

Wind Turbine Bolt Monitoring Load Washer

Industry: Energy

Summary

Customer Challenge

More than 6,000 bolts are used in the assembly for wind turbines. Regular inspections are both costly and time consuming. The customer wants to monitor the bolts to ensure safety and optimal operation, but with a new quick, less expensive, and easy solution.

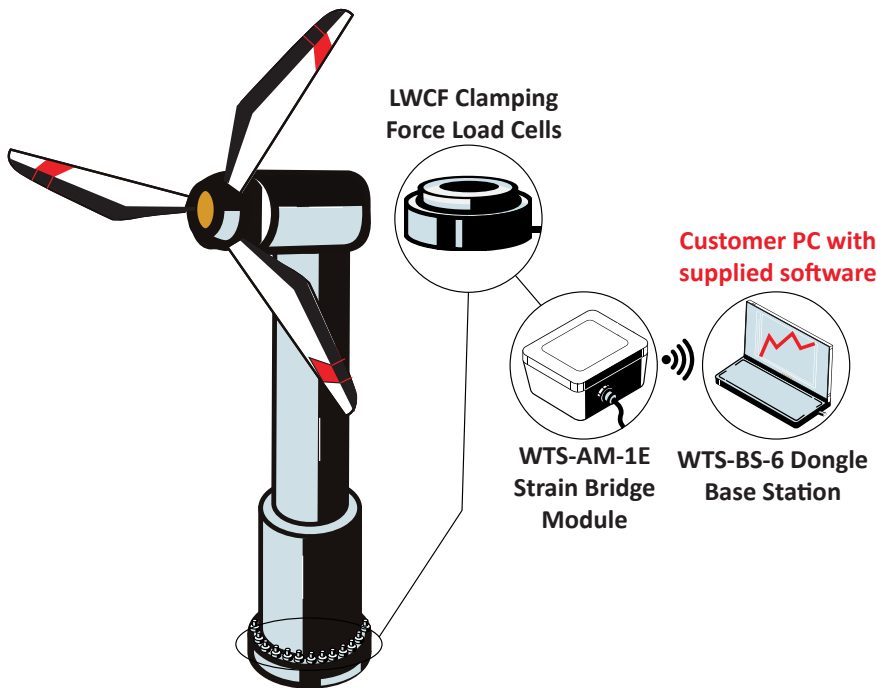
Interface Solution

Interface's solution is to pair multiple LWCF Clamping Force Load Cells with the wind turbine's bolts around the base of the turbine's pillar. The load cells are installed under each bolt, thus measuring the compression forces. Each LWCF load cell is then each connected to a WTS-AM-1E Wireless Strain Bridge Transmitter Module. The load cells will measure the compression forces from the bolts, and the real-time results are transmitted wirelessly from the WTS-AM-1E's to the WTS-BS-6 Wireless Telemetry Dongle Base Station when connected to the customer's PC. Real-time results from the LWCF's are displayed using provided Log100 Software.

Results

Interface's load cell monitoring system successfully monitors the compression forces of the wind turbine's bolts in real time.

Wind Turbine



How It Works

1. Multiple LWCF Clamping Force Load Cells are installed under the bolts attached to the base of the wind turbine.
2. Each LWCF is connected to a WTS-AM-1E Wireless Strain Bridge Transmitter Module.
3. The LWCF's measure the compression forces from the tightened bolts, and the results are transmitted from the WTS-AM-1E to the WTS-BS-6 Wireless Telemetry Dongle Base Station connected to the customer's PC. Each load cell can be monitored in real time using Log100 software.

Materials

- LWCF Clamping Force Load Cells
- WTS-AM-1E Wireless Strain Bridge Transmitter Modules
- WTS-BS-6 Wireless Telemetry Dongle Base Station
- Log100 Software
- Customer PC or Laptop