thumb-region. The responding fire department was not able to put the fire out because they did not have the equipment to reach the height of the wind turbine. They also had limited access to the site because the turbine on fire was located approximately half of mile off of the road. However, the first responders were able to establish a perimeter and secure the area while the turbine burnt itself out. Exelon, the wind farm owner, also de-energized the other 32 turbines on the site as a precautionary measure. The Harvest II Wind Project has been operational since November 2012. Two additional wind turbine fire incidents have been reported at other wind farms in Michigan over the last ten years.

#4 Juniper Canyon

When a wind turbine caught fire in southern Washington state on Saturday, July 19, 2019, melted sections fell to the ground, igniting the surrounding grass and brush. The fire spread and caused the Juniper Fire wildfire, which burned over 250 acres and put 39 structures in danger of fire. During the wildfire, the Pine Creek Drainage area was put under a level three evacuation order. Fire officials reported that nearly 200 people worked on the fire. Firefighters across Klickitat County were dispatched, including 25 fire units, two dozers, and two engines as well as two strike teams and three hand crews. The fire was 99% contained by day three, with no reported injuries or structural damage. The wind farm consists of two phases, with 128 wind turbines.

#5 Buffalo Gap

A wind turbine fire outside of Abilene, Texas, is blamed for the Rhodes Ranch 3 Fire in Mulberry Canyon. The wind turbine caught on fire on Monday, August 26, 2019, and sparked the wildfire, which burned 250 acres. Bulldozers and graders were brought in to build containment lines. Due to the rough terrain, record temperatures of 109, and how the fire spread into a small canyon area, it created additional challenges for firefighters. A heavy tanker and a single-engine airplane spread fire retardant, while a helicopter was dropping water on hot spots. Fire crews watched over the area for hot spots and monitored the containment lines. Within two days, the fire was 90% contained. The turbine was deemed a total loss.



partment being able to extinguish the fire is unlikely due d in some cases, the rough terrain. During these fire . On the other hand, there are preventive measures that o the potential ignition source or fire-prone areas and ass a fire before it can spread out of control.

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