

Nehuenco II, Chile

350 MW



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Conversion into a 360 mw combined cycle for Colbun S.A - Chile

Second John Cockerill Reference in Chile

Project description

Colbun SA, with major shareholders Tractebel, and the Chilean Matte Group is one of the largest independent power producers in Chile. Since 1996 they have operated a combined cycle on a site at Neuenco some 50 km north of Santiago. In 2000 they decided to extend the plant with the installation of a GE Frame 9FA+ gas turbine set to run in simple cycle from May 2002, and which could later be converted into a combined cycle by adding an HRSG and a 135 MW steam turbine. The site is very compact and is located in a seismic area. The plant has therefore had to be designed to meet Chilean national conditions to withstand 0.4g acceleration. Alstom were responsible for procurement of the HRSG and control system and the engineering and commissioning of the whole power plant.

The Contract

In February 2002 the contract was awarded to Alstom Power Centrales as consortium leader for the combined cycle, who awarded a subcontract to John Cockerill for the HRSG which is a triple pressure reheat design with natural circulation. The unit is of modular construction, fabricated in the Seraing works, and erected by local contractors under John Cockerill appointed supervision.

Plant Operation

HRSG is designed for semi base load and cycling operation (two shift duty with daily start-up).

Gas Turbine

- GE Type MS9001FA+
- ISO rated 255.6 MW: site rated 235 MW at 25°C
- Fuel: natural gas

Heat Recovery Steam Generator

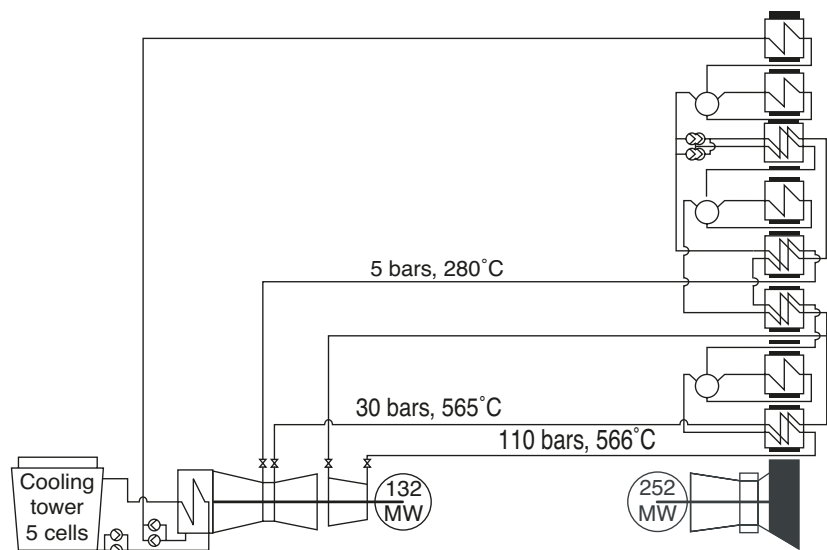
- John Cockerill Vertical, Natural-circulation design
- Three output pressures to steam turbine
- Designed for installation in area of high seismic risk
- By-pass stack for gas turbine to run independently

Performances

GAS	°C		kg/s
Inlet	609		636
Outlet	93		636
STEAM	°C	barA	t/h
HP	566	118	283.5
IP	311	32.5	35.3
LP	279	4.5	46.4
Reheater	565	30.8	314.7

Schedule

- Gas turbine start of operation May 2002
- Date of order February 2002
- Completion of boiler erection September 2003
- Combined cycle at full output December 2003
- Full commercial operation April 2004



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