

PROJECT MANAGEMENT

Project Management

International

Lekki Offshore Oil Terminal Design

Client: Puma Energy
Location: Lekki Free Trade Zone, Nigeria
Period: September 2008 to Date

Lekki Offshore Oil Terminal Design

Puma Energy approached PMI to perform the engineering studies and design required for the establishment of an oil trading terminal at Lekki Free Trade Zone, Nigeria.

Scope of Works

The following steps were carried out by PMI in the development of the terminal:

- Conceptual engineering
- Feasibility studies
- Offshore surveys and geophysical investigations
- Development of FEED packages
- Co-ordination of procurement processes

The Works

As part of the development process, concept solutions were formulated to suit the trading requirements of the Client and feasibility studies concluded.

From the concept engineering and feasibility studies, the following was envisaged for the offshore terminal:

- CBM Terminal
- SPM Terminal
- 18" Pipeline from CBM to tank farm
- 26" Pipeline from SPM to tank farm
- 18" Pipeline linking CBM and SPM
- PLEM for both CBM and SPM

The offshore facilities was designed to be piggable throughout.



The SPM was designed to accommodate a predicted future maximum design vessels of 155 000 dwt, while the CBM would service smaller tankers up to 50 000dwt.

Project Deliverables

PMI successfully performed all the engineering and design of the offshore facilities, ensuring the Client's requirements were adequately addressed.

The deliverables included:

- Terminal layout design
- Terminal Operability Estimates
- Design Basis document
- Project Technical Specifications
- Environmental Design Parameters
- Mooring Analysis
- Pipeline Hydraulic and Structural Analysis
- Environmental Management Plan

The design deliverables was used in setting up the EPC (Engineering, Procurement & Construction) documents for the implementation of the terminal.

PMI was further requested to develop a procurement strategy for the terminal. This included a prequalification and bidding stage, during which contractors were assessed based on previous experience.

During each stage, a selection process was carried out after which suitable contractors with proven previous experience were identified and referred to the Client.

Subsequent to the prequalification and bidding stages, PMI assisted to Client in further negotiations with the preferred EPC contractor.