FX-TURBO Evaluation & Redesign

Turboexpander-Gearbox-Generator

Application:
Geothermal Power Generation

Location:
California, USA

Challenge:
(8) Non-LAT turboexpander-gearbox-generator units were performing inconsistently, components were failing and the plant personnel were experiencing unreliable OEM service.

Specifications:
Process Gas: Isobutane
Inlet Temperature: 500 PSIA
Speed: 11,000 HP
Power: Up to 5 MW
**Challenge:**

Eight (8) non-LAT turboexpander-gearbox-generator units were underperforming in their output levels and operationally, internal components were failing, and the end-user was experiencing unreliable aftermarket support and service from the OEM.

**Solution:**

Following LAT’s on-site and shop evaluations, it was determined a redesign of the eight turboexpander-gearbox-generator machines was needed. The redesign included a change in the material selection and a modification to the fabrication and design of key components within the mechanical center section. LAT field service personnel also installed and recommissioned the repaired units.

**Result:**

Since the redesign, all units are functioning successfully.