

UGDC Terminal Enhancement

Owner	United Gas Derivatives Company (UGDC)
Client	United Gas Derivatives Company (UGDC)
Location	Damietta, Egypt
Year / Status	2025 / Successfully Delivered
Project Type	Feasibility Study and Conceptual Engineering
Keywords	Propane and LPG Export, Marine Loading System

Scope of Work

UNEPP was commissioned by UGDC to conduct a comprehensive feasibility study and conceptual engineering assessment aimed at ensuring uninterrupted Propane and LPG operations at the Damietta terminal. The scope encompassed a full technical evaluation of existing and proposed systems, commercial and cost-benefit analysis, preliminary process design for export and import lines, and operational readiness planning. The study also identified optimal configurations to enhance reliability, safety, and efficiency while maintaining terminal availability during ongoing FSRU activities.

Technical Challenges

- Maintaining uninterrupted import and export operations while the main jetty is occupied.
- Designing pressurized pipeline systems for safe handling of refrigerated and liquefied gases under varying conditions.
- Ensuring compatibility with existing terminal infrastructure, loading systems, and marine vessels.
- Managing thermal conditions to prevent product instability or vapor formation during transfer.
- Managing dredging and support vessel activities to reduce safety risks for ships navigating within the port.

Execution Strategy

Two options, reviewed and approved by the Damietta Port Authority and UGDC, were developed to ensure uninterrupted Propane and LPG transfer during FSRU operations. Option 1: a new south-side fixed berth with berthing/mooring dolphins, dredging, and pipeline extensions and Option 2: floating offloading facilities using extended hoses, minimizing dredging. Both include 3 short buried pipelines—a 14" Propane line with a 4" chilling line and a 12" LPG line (~800 m)—plus a 4 m draft access platform.

Strategic Outcome

The project provided UGDC with a clear, data-driven roadmap aligned with its operational and strategic objectives. It reaffirms UNEPP's commitment to strengthening Egypt's energy infrastructure through tailored, performance-focused engineering solutions, enabling UGDC to sustain terminal operations during FSRU activities and ensuring continuity of vital hydrocarbon flows.

Photos / Diagrams

