

Sousse D, Tunisia

**400 MW**



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 **John  
Cockerill**

# Sousse D, Tunisia | 400 MW

## Second John Cockerill HRSG on the site of Sousse (Tunisia)

### A 400 MW CCPP for STEG (Société Tunisienne de l'Electricité et du Gaz)

#### Project Description

This project consists in the construction of a 400 MW combined cycle power plant (single shaft) in Sousse (Tunisia). The objectives of this investment are to upgrade electricity generating capacity in order to meet the country's growing demand, ensuring the network's balance and supporting Tunisia's economic development.

The aim of this new construction is also to deploy a combined cycle technology (gas turbine with steam cycle) to increase the thermal efficiency of the system by improving the power output and reducing greenhouse gas emissions and pollutants.

#### The Contract

The Société Tunisienne de l'Electricité et du Gaz (STEG) has awarded a contract to Ansaldo Energia (Italy), in charge of the engineering, the on-site equipment supply and the construction of the plant.

For this first combined cycle at Sousse, Ansaldo Energia awarded in November 2010 a contract to John Cockerill Energy for the design and supply of one vertical Heat Recovery Steam Generator (HRSG). In February 2013, John Cockerill Energy received from Ansaldo Energia a second order for a similar boiler to be constructed at Sousse D.

Because of its location by the seaside, this outdoor boiler was erected in a corrosive environment with high salinity. This HRSG is a three pressure levels with reheat, equipped with condensate preheater pumps and an integral vertical deaerator on LP drum. The stack, in corten steel, is 85m high. The boiler was designed with a cold casing, BDT extraction pumps, acoustical shroud (due to very near houses), a roof cladding and a lift.

John Cockerill's particular vertical modular design was a prominent advantage for the construction on the site of Sousse. It enables a quick erection and construction process.

#### Plant Operation

The plant of Sousse D is designed for heavy cycling.

#### Gas Turbine

The John Cockerill HRSG recovers the heat of the exhaust gas from an Ansaldo Energia AE94.3A4 gas turbine in order to produce steam going to an Ansaldo steam turbine

#### Heat Recovery Steam Generator

- One vertical John Cockerill three pressure HRSG with reheat
- Single shaft
- Integral deaerator
- 5 m high corten steel stack
- Lift

#### Performances

GAS	°C	kg/s	
Inlet	590	2473	
STEAM	°C	barA	t/h
HP	567	132	190
IP	330	39	29
LP	245	6	22
Reheater	567	36	214

#### Schedule

- Notice To Proceed February 2013

## CMI becomes John Cockerill