

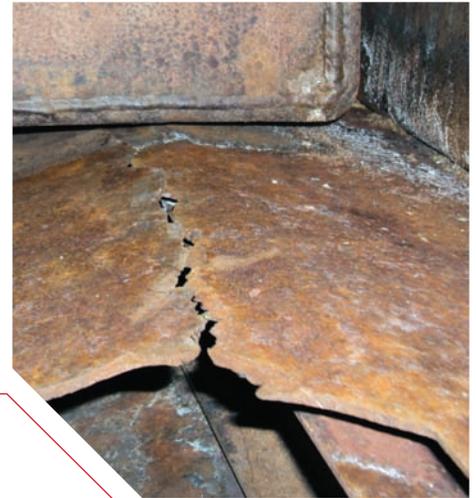
Offshore Gas Turbine

Exhaust Refurbishment

Offshore gas turbines typically operate continuously in remote areas with harsh environmental and operating conditions, in order to supply power and gas compression for platform operations.

Due to their physical location, any issues can mean the gas turbine is out of operation for a substantial amount of time whilst the problem is resolved.

In a worst case failure scenario, the process may need to shut down while support crew may need to be mobilised to review the equipment prior to procuring sufficient materials to be manufactured to suit the necessary repair or installation of new replacement equipment.



Internal damage to a Frame 5 gas turbine exhaust outlet plenum



Exhaust plenum repair materials fabricated by AAF, shipped to platform and installed in situ

Problem

During an emergency shutdown inspection, Client identified that the John Brown Frame 5 gas turbine was suffering from hot gas turbine exhaust equipment issues which would prevent further safe operation until they could be rectified.

The internal thermal lining had suffered problems resulting from previous maintenance work, and this led to the emergency shutdown of the main gas compression gas turbine to implement root cause failure analysis and also the swift re-instatement of the machine.

Client supplied AAF with a report of the problems, from which AAF were able to identify the failures, likely cause and also a proposed solution.

Solution

AAF mobilised a site services representative immediately to travel to the platform in order to support the client with a rapid resolution.

AAF carried out a full survey of the equipment, including a review of the problem, identifying all necessary materials required to carry out an offshore repair in situ and to get the GT back up and running in as short a time as possible.

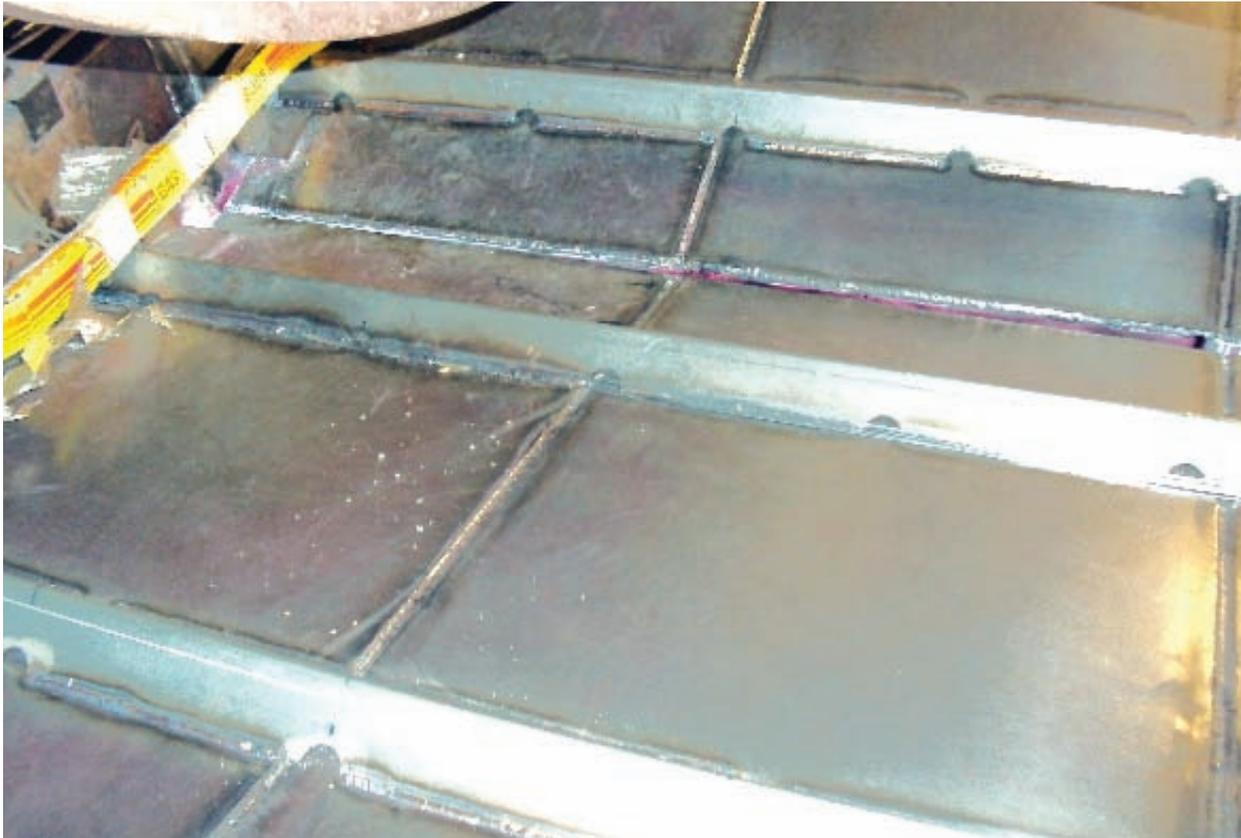
Due to the entry space constraints of the hot gas exhaust system, AAF were required to supply a solution in kit for which could be easily handled on the platform and also took the tight access and operating spaces into consideration for the installation.

This was then communicated back to AAF onshore facility to allow a team to fast track procurement and manufacture of the required repair materials.

Upon receipt of the failure report, AAF collaborated with the client to identify the cause of the problem and to identify the swiftest means of supplying suitable repair materials.

AAF prepared installation instructions which would allow for the successful re-instatement of the gas turbine exhaust duct in the shortest possible lead time and to the highest possible standard.

AAF site representative supervised the remedial work necessary and also ensured the newly supplied equipment was installed in the correct sequence and according to the work instruction.



Completed exhaust refurbishment

The benefits

Working with AAF, the Client was able to keep the equipment down time to the absolute minimum, due to the rapid response and fast supply turnaround and subsequent successful installation.

The supply of new materials was carried out in a shorter lead time than the Client anticipated, which supported keeping production down time to a minimum.

AAF investigative work which identified the initial cause of the problems will ensure similar problems do not occur in the future and allowing a thorough and regular inspection / maintenance regime to be implemented to identify any potential future issues in advance of developing into a larger issue.

AAF Limited also offer:

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Ventilation Systems

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