

North Sea, UK

Customer: David Brown Vosper (Off-shore) Limited, for the Department of Energy

Services Provided

- Conceptual Process Design
- Equipment and Plant Design
- Identification of Technical Uncertainties and Potential Consequences
- Project Cost Estimation

Benefits to Customer

- Comprehensive evaluation of plant options
- Key information of plant size, weight, cost and performance to determine project feasibility

Project Description

- Costain was engaged by David Brown Vosper (Offshore) Limited to compare alternative refrigeration cycles for the liquefaction of associated gas and to develop preliminary technical and cost information for the selected cycle.
- The Costain study contract formed part of a larger report commissioned by the Department of Energy/ Offshore Supplies Office and was partially funded by the European Commission.
- 120 MM and 350 MMSCFD capacity plants were designed for location on both a semisubmersible and barge option. Alternative refrigeration cycles were considered including mixed refrigerant and nitrogen expander. Complete plant layouts and equipment process specifications/weights were developed in line with the space restrictions. Power generation and utility services were also included. Aero-derivative gas turbines were proposed for driving the nitrogen cycle compressors. The study also considered design for process plant operations under moving sea conditions, particularly for distillation towers.