



In-house fuel nozzle repair capabilities helped a customer to meet its commitments.

FIELD SERVICES & AERO DEPOT

LM6000PC

Northern United States



HPT AND LPT REPAIRS ENABLE CUSTOMER TO MAINTAIN OUTAGE SCHEDULE, SAVE \$1.2 MILLION

In the Midcontinent Independent System Operator (MISO) district, a private company relies on a single LM6000PC engine to provide baseload power and steam for its plant. Unforeseen issues with this engine can put manufacturing capabilities at risk and incur significant third-party costs and penalties.

CHALLENGE

During a planned outage, a routine borescope inspection indicated the need for a hot section overhaul because of damage inside the high-pressure turbine (HPT). Prolonged repair work on the company's sole engine would leave it without the power to sustain daily operations and put it at risk of stiff penalties if purchasing energy from the commercial market.

SOLUTION

After inducing the engine at its Level IV Aero Depot in Sedalia, Missouri, PROENERGY further investigated its condition and discovered fouled fuel nozzles and impact damage on the low-pressure turbine (LPT).

Considering the customer's dependence on the engine for baseload power, the Aero Depot team developed a creative solution with condition-based repairs to return the engine to serviceability without the exchange of major engine modules.

As part of its expedited process, the team inspected, repaired, or exchanged specific damaged components in the HPT and LPT. It also exchanged the customer's fuel nozzles with a set from the PROENERGY fuel nozzle facility.

The team executed the entire solution in-house in a turnaround time of only 18 days, whereas a full hot section overhaul typically takes between 75 and 90 days.

Less than 3 weeks following the arrival of the damaged engine to the depot, the customer received the unit for immediate return to operation.

EFFICIENT

57 DAYS FASTER

at least compared to typical hot section overhauls

RESPONSIVE

3-WEEK TURNAROUND

avoided inconvenient timing and significant costs

ECONOMICAL

80% COST SAVINGS

by repairing rather than replacing

VALUE

The creative in-house solution saved the customer between 8 and 11 weeks compared to a typical hot section overhaul. As a result, the customer maintained its outage schedule with no additional productivity losses.

The quick turnaround avoided an estimated US \$600,000 at least—and \$1.2 million at most—if using a lease engine during the time saved. Furthermore, it eliminated additional downtime and associated costs if reinstalling the original engine during the customer's peak season.

Condition-based repairs satisfied overhaul requirements while saving the customer 80% of costs for full overhauls and exchanges.