

Frame 5 GTG Installation

Installation and Commissioning of Frame 5 Gas Turbine Generator Unit



In August 2010 IPS was awarded the contract by one of Australia's leading power generators, to carry out the installation and commissioning of a complete gas turbine generator unit. The power station, located in South Australia, was built in 2001 and consisted of 11 Frame 5 open cycle gas-turbine generating units giving a combined output of 180MW. It is operated as a peaking power generation plant mainly between the periods of November and March each year, when electricity prices traditionally reach very high levels. On a typical day, it can provide approximately 5% of South Australia's electricity needs.

In early 2010, the owner purchased an additional 12th unit; this gas turbine generator had been pre-owned, having previously operated in a paper mill in Germany as part of a cogeneration facility. It was installed within an acoustic enclosure within the paper mill main building and used the paper mill cooling water circuit for unit cooling. The unit is a Frame 5 (model 5001) 27MW natural gas fired turbine-generator coupled to a GEC Alstom T190-240 generator.

The scope of IPS' contract included installation and commissioning of a complete gas turbine unit including the generator, acoustic enclosure, combustion air inlet, gas turbine ventilation and exhaust systems, and external cooling water systems. A fast track programme was written into the contract in order to allow the new unit to become operational during the early months of 2011.

A dedicated IPS team of up to 12 mechanical and electrical technicians and gas turbine commissioning specialists mobilised to site in August 2010. Working in often difficult weather conditions, dependant on equipment and fabricated structures arriving from Germany and the Middle East, and interfacing with numerous other owner subcontractors, the IPS team demobilised with the job substantially and successfully complete at the end of January 2011.

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