Whitegate, Cork Ireland

450 MW

johncockerill.com/energy
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

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<th>GAS</th>
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<th>kg/s</th>
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<td>Inlet</td>
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<td>Outlet</td>
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<table>
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<th>°C</th>
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Schedule
- Contract Award: November 2007
- First Firing: February 2010
- Full Commercial Operation: November 2010

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