

Altitude Case Study

Objective

Our client required a safe, efficient, and cost-effective solution to repair five wind turbine generators at one of their operational wind farms in Texas. The primary goal was to restore turbine functionality while minimizing downtime and avoiding the high costs and logistical complexities associated with traditional generator removal and replacement.

Our Solution

- Aurora Energy Services deployed its proprietary Altitude up-tower generator repair system — a purpose-engineered fixture that enables generator faults to be repaired directly within the nacelle, eliminating the need for crane hire and offsite refurbishment.
- Using the Altitude system Aurora's skilled technicians safely disassembled the generators up tower, removed the rotors from the stators, and carried out internal repairs including magnetic wedge replacement and insulation system restoration. A closed-loop convection heating system was then used to remove moisture prior to varnish application, ensuring long-term reliability and performance.
- Upon completion, the generators were reassembled in place and the turbines were successfully returned to service without the need for traditional heavy-lift intervention.

At a Glance

Challenges

The primary challenge was executing high-precision repairs at height while working within the tight physical constraints of the turbine nacelle. Aurora's experienced team, combined with the flexibility and safety of the Altitude system, ensured that all five generator repairs were completed to the highest standards without requiring generator removal or additional lifting operations.

Value to client

By choosing Aurora's Altitude solution, our client avoided the significant costs and extended downtime linked to crane hire, generator transport, and offsite refurbishment. This innovative approach reduced disruption to site operations, enhanced safety by eliminating heavy lifting, and allowed for a faster return to full turbine output. The solution delivered substantial savings in both time and money, while also supporting asset longevity and operational reliability.

