

Press Information

METALOCK IN-SITU MACHINING FOR RETROFITS ON TWO OF DRAX POWER STATION'S SIX LP TURBINES

Metalock Engineering UK has recently carried out intricate on-site machining on two LP turbines at Drax power station to enable Siemens retrofits and upgrades which will improve output and give the turbines a new lease of life. Metalock's contract is for the machining of all six LP turbines. The LP spindle upgrade involves the removal of the diaphragms between each row of blading and converting to a blade carrier system. This is three carriers fitted with groups of blading.

Drax is the largest coal-fired power station in the UK with a total capacity of just under 4000 MW. When originally built in 1974 it had three 660 MW turbines and in 1986, three more were added. With its flue gas desulphurisation equipment it is the cleanest coal-fired station in the UK and generates about 7 per cent of the UK's electricity. It is owned by Drax Group plc.

Metalock's workscope for each turbine, consisting of 3 LP's per turbine involved:-

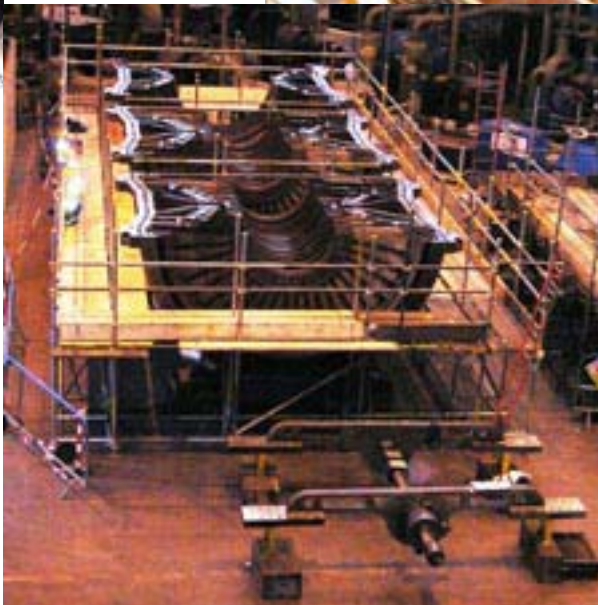
- Deepening the existing grooves (carrier seats) in rows 1 and 2 in both top and bottom casing halves on LP1, LP2 and LP3, to accept larger blades in that area of the turbine.
- Also exhaust areas were machined on LP1, LP2 and LP3 to provide greater clearance in the casing so that bigger blades could be installed at the exhaust ends of each LP.
- To enable the fitting of new bearing keeps Metalock has drilled and tapped a series of new M56/M64 holes in the 6 bearing pedestals.
- Additionally, carrier seat faces were drilled, tapped and dowelled to permit anti-rotation keys to be fitted in top and bottom halves of each LP



Exhaust machining



LP casing machining with 250mm diameter boring bar



Three casing covers and Metalock's purpose-designed boring bar

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