

Gresik, Indonesia

1578 MW



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 **John
Cockerill**

Gresik, Indonesia | 3 x 526 MW

Combined Cycle for P.L.N. Eastern Java

First John Cockerill's HRSG's installed in Indonesia

Project Description

PLN, Indonesia's public utility system provides about half of the country's electricity supply, the rest coming from private industrial power plants. Due to electricity demand growing at 17 % per year, PLN launched a crash program of combined cycle construction. One of the three 526 MW blocks erected at Gresik, near Surabaya in Eastern Java, has been the first to go into service in March 1993. The nine gas turbines are arranged on parallel axes in one building with the boilers outdoors. Three boilers feed one steam turbine. Feedwater is produced by a multi-stage flash

The contract

PLN awarded a turnkey contract for three combined cycle blocks to a consortium of Mitsubishi, Siemens and John Cockerill. John Cockerill assembled a financial package which would allow part of a Belgian loan to Indonesia to be used to fund the boilers and enable much of the fabrication and assembly work to be placed with local contractors. John Cockerill's contract covered supply of nine boilers, of which only the main HP parts are made in Belgium, plus supervision of fabrication, erection and commissioning of the boilers.

Plant operation

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

Gas turbines

- Mitsubishi MW701D
- Site rated 112 MW at 32°C ambient
- Dual fuel capacity: Natural Gas with heavy oil back-up
- Initial open cycle operation of six machines on liquid fuel pending arrival of gas on site

Heat recovery steam generators

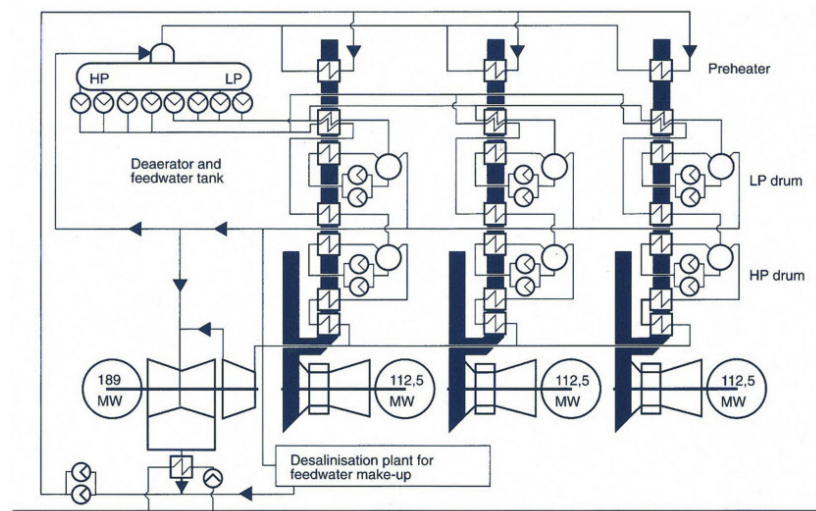
- John Cockerill Vertical, Assisted Circulation type
- Unfired
- Dual pressure supply to steam turbine

Performances

GAS	°C		kg/s
Inlet	531		416
Outlet	104		-
STEAM	°C	barA	t/h
HP	507	76.5	182
LP	165	6.4	49

Schedule

- Contract award October 1990
- First firing of GT on oil (Unit 1) March 1992
- First block combined cycle commissioning July 1993
- Full commercial operation (3 blocks) March 1994



CMI becomes John Cockerill

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