GENERAL ELECTRIC
7LM6000 GAS TURBINE
POWERPLANT REPAIR IN
PALEMBANG, INDONESIA

ELECTROPLATE REPAIR OF GEARBOX TEETH
AND LASER ALIGNMENT

Goltens in-place machining capability extends far beyond the range of diesel engine repairs and our repair experience on steam and gas turbines is quite well known as well. When the PLTG 60MW Borang powerplant in Palembang, Indonesia experienced problems with the gearbox connected to their GE 7LM6000 gas turbine, the call came to Goltens.

Goltens’ specialists dismantled the gearbox and performed a thorough visual inspection and range of non-destructive tests. The gears were determined to have chipped teeth that would have to be repaired. Rather than incur the cost and delays of transporting the large gearbox to a workshop, Goltens deployed the required tooling and in-place machists to do the work onsite.

Once the gearbox was moved to a safe work area and the gears were secured, Goltens machined the damaged areas on the gear to ready the surface for repair. Technicians then applied selective electroplating to the damaged gear teeth using nickel and cobalt acid.

Once the gears were inspected and the repair approved, Goltens reassembled the gearbox and laser aligned it to the gas turbine.

GAS TURBINE GEARBOX REPAIR RESULT

Working around the clock, Goltens was able to keep the schedule to complete the gear repairs and reinstall and realign the gearbox and turbine.

Commissioning tests were successfully performed on the engine with the output reaching 34.5MW at 10,366 RPM with vibration of 0.06-0.09.
Selective electroplating damaged gear teeth

Gear teeth after repairs completed

Installation of shaft between gearbox and turbine

Laser alignment of generator to gearbox

Laser alignment of generator to gearbox

Engine testing / commissioning