

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 machinists 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.

PROJECT FACTS: GAS TURBINE GEAR REPAIR

Customer:	PT. Wijaya Karya (Persero)
Plant:	PLTG 60 MW Borang
Engine:	General Electric
Gas Turbine Type:	7LM6000-PC-NGWG26
Gearbox Size:	TX61/1CV
Rated Power:	52200 KW
Rated Speed In/Out:	3627/3000 RPM
Location:	Palembang, Indonesia



GE 7LM6000 Gas Turbine Engine



Rigging gear box out of powerhouse to work area



Pre-machining chipped gear teeth



Selective electroplating damaged gear teeth



Gear teeth after repairs completed



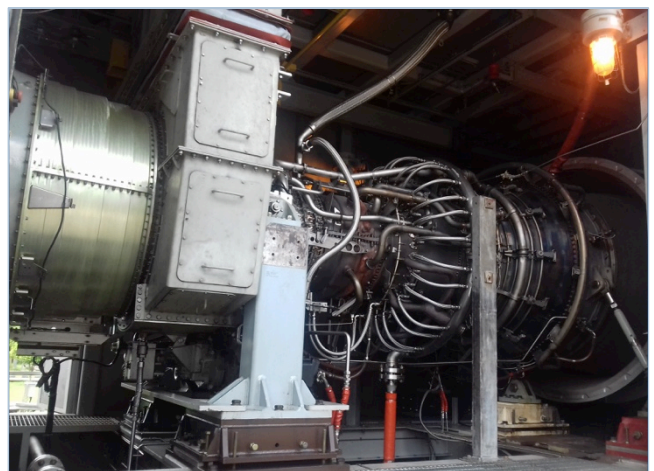
Installation of shaft between gearbox and turbine



Laser alignment of generator to gearbox



Laser alignment of generator to gearbox



Engine testing / commissioning