

STEAM TURBINE ROTOR SHAFT MACHINING - INDONESIA

GOLTENS' MACHINISTS RECTIFY THE DAMAGED SHAFT IN ONLY 4 DAYS

Goltens received an urgent call from a power plant in the city of Gorontalo in Sulawesi. The plant's 10MW Shandong Jinan steam turbine suffered a bearing failure resulting in a damaged rotor shaft. The power plant is a vital source of power to the city and minimizing downtime was critical.

THE REPAIR

Goltens Indonesia immediately deployed one of its In-Place Machining experts to the site. Goltens performed a thorough inspection of the damaged journal inclusive of magnaflux and hardness inspections.

The surface of the 200mm diameter journal was damaged but no deep cracks or irreparable damage was found. Goltens quickly mobilized the required tools to the site along with machining specialists to machine the journal to undersize.

RESULTS

Goltens' machinists managed to salvage the shaft with the least possible material removal, taking only 0.5mm from the shaft for a finished diameter or 199.5mm. Final polishing and inspection to confirm final measurements were then completed and the plant could get to work restoring the turbine to operation.

Goltens completed this repair in only 4 days on site.

PROJECT FACTS:

Location: Turbine Make: Power Output: Journal Dia. Before/After: Journal Length: Kabila Bone, Gorontalo Shandong Jinan N12.5-4.9 10MW 200mm/199.5mm 180mm



Figure 1: Steam plant in Gorontalo in Sulawesi



Figure 2: Inspecting the damaged rotor shaft journal



Figure 3: Removal of the rotor shaft from the casing





Figure 4: Rigging rotor shaft to repair location



Figure 5: Grinding damaged journal surface



Figure 6: Journal finished at 199.5mm diameter