

Nehuenco, Chile

384 MW



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Nehuenco II, Chile | 384 MW

Conversion into a 384 MW Combined Cycle for Colbun S.A. - Chile

Context of the Project

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 at Nehuenco 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, 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 had therefore 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.

Alstom awarded a contract to John Cockerill for the design and supply for one triple pressure reheat HRSG designed with natural circulation. The unit is of modular construction, fabricated in the Seraing works, and erected by local contractors under John Cockerill appointed supervision.

Gas Turbine

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

Heat Recovery Steam Generator

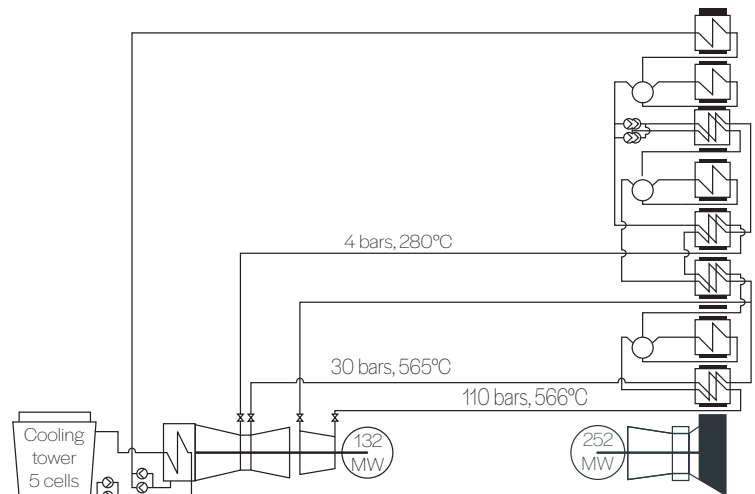
- One John Cockerill Vertical HRSG
- Natural-circulation design for low and intermediate pressure circuits
- Three output pressures to steam turbine
- Designed for installation in area of high seismic risk
- By-pass stack for gas turbine to run independently

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
Reheat	565	30.8	314.7

Schedule

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



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