IN-SITU MACHINING RESTORES EL SALVADOR POWERPLANT GENERATOR

WARTSILA VASA 18V32 PISTON FAILURE

Nejapa Power, a powerplant in El Salvador suffered a major casualty to one of its Wartsila VASA 18V32 generators. As a result of a piston failure, the generator suffered a broken counterweight, sheared counterweight bolts, badly damaged crankpin bearings, a damaged crankpin journal and damaged fillet radii along with damage to other engine components.

Goltens inspected the damage and proposed an in-situ machining process to restore the crankshaft to operational status and get the generator back up operational without removing it from the engine. Goltens mobilized its in-situ specialists and tooling to the powerplant and undertook the multi-phase repair to restore the badly damaged generator.

REPAIRS CONSISTED OF:

- Machining new fillet radii
- Machining and superpolishing crankpin journal #6 to -3.00mm undersize with finish <0.2Ra
- Removal of sheared counterweight bolts
- Fabrication of a custom jig and surface machining of counterweight mating surface on crankshaft

RESULTS:

Goltens' in-situ machining efforts avoided the cost and downtime that would have been required to disassemble and transport the damaged crankshaft to a workshop for repair as well as the cost and downtime associated with the generator rebuild.

CUSTOMER TESTIMONIAL:

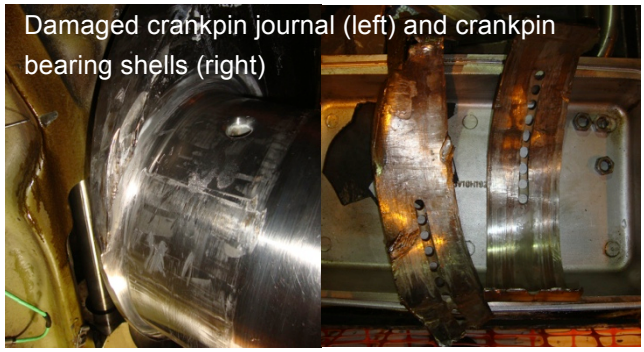
"We would like to remark professionalism shown by Goltens Technical Personnel throughout the repair process complying our safety & technical standards.

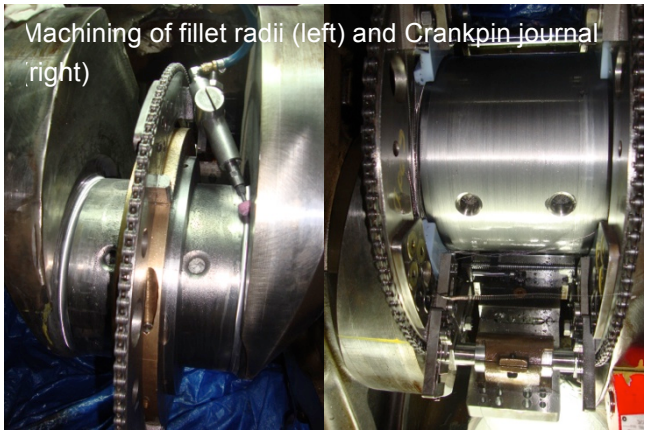
Engine Crank Pin repair performed by Goltens has exceeded our expectations, positioning your company as a key provider for our business."

ROBERTO MARTINEZ PERLA
Maintenance Manager - Nejapa Power Plant

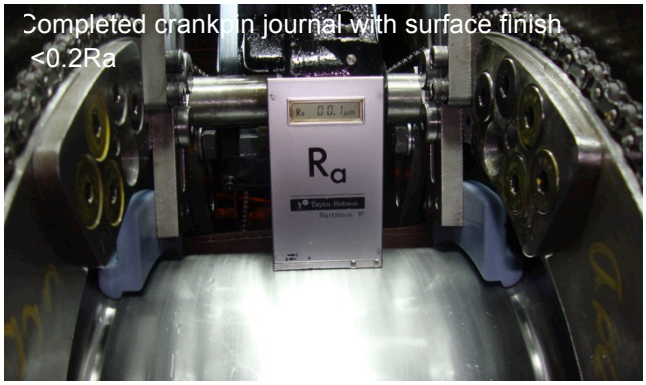
PROJECT FACTS:

Engine:	Vasa 18V32
Engine Output:	5,800kW
RPM:	720 RPM
Original Crankpin Diameter:	269.00 mm
Finished Crankpin Diameter:	267.00 mm
Distance between Webs:	210.00mm


Damaged crankpin journal (left) and crankpin bearing shells (right)


Machining of fillet radii (left) and Crankpin journal (right)


Machining of counterweight mating surfaces after broken studs were removed



Completed crankpin journal with surface finish <0.2Ra