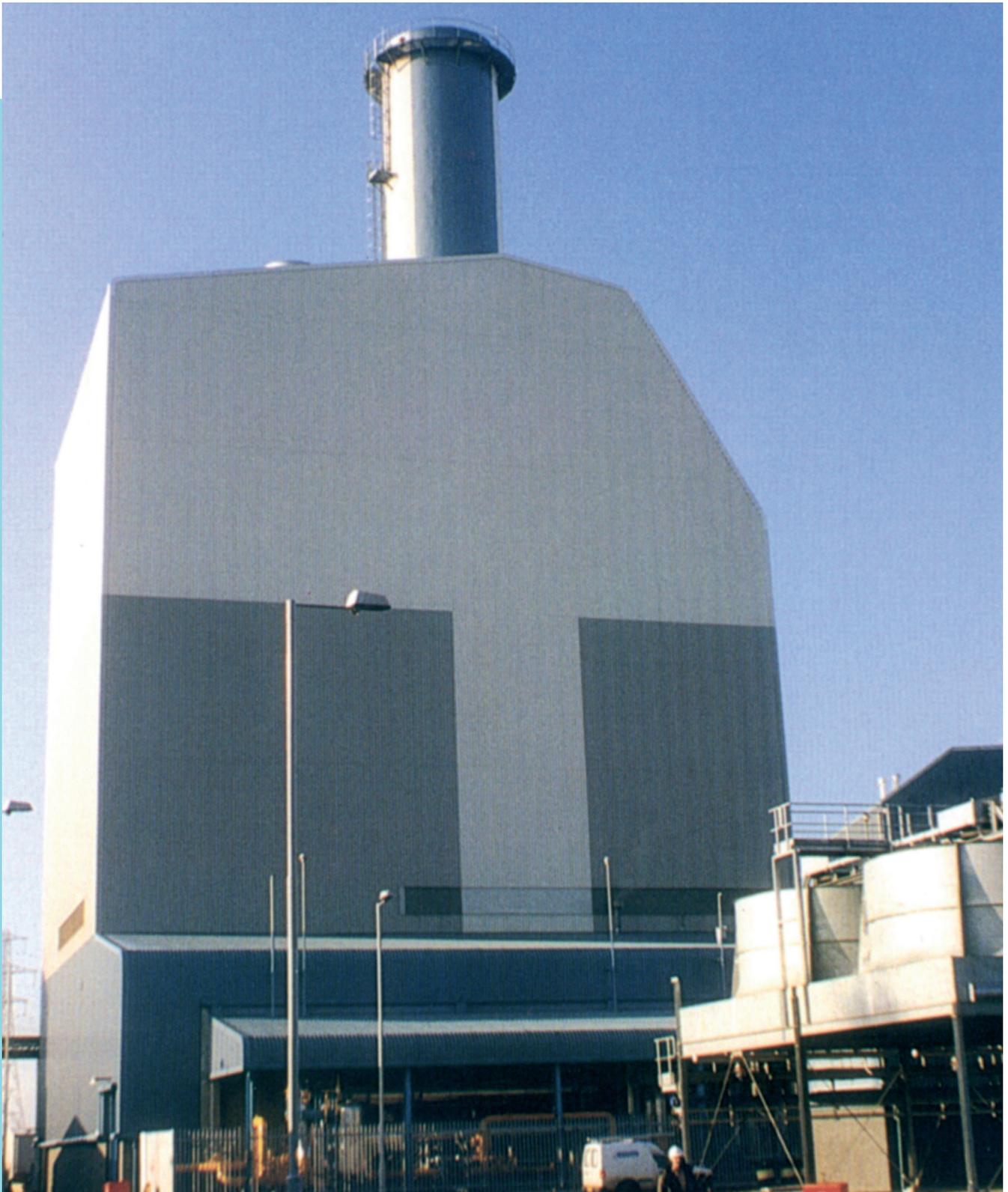


King's Lynn, UK

350 MW



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 **John
Cockerill**

King's Lynn, UK | 350 MW

Combined cycle for Anglian Power Generation Ltd - U.K.

John Cockerill reference for 3 pressures + reheat HRSG

Project Description

Eastern Electricity is the largest of the Regional Electricity Companies (REC's) created by privatization of the British electricity supply industry and supplies Eastern England from the Thames to the Wash, including the northern suburbs of London. The company has a 360 MW combined cycle at Peterborough (also with John Cockerill boilers) and has shares in some other IPP schemes. King's Lynn, the company's second combined cycle project, is located in North Norfolk beside a relief drainage channel of the River Ouse.

The plant comprises a single-shaft block of 350 MW with a Siemens Model V94.3 gas turbine, a 120 MW steam turbine with a tri-pressure reheat steam cycle and an air condenser. Plans of the site allow for installation of two similar blocks as required by future growth of demand.

The contract

In September 1994, Siemens were awarded a turnkey contract for a 350 MW combined cycle block by Anglian Power Generators Limited, in which Eastern is the principal shareholder. One month later, John Cockerill were awarded the contract for the boiler through their licensee, International Combustion, who fabricated some pressure parts and were responsible for erection and commissioning of the boiler under John Cockerill supervision.

Plant operation

HRSG is designed for semi base load and cycling operation (two shift duty with daily start-up). All of the output is fed into the Eastern 132kV network.

Gas turbines

- Siemens Model V94.3 Single Shaft
- ISO Base load rated 220 MW at 15°C
- Hybrid low-NOx burners for emission control
- Fuels: natural gas + distillate oil as back-up
- Single-shaft block configuration with centrally mounted generator and clutch on steam turbine side.

Heat recovery steam generators

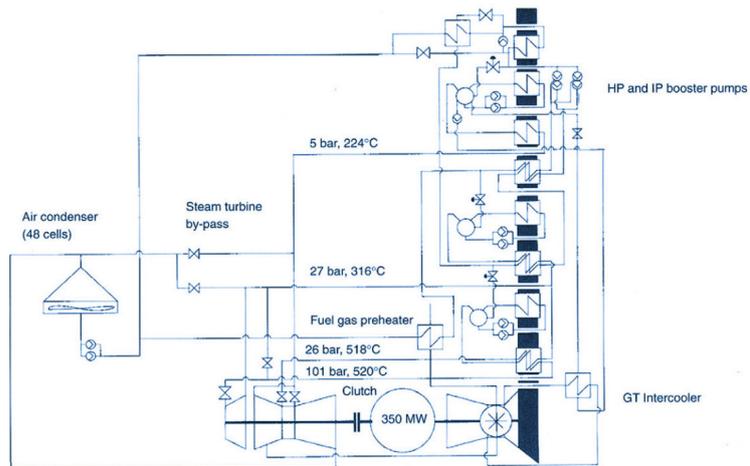
- John Cockerill Vertical, Assisted Circulation design
- Unfired
- Three output pressures to the steam turbine + reheat
- No by-pass stack
- Full flow steam dump to condenser.
- Indoor HRSG

Performances

GAS	°C		kg/s
Inlet	550		624
Outlet	110		624
STEAM	°C	barA	t/h
HP	520	101	231
IP	316	27	42
LP	224	5	54
Reheater	518	26	270

Schedule

- Contract award September 1994
- First power from gas turbine June 1996
- First steam to steam turbine August 1996
- Full combined cycle operation September 1996
- Commercial operation November 1996



CMI becomes John Cockerill

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