

STEAM TURBINE BULL GEAR ON-SITE MACHINING OF MAIN JOURNALS

Goltens was approached by an Australian shipyard to come up with an In-Situ solution to save a damaged steam turbine bull gear for the main propulsion shaft on a vessel.

The maker of the gear and turbine was already on site and had recommended removing the 18 ton heavy gear from the vessel and sending it to America for repair. Not only would this mean that the vessel had to go into dock, it would also mean a very long down time and extremely high cost for the vessel owners.

Based on the In-Situ machining experience and expertise gained over the last 60 years in the Goltens group of companies, Goltens made a proposal for repair of the damaged 539mm diameter main journals In-Site.

According to the maker, such on-site repair had never been done before anywhere in the world, but they reviewed and approved Goltens proposal, as long as all measurements were within their strict tolerances when the repair was complete.

REPAIRS CONSISTED OF:

- Manufacture of white metal bearings for temporary support of the gear
- Grinding of both main journals until free of damage
- Blue fitting of surface with dummy bearing
- Super polishing by special honing machine
- Super polishing of the thrust face

RESULTS:

After 14 days of long working hours, the bull gear repair was approved by the maker. The end result for the owner were dramatically reduced costs and an accelerated return to service as a result of engaging Goltens to perform the work In-Situ.

PROJECT STATS: STEAM TURBINE BULL GEAR

Weight of turbine Bull gear:	18 Tons
Diameter of journal:	539mm
Tolerance of journal:	±0.02mm
Machined Length:	465mm
Number of journals:	2

