

Customer Chemical Company, North West
Sector Chemical / Petrochem
Date July 2012
Ref no. 20070

APPLICATION EXAMPLE

Repairs to steam turbine mating flange

Situation

Whilst undergoing a major service it was found that the mating faces of the turbine castings were out of specification and could not be re-built without causing a significant high pressure steam leak. The turbine was needed back on-line as soon as possible as two other turbines were also on scheduled maintenance leaving no stand by capacity.

Implication

If an on-site repair could not be done then the only alternative would be to remove both castings for machining and re-build. This would have needed a crane to remove and significant civil alterations to gain access for the crane, and a turnaround time of three weeks!

Solution

The repair specification was to re-build the low sections back to the OEM spec meaning 0.005" to 0.019" needed to be re-built on the mating face. The face surface was prepared using wire brush and emery cloth (blasting was out of the question due to possible contamination). The low areas were taped out and a specialised high temperature epoxy with very small fillers used to coat the low areas. The coating was hand dressed back to spec and the turbine was re-built and returned to service.

Facts

From the initial call out inspection to completed repair took just 14 hours, saving vast expense and inconvenience to the customer.

