Indorama Ammonia Unloading Pipeline Project

Owner	Indorama Egypt
Client	Egypt Gas
Location	Ain Sokhna, Egypt
Year / Status	2025 / Successfully Delivered
Project Type	Front-End Engineering Design (FEED)
Keywords	Cryogenic Pipeline, Marine Unloading System, Crossings, Port Integration

Scope of Work

Indorama Egypt Fertilizers is developing a 600 KTPA Greenfield Phosphatic Fertilizer Complex in Ain Sokhna as part of its global expansion. A key component is the Ammonia Unloading Pipeline System, transferring liquid ammonia from the Sonker Jetty to onshore storage tanks. UNEPP, subcontracted by Egypt Gas, executed the Front-End Engineering Design (FEED) for the full system, covering process, pipeline, mechanical, civil, electrical, and instrumentation works. The FEED defined a 12" underground ammonia pipeline about 11.7 km long with a 4" cool-down line, unloading arms, insulation, valves, crossings, and civil works, all compliant with international and Egyptian standards.

Technical Challenges

- Pipeline designed to transport 350–450 MTPH of liquid ammonia under cryogenic conditions with a 30-year design life.
- Hazardous ammonia and proximity to port operations demanded robust thermal design and insulation for extended underground sections.
- Complex integration between marine and onshore systems, requiring close coordination with existing jetty and storage facilities.
- Several critical crossings over roads and railways within a congested industrial corridor.

Execution Strategy

UNEPP implemented a multidisciplinary, model-based engineering approach to ensure full integration and consistency across all design packages. The project was executed in close coordination with Egypt Gas and Indorama teams, supported by strong HSE planning, quality assurance, and effective project management controls.

Strategic Outcome

The successful completion of the FEED established a strong technical and cost foundation for the EPC phase of the Ammonia Pipeline Project, enabling Indorama to proceed confidently with tendering and execution. The project demonstrates UNEPP's expertise in delivering complex cryogenic pipeline systems integrating marine and onshore facilities, reinforcing its role as a trusted engineering partner in Egypt's fertilizer and petrochemical sectors.

Photos / Diagrams