OEM for Power Generation Equipment Reduces Maintenance Costs with Flexible Sensor Tip Design

RESULTS

- Decreased maintenance costs
- Reduced risk of plant downtime
- Decreased risk of damage to equipment

APPLICATION
Thrust and journal bearing metal temperatures

CUSTOMER
Leading turbine and compressor OEM in India

CHALLENGE
This OEM had a problem with measuring thrust and journal bearing temperatures for newly manufactured turbines and compressors. These temperature measurements must be closely monitored so that the bearings do not overheat and break.

The temperature sensors had to be inserted into the bearing housings with tight space restrictions. The rigid design of the sensor had an insufficient bending radius that led to sensor tip failure during installation, and vibration of equipment during load testing.

The rigid temperature sensor design resulted in increased maintenance costs due to frequent temperature sensor replacement. Unreliable bearing temperature measurements also risked damage to equipment, resulting in downtime for their customers.

SOLUTION
The rigid temperature sensors were replaced with customized Rosemount Application and Industry Solution (AIS) Sensors, which incorporated more flexible probes and sensor tips. The 5mm bending radius at the sensor tip allowed the OEM to monitor the temperatures within the tighter space confines around compressors and turbines.

The technology and implementation of the Rosemount AIS Sensors eliminated the problems experienced with the previous temperature sensors. This reduced maintenance costs, risk of damage to equipment, and downtime for this OEM’s customers.

Flexible Thermocouple Sensors 5mm, K Type Triplex (for Steam Turbines)
Flexible Pt100 Thin Film RTD Sensors 3.2mm Duplex (for Compressors)
RESOURCES

Rosemount Application and Industry Solution (AIS) Sensors
http://www.emersonprocess.com/rosemount/products/temperature/accessories.html