Dunamenti, Hungary

230 MW

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Combined Cycle C.H.P System for M.V.M. Hungarian Power Co

The first John Cockerill HRSG in Hungary

Project Description

In 1991, MVM, the Hungarian Electricity Authority added a Siemens Model V94.2 gas turbine and a heat recovery boiler at their Dunamenti steam plant, 50 km south of Budapest. Later, in preparation for privatization, the power station became a separate business unit: Dunamenti Erömü Rt with responsibility for extending the gas turbine plant into a combined cycle CHP scheme, supplying power to the grid, steam to the Szazhalombatta refinery and district heating to the neighboring community. Tractebel Belgium became the majority shareholder in Dunamenti Erömü.

The new steam cycle comprises a back pressure turbine between HP and the LP output, which feeds the original process steam line, and a condensing turbine on the LP, with extraction to district heating condensers. The new plant adds 234 MW and 57 MJ/s to district heating.

The contract

John Cockerill Energy were in consortium with Mitsui (Japan) and Skoda Plzen (Czech Republic) and had the technical leadership of the project. The contract was awarded in November 1995. John Cockerill Energy were responsible for the manufacture, erection and commissioning of the boiler, steam turbines, generators and the transformer.

Plant operation

The plant operates over 7,000 hours/year as a base load unit to supply steam to the refinery and district heating, with higher electrical output in the summer time when there is no district heating load.

Gas turbines

- Siemens Model V94.2
- ISO rated 159 MW at 15°C on natural gas
- Site rated 150 MW
- Fuel: natural gas

Heat recovery steam generators

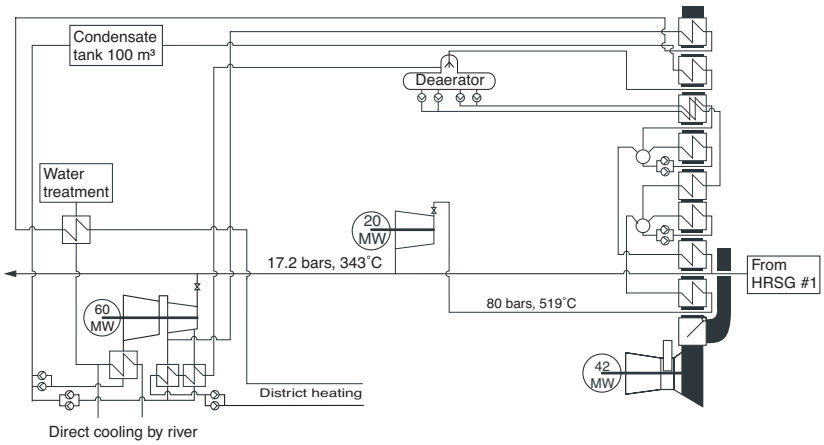
- One John Cockerill vertical, assisted-circulation design, unfired, indoor HRSG
- Two output pressures: HP to back pressure steam turbine; LP to process steam header
- District heating coil installed at top of heat exchanger stack

Performances

GAS	°C		kg/s
Inlet	540		514
Outlet	94		514
STEAM	°C	barA	t/h
HP	520	82	230
LP	340	17.5	41

Schedule

Contract Award (HRSG & BOP)	October 1995
First firing of gas turbine	September 1996
Commissioning of HRSG completed	March 1998
Full combined cycle output	April 1998



CMI becomes **John Cockerill**

John Cockerill Energy in Europe • Seraing, Belgium
Tel: +3243302444 • Fax:+3243302200
hrs@johncockerill.com • **johncockerill.com/energy**