

OXBO MEGA TRANSPORT

HAULING
Moving

Oxbo Mega Transport Solutions transported 290 wind components to a ridgeline wind project in Oklahoma, facing grades of up to 25 percent.



Hilltop windfarm

In May 2019, Oxbo Mega Transport Solutions was contracted by RES America to transport 290 wind components to a ridgeline wind project in Oklahoma. Grades were up to 11 degrees. Navigating unexpected elements and treacherous terrains, the team utilized several different hauling methods to complete the project.

At Wild Horse Mountain in Clayton, OK, Keith Settle, CEO of Oxbo, was handed the plans for the turbine project. A third party over-the-road (OTR) company would deliver the components 10 miles up to a second staging area, where the cargo would then be craned onto Oxbo's equipment to be delivered the rest of the way to the pad sites.

The elevation change from the project entrance to the 10-mile yard was 128 feet, which made it accessible by OTR trucks. From the 10-mile yard to the Pad Site 29, there was an initial elevation change of 787 feet in the first 1.25 miles. To access Pad Site 1 from Pad Site 29 required the equipment to traverse another 6 miles through four more valleys with inclines of up to 20 percent, and elevation changes averaging 650 feet in each valley. The 16-foot wide road had many sharp corners and steep dropoffs as it made its path through the 100-foot tall mountain trees. One-hundred and eighty degree switchbacks were common along the route, making pullouts for passing few and far between.

The 29 turbines consisted of 10 pieces of cargo each: six tower sections, three

blades and a nacelle. The base sections were 32 feet long and weighed 150,000 pounds. The M1 section was 29 feet long and 135,000 pounds. Both pieces were handled by Goldhofer 12-line THP-SL trailers. The next was an M2, which was 35 feet long and weighed 109,000 pounds. The M-2s would go on OXBO's Faymonville Highway Z-9. M-3s clocked in at 58 feet long and weighed 134,000 pounds. The M-3s would be loaded on a Scheuerle 9-axle stretch trailer. The last two sections were M-4s and tops, which were both 87 feet long and weighed approximately 120,000 pounds. The M-4s and tops were loaded on Goldhofer THP-SL trailers with 18 axles lines each.

Blade lifter debut

The nacelles would arrive at the 10-mile yard in two pieces and then be assembled together with the hubs to become 50 feet long and weigh 425,000 pounds before they were loaded on Oxbo's 12-line Goldhofer THP Add-drive platform trailer. The THP Add-drive worked well on the steep grades. The 67-meter blades weighed in at 35,000 pounds.

Oxbo became the first company in North America to utilize the Goldhofer FTV 500 blade lifter technology, which was necessary for the route's sharp corners and high treetops. The FTV 500, when combined with the Goldhofer THP-SLE, gave Oxbo the ability to lift the blade up to 60 degrees and also rotate it in a clockwise or counterclockwise manner. The blades were loaded in a flat direction along with

300,000 pounds of counterweight to help stabilize the trailer.

Settle credits retired U.S. military vehicles to the company's success overcoming grades and the changing terrains. Oshkosh eight-wheel drive trucks were the ticket for going up and down the hills. The hills were steep enough and the roadbed unstable enough, that even the SPMTs needed tow assist when loaded, despite being weighted with 300,000 pounds of ballast.

Frequent days of 105-degree summer heat, dust, lightening and torrential storms were frequent in this area. With up to 10 inches of rainfall in 24 hours, the storms would shut down the job until the civil crew rebuilt roadways that had been completely washed away.

Despite all of the challenging elements and rough terrains the Oxbo team faced, the versatility of the SPMT systems and the blade lifter proved to be invaluable for safe passage and precise placement of the blades. Utilizing the electronic steering capability of the SLE trailers combined with the blade lifter technology, the Oxbo team was able to turn the blades at the pad sites and precisely place them wherever they were needed to allow the cranes to safely pick and place the cargo.

This intricate wind power project commenced in June 2019. While it was planned to be a six to eight-week project, it finished on October 25, in about 20 weeks. There were 13,500 labor hours logged and no incidents. ■