

GE LM6000PA™ GAS TURBINE DISASSEMBLY & FAULT DIAGNOSIS

Problem

ENI UK Limited (ENI) operates two GE LM6000PA™ Gas Turbines on its Douglas complex (First production 1996). The units (GTA, GTB) are employed in a power generation application, and since their original installation have been maintained via an LTSA contract by the OEM. During operation in 2020, unit GTA suffered a catastrophic failure and was brought offline.

The HPI Energy Services Solution

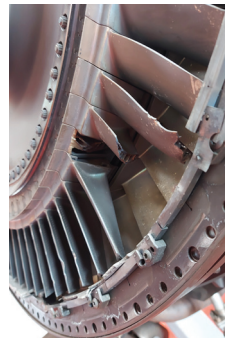
HPI Energy Services Ltd. (HPI) arranged for the operator's spare engine, which had been stored and preserved per the OEM's specification at HPI's UK facility, to be transported offshore in exchange for the damaged engine. The damaged unit was then returned to HPI for investigation.

HPI's Turbine Specialists together with MTU's (an OEM authorized Level 4 depot) engineers, disassembled the unit into modules for inspection. The unit and modules were inspected by borescope during which the initial fault was determined to be a failed HPT Stage 2 rotor blade which liberated at the root, causing further extensive damage as it passed through the gas path in order of airflow.

A condition report was produced to assist ENI and their Insurance Loss Specialists decide on the future status of the unit.



LM6000PA™ Modules



Damaged HPT Stage 2 Rotor Blade



Initial incoming inspection and component removal

Benefits

Due to a sound legacy of success within the North Sea region and its familiarity supporting ENI on both mechanical and control disciplines, HPI was approached to offer its solution.

By closely coordinating with ENI and MTU, HPI was able to offer its support, tooling and workshop facilities to conduct the work in the UK rather than returning the engine to MTU's facility in Germany.

KEY BENEFITS

This solution offered a number of cost and convenience benefits to ENI including:

- **Timely** – no delays or costs shipping the unit to Germany and accepting it into MTU's facility
- **Convenient** – avoids ENI and Insurance Loss in spectors having to travel to Germany and the potential COVID international travel protocols and quarantine
- **Independence** – Inspection and fault determination conducted by an experienced team independent of the OEM

Successful conclusion and job safely completed without utilising the OEM, offering a quicker and more cost-effective solution.

To see how HPI Energy Services can help you, please call us on +44 (0)1522 519944 or email info@hpienergy.com

HPI Energy Services Limited Runcorn Rd, Lincoln, LN6 3QP United Kingdom

Copyright © 2021 HPI Energy Services Limited. All Rights Reserved

HPI-ED-A-0421-1