

Onshore Gas Compression and Treatment Plant

Customer: Burlington Resources

Services Provided

- Project management
- Detailed engineering
- Procurement
- Construction
- Commissioning

Benefits to Customer

- Excellent SHE performance
- Fast track programme philosophy
- Modular construction techniques utilised



Background

Burlington Resources (Irish Sea) Limited (now ConocoPhillips) is the designated operator for five sour gas fields in the East Irish Sea, collectively known as the Rivers Fields. The fields contain hydrogen sulphide and significant quantities of nitrogen. Initially Calder, Crossans and Darwen fields, with combined reserves of 350 billion standard cubic feet, have been developed.

Offshore development consists of a minimal facilities platform at the Calder Field from which three initial wells have been drilled. Crossans and Darwen will act as satellite fields and will be tied back to Calder using sub-sea wells, a few years after first gas, to maintain plateau production. Gas is exported from the platform via a 49km pipeline to onshore reception facilities adjacent to Hydrocarbon Resources Limited's North Morecambe Terminal in Barrow-in-Furness. The offshore facilities and pipeline were outside Costain's scope of work.

The onshore facilities carry out the following functions:

- Receive wet sour gas at up to 95 barg and well head liquids through duplicated 24 inch ESD valves and a pig receiver
- Separate the liquids
- Remove pipeline solids in a gas filter and liquid filter,
- Compress the gas to export pressure,
- Sweeten by removing hydrogen sulphide and mercaptans,
- Meter the gas with ultrasonic flow meters
- Forward to the existing North Morecambe Terminal for further processing to National Transmission Systems (NTS) specification.

Project Description

- Onshore facilities designed for 145 million standard cubic feet per day inlet gas flow, 700 barrels per day of condensate flow and 1000 barrels per day of water containing methanol
- Ancillary systems included tie-ins to the existing North Morecambe Terminal utilities, instrument air system, HP elevated flare and LP elevated flare system, closed drainage system and open drainage system.
- The separated liquids, hydrocarbon condensate and aqueous methanol, are sweetened before being forwarded to the North Morecambe Terminal.

SHE Performance

Over 1 million manhours worked without a Lost Time Incident
Gold RoSPA Award