

Case Study

Client: **Sembcorp Utilities**
Location: **Wilton**
Duration: **6 Weeks (19 Days Main Event)**
Contract Type: **Fixed Price**

Project: **Wilton 10 Wall Tube Replacement with Inconel Clad Panels**

Scope of Work: Constructability study, detail design, procurement, manufacture, installation and NDT testing of 96 number water wall panels measuring 8 tubes X 6 metres and 7 tubes X 6 metres.

Disciplines/Trades: Scaffolding, Insulation, Cleaning, Blasting, Refractory, Fitting, Welding and NDT.

Description: After 12 years of operating the Wilton 10 Boiler Wall Tubes required replacement between the 8 and 20 metre levels. The client order was placed on November 8th, 2018 and the complex logistics process of German tube supply, British tube wall fabrication and Swedish Inconel cladding was initiated immediately to meet the tight project milestone of site delivery, which commenced on 15th. April 2019 and was completed on 29th. April.

A fully designed internal boiler scaffold was erected using the ATPAC propriety system. The scaffold had to accommodate the flashing in of the 6 metre panels. The initial cut was made on the South West corner on May 1st. Working in a heavily congested environment the 2 shifts of 26 tradesmen worked simultaneously on all 4 walls in pursuit of the 20 day timescale which would see the boiler handed back to Sembcorp water and gas tight and ready for pressure testing on May 21st. Each shift had a full time Site Manager, Site Engineer and QA Superintendent, and a single Project Planner worked an overlap shift. Scaffold Mod Squads were allocated to each shift to cater for the constant modifications required to facilitate the movement of panels and the final in-situ butt welding of the panel fins.



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Progress

Our Project Planner updated Sembcorp on progress at every shift change using a simple graphic which instantly conveyed progress on each wall and predicted end date and time.



Project Highlights:

- More than 1,150 welds were carried out on the project with 100% die penetrant and 10% radiographic tests performed, a process which revealed only 2 minor failures
- 450 M2 of lagging and cladding were removed and replaced including new pins and rails
- 13,224 Mechanical, 405 Refractory, 180 Blasting, 2,400 Scaffolding, 3,138 Insulation and 603 Cleaning hours were delivered in the outage window
- Full scope achieved plus the fabrication and installation of 5 number tertiary air nozzles

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