

INEOS NITRILES-SEAL SANDS, TEESSIDE

Boiler Three Re-furbishment-2013

As a specialist contractor TEi were tasked with project managing the refurbishment of no.3 boiler including the management of all sub contractors.

TEi were the Principal Contractor for the project to satisfy the CDM regulations 2007.

Scope

Remove and Replace the boiler pressure part systems:

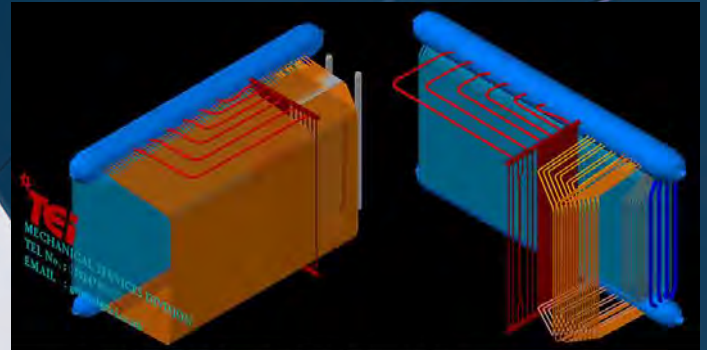
- Convection bank tubing
- Furnace D-Tubes Side wall
- Furnace D-Tubes Rear wall
- Superheater Protection wall complete with headers
- High pressure Feed-water pipework
- Process valves and pipework to Steam/Air/Condensate system
- Supply design & install Expansion joint to Gas outlet ducting to economiser
- Boiler casings and expansion joint
- Compile and submit Hot & Cold Boiler survey

Manage & co-ordinate all Sub-contractors for the project:

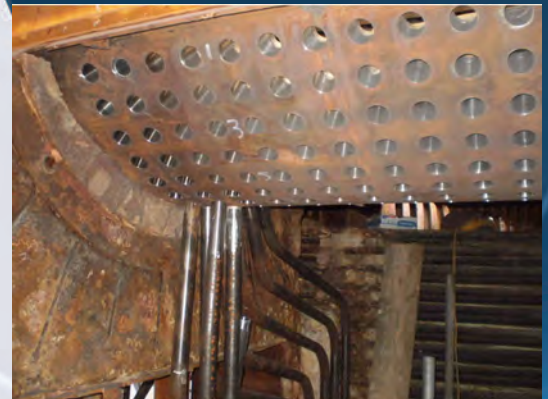
- Refractory
- Insulation
- Shot blasting & Painting
- NDT Inspection
- Mechanical contractors for Client

Contract Programme

- Total project - 44 weeks
- Off-site fabrication and preparation - 20 weeks
- Site duration - 24 weeks
- Mechanical works - 19 weeks
- Testing and commissioning - 5 weeks
- Approximate man-hours 44,000



INEOS - Boiler 3D model



INEOS - Convection bank -Top steam drum tube installation between drums



INEOS - Erection of superheater protection wall header

Mechanical Work

Convection Bank

- 1441 tubes at 8m expanded into steam and mud drum - 2882, 3 stage expansions
- 3732 metres of membrane wall seam welding
- 20 welds - 100% x-ray

Furnace D-tubes - side wall

- 120 tubes at 14m - 240, 3 stage expansions
- 5760 metres of membrane wall seam welding
- 360 welds - 100% x-ray

Furnace D-tubes - Rear Wall

- 44 tubes at 14 metres - 88, 3 stage expansions
- 2464 metres of membrane wall seam welding
- 176 welds - 100% x-ray

Fabrication of superheater protection wall header

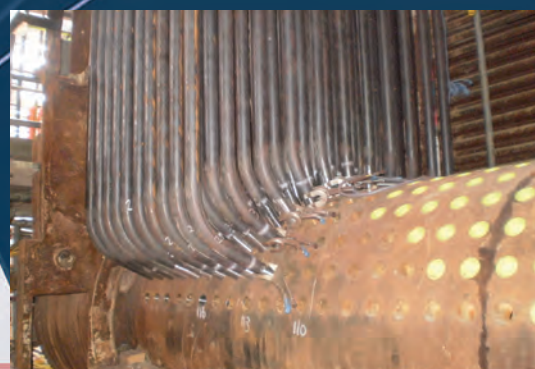
- 76 welds 8 inch and 2 inch diameter - 100% x-ray
- 864 metres of membrane wall seam welding
- 2.7 tonnes installed

Fabrication and installation of HP steam pipe

- 24 - 6 inch diameter welds c/s and s/s - 100% x-ray



INEOS - Fabricated furnace wall 'D - tube' panels. 17 panels to erect & position inside boiler. Lifted over operational plant & pipe tracks using 160t crane



INEOS - Convection bank - Bottom mud drum 1441 tubes to install & expand into drum.

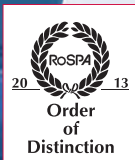
INEOS - Fabricated superheater protection wall header



INEOS - Erection of furnace 'D - tube' panels

QUALITY SERVICES

TEi's Integrated Management System,
Safety BS OHSAS 18001:2007
Environmental ISO 14001:2004
Quality ISO 9001:2008



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