REPAIR & SERVICES

Case Study

Ensuring Steam Turbine Reliability for Oil & Gas Operations

Motion Repair & Services

Background: Maintaining Critical Turbine Operations

An oil sands plant, originally built in the late 1970s, relies on dozens of steam turbines that are critical to various process systems used to upgrade raw bitumen into oil and other byproducts. These turbines are essential to two of the three cokers, which are at the heart of plant operations.

A failure of both the primary and redundant turbines on any process line could reach several million dollars per day in lost revenue. This does not include the additional costs of an unscheduled maintenance shutdown that such an event may require, making turbine reliability a top priority.

Figure 1: Upgrading, including the coker, at an oil sands production facility.

The Challenge: Aging Equipment and Long Lead Times

Due to the age of these turbines, parts for the specific models are no longer manufactured. The customer's existing supplier was taking three to four months just to provide quotes for replacement parts, with excessively long lead times for delivery.

The nature of these components requires strict adherence to OEM specifications and rigorous QA/QC standards. Any downtime of these turbines has a ripple effect on related process systems, further emphasizing the need for timely and reliable solutions.

Our Solution: Innovative Sourcing and Remanufacturing

Leveraging internal expertise and industry partnerships, our team developed a unique approach to address the customer's challenges:

Sourcing Decommissioned Turbines:

- We began sourcing decommissioned turbines and harvesting the required parts for remanufacturing.

Remanufacturing and Reverse Engineering:

- Using the latest machining techniques, we ensured that remanufactured parts met or exceeded original specifications.
- For parts that could not be sourced, we reverse-engineered components to manufacture them from scratch, maintaining strict QA/QC standards.

Reduced Lead Times:

- This innovative approach allowed us to offer remanufactured parts and components with significantly reduced quoting and delivery timelines.

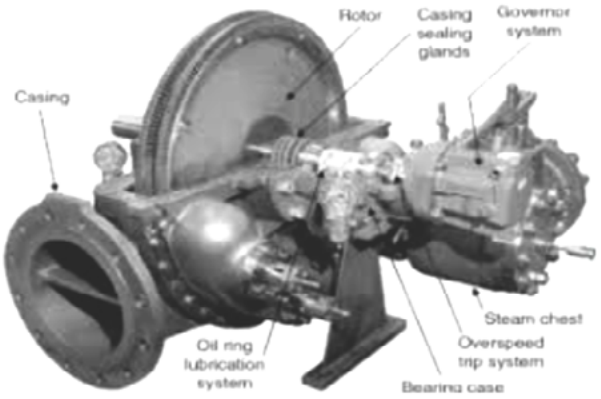

Figure 2: A typical steam turbine found in this application.

Results: Improved Reliability and Customer Confidence

The customer expressed relief and satisfaction with our timely and cost-effective solution for their turbine maintenance and reliability concerns.

Key Outcomes:

- Increased Reliability: Our remanufactured parts met or exceeded OEM specifications, ensuring reliable turbine performance.
- Superior Speed: The customer gained access to critical parts and components in a fraction of the time compared to their previous supplier.
- Growing Confidence: As the customer gained confidence in the quality and performance of the remanufactured parts, demand for these solutions increased.
- Future Considerations: The customer is now exploring complete turbine rebuilds for plug-and-play options, further solidifying our partnership.

Partner With Us for Reliable Solutions

Our innovative approach to sourcing and remanufacturing turbine parts ensures reliability, cost savings and reduced downtime for critical operations. For more information, visit MiRepairandServices.com or call 1-800-526-9328.