

LPG Fractionation, Gas Injection and Refrigeration Onshore Egypt



Deliverables:

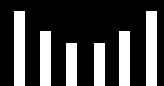
- Concept Development
- Project Execution Plan
- Project Services
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- - Structures
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- Skid Fabrication
- E&I Hook Up
- Commissioning

Background

The West Dikirnis Field is an oil discovery in the Nile Delta operated by Mansoura Petroleum. The field is designed to process 20 000 BPD of crude oil and 50 MMSCFD of associated gas. Having commenced production in November 2007, Optimus started working with Melrose in 2008 to develop a concept and a project delivery strategy for the development of LPG & refrigeration facilities at South Batra and gas injection facilities near the West Dikirnis well-head.

LPG Fractionation

The project delivery strategy was to have a three phase installation with the first phase being LPG fractionation facilities at South Batra. The facilities were designed to recover an additional 2250 bpd LPG and an additional 1300 bpd additional stable crude. Long lead items were specified and vendors identified to allow orders to be placed immediately on project sanction in April 08. This phase of the work has been successfully completed, with the LPG facilities brought on stream in August 2009.





Gas Injection

The second phase of the development commissioned was the Gas Compression & Injection facilities located near the wellhead at West Dikrnis. The concept was for gas from South Batra to be fed through a 25km pipeline to a Gas Turbine Driven Centrifugal Compressor and associated facilities for injection at 3200psi into the Dikrnis reservoir. The gas injection facilities were designed by Optimus and installed and commissioned with Optimus support in March 2010.

Refrigeration

The third phase of the development is the Refrigeration facilities that will be accommodated near the LPG Fractionation towers at South Batra. This will include the installation of a Chiller Package and Turbo Expander as well as associated facilities. Optimus have designed the required facility for additional liquid recovery of 1350 bpd LPG 450 bpd stabilised crude. The project is due to be fully commissioned in Q1 2013.

Project Successes

Project Management & Engineering costs amounted to just 10% of overall CAPEX. Following the successful commissioning of the LPG towers and equipment the client was able to reduce substantially the amount of recoverable product being flared. – Engineers had also identified a need to inject into the reservoir for enhanced recovery. The new facility now allows gas to be injected at a rate of up to 50MMscfd. Optimus have again been selected to deliver the Engineering and Project Management Services for the third step in Phase 2, the Refrigeration plant. In addition to engineering services Optimus also took the lead role in cost & schedule monitoring and reporting to the client. A range of project control and Risk Management services were provided to the project management team in Cairo on this project.

