

Whitegate, Cork
Ireland

450 MW



johncockerill.com/energy

 **John
Cockerill**

Whitegate, Ireland | 450 MW

First John Cockerill triple-wide HRSG with duct burner using natural gas and refinery off-gas as fuel

Project Description

John Cockerill Energy has launched a 450 MW HRSG project for the Conoco Phillips Whitegate Refinery site in Whitegate Middleton, near Cork, in Ireland.

John Cockerill Energy was awarded the contract for the supply of an HRSG which calls for a triple pressure reheat system installed behind a GE 9FB turbine, fired with natural gas and distillate oil.

As a site within the European Union, the Whitegate unit conforms both to John Cockerill Energy and GE's quality planning specifications, as well as the codes and standards of the European Community Pressure Equipment Directive.

Completion of the facility occurred in 2010.

The contract

The contract awarded to John Cockerill was for equipment and materials for a single complete HRSG unit to be supplied on the power plant of Whitegate. This included HRSG modules, casing and main steel, exhaust stack with damper and silencer, duct burner, inlet duct casing panels, platforms-walkways-ladders, HP-IP&LP drums, deaerator, blowdown tank, instrumentation, large bore fabricated pipe, small bore pipe, valves and hangers, and LP recirculation pump.

The design and fabrication of the HRSG are in accordance with both ASME and PED/EU codes.

This HRSG represents a first-of-a-kind for John Cockerill Energy as it is supplementary-fired with the duct burner using natural gas and refinery off-gas as fuel—a configuration first for a John Cockerill Energy triple-wide unit. This HRSG has the highest pressure and temperature of John Cockerill Energy's history.

Plant operation

This HRSG is designed for base load.

Gas turbines

- GE 9 FB
- Natural gas is used as primary fuel

Heat recovery steam generators

- 1 horizontal exhaust gas flow HRSG
- Natural circulation
- Triple-pressure plus reheat
- Duct burner

Performances

GAS	°C	kg/s	
Inlet	634		644
Outlet	80		644
STEAM	°C	barA	t/h
HP	554	169	421
IP	316	33	14
LP	316	5	30
Reheater	542	31	427

Schedule

- Contract Award November 2007
- First Firing February 2010
- Full Commercial Operation November 2010

CMI becomes John Cockerill

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

John Cockerill Energy in America • Erie, PA – U.S.A
Tel : +1 814 897 7000 • Fax : +1 814 897 1090
energy.llc@johncockerill.com