

Hamitabat, Turkey

1200 MW



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First John Cockerill HRSGs behind 8000H gas turbines

Project Description

The Hamitabat power plant is located approximately 180 km to the north west of Istanbul (Turkey). Built in the 1980's, it was the first natural gas fired combined cycle plant of Turkey. Between 1987 and 1988, John Cockerill provided the plant with 8 Heat Recovery Steam Generators (HRSGs). In 2013, Limak Dogalgaz won the privatization tender of Hamitabat and took the plant over. The Hamitabat combined cycle power plant was coming to the end of its operational life and it was decided to replant it for a further 30-year lifespan with a total power output of 1,200 MW. It comprises two blocks, each one having a single-shaft configuration of one Siemens SGT5-8000H gas turbine, one SST5-5000 steam turbine and one John Cockerill HRSG.

The Contract

In January 2015, the Turkish EPC GAMA awarded a contract to John Cockerill Energy for the design and supply of two triple pressure plus reheat horizontal HRSGs. These new HRSGs are the largest ones John Cockerill Energy has ever supplied. John Cockerill Energy will be in charge of supervising the assembly and commissioning of the HRSGs. In addition, John Cockerill Energy will provide technical trainings to the users.

The first boilers supplied by John Cockerill on this site in the late 1980's will have been in operation for almost 30 years and will be replaced with a new generation of John Cockerill HRSGs that will be installed for the first time behind 8000H gas turbines. The new boilers technical characteristics allow them to operate in heavy cycling mode and facilitate fast start-ups and shut downs, which is an important operational criteria required by the plant end user. Also note that the superheaters and reheaters are fitted with stainless steel tubes.

Plant Operation

The Hamitabat combined cycle power plant is foreseen for heavy cycling mode, with fast start-ups and shut downs, as mentioned above. The flexibility of John Cockerill boilers is an

incontestable asset for this mode of operation. John Cockerill's optimized boiler technology particularly meets the requirements of the newest generations of larger turbines, as the 8000H type, which are even more demanding, complex and sophisticated.

Upon completion of the project, the Hamitabat power plant will be the highest capacity H-class among the 50 Hz market in the world.

Gas Turbine

- Siemens SGT5-8000H
- Fuel: natural gas

Heat Recovery Steam Generator

- 2 horizontal John Cockerill HRSGs
- Add-on
- Triple pressure + reheat
- Natural circulation
- 15 bundles with 26 meter long tubes

Performances

	°C		t/h
GAS	632		3085
	°C	barA	t/h
HP	602	170	391
IP	338	37	52
LP	241	5	56
Reheat	600	35	42

Schedule

- Contract Award
- PAC Unit 1

January 2015
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CMI becomes John Cockerill

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