



Karaikal LNG Terminal India

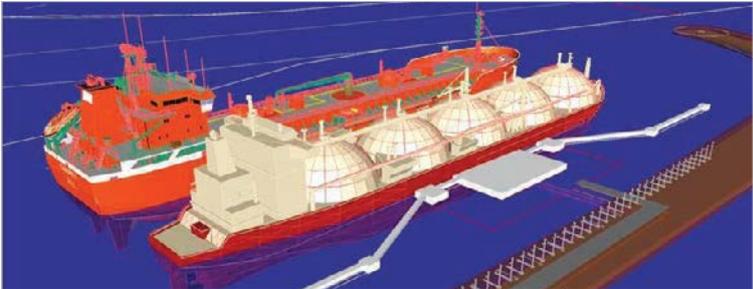
AG&P is developing an LNG terminal at Karaikal Port, a deep-water facility located 320km south of Chennai in the state of Tamil Nadu on the east coast of India. Over the past nine years, Karaikal Port has handled over 46 million tons of multi-cargo and received more than 1,400 commercial vessels. It is operated by Karaikal Port Pvt. Ltd. [KPPL].

The LNG import terminal will be located within the port's existing breakwater providing all-weather operations, with 99% availability and once operational, the terminal will bring critical LNG supply to southeast India.

The Karaikal LNG import terminal will complement Indian Oil's LNG terminal at Ennore and will provide wider gas accessibility to Puducherry and Tamil Nadu through AG&P's City Gas Distribution (CGD) networks, which will deliver natural gas directly and conveniently to houses, gas stations, industrial and commercial establishments. The terminal will serve the heavily industrialized region of central Tamil Nadu, which has major manufacturing bases for the fertilizer, cement, steel, textile, leather, sugar and garment industries located within its catchment area. In addition, it will support the gas-fired power industry as well as multiple demand centers via pipeline. The terminal will supply LNG to AG&P's CGD networks, which include a truck-based delivery chain with mother and daughter gas stations located close to end-users that regasify and compress LNG.



India is one of the world's fastest growing markets for natural gas



Karaikal LNG Terminal will receive and regasify natural gas from major suppliers



LNG Terminal Design

Karaikal LNG Terminal will serve as a gateway for securing supply and cost-effective delivery of natural gas to end-users across southeast India. The unique terminal configuration combines offshore and onshore infrastructure, with AG&P's 125 million ft³ per day standardized onshore regasification module and modularized designs for other components being used to drive down costs. AG&P Engineering in Houston carried out the terminal's front-end engineering design (FEED), which was validated by Technip.

Design Features



The unique configuration for the terminal uses standardized and scalable designs, reducing the upfront capex required and allowing investment to match demand growth

- Initial regasification capacity of 1 MTPA provided by one single regasification train
- Integrates a standardized, scalable regasification module with floating storage
- Three trains and multiple truck-loading bays are planned for future expansion
- Hybrid approach significantly improves schedule and mitigates traditional bottlenecks
- Capital cost is reduced and efficiently utilized through phased development

- Scalability allows capacity to be matched with current demand, eliminating unwanted surplus, while pre-investing in key components that will support future demand
- Modular approach means assets can be built quickly so project is operational faster, delivering earlier returns to investors

Port Highlights

The terminal's location limits the need for dredging and significantly reduces capex while accelerating the construction schedule:

- All-weather port with existing breakwater ensures 99% + uptime
- Deep-water port with limited dredging requirement
- 24/7 operations with night navigation support
- Provision of port services like tugs at no extra cost
- 12 hectares allocated for onshore LNG facilities
- GAIL network pipeline connectivity 4km from port gate
- Existing environmental clearance

Company Overview

Founded in 1900, AG&P is a global industrial infrastructure company, delivering pragmatic gas logistics solutions and construction services to blue-chip clients for some of the world's most demanding infrastructure projects.

Gas Logistics: AG&P makes natural gas available to end-consumers in emerging markets through its integrated gas logistics platforms, anchored on its City Gas Distribution (CGD) networks that make natural gas conveniently accessible on demand. From aggregating multiple customer streams to supply acquisition from global LNG suppliers and infrastructure development (pipelines, trucks, vessels and dispensing stations), AG&P delivers natural gas directly to houses, gas stations, industrial and commercial establishments, providing easy access to cost-effective energy.

Construction: AG&P delivers award-winning construction solutions to industrial projects around the world. A global leader in onshore and offshore infrastructure, AG&P has an outstanding track record in executing complex projects for blue-chip clients including LNG liquefaction, E-houses and complex process modules for LNG plants, refineries, petrochemical facilities, mining operations and utilities plants. AG&P's FieldCOM Division (Field Construction, Commissioning, Operations and Maintenance) deploys highly trained, experienced professionals and craftsmen to project sites, bringing international standards to even the harshest and most remote locations.

AG&P brings global best practices in safety and quality to every project, regardless of location. The company holds a world-leading construction safety record for continuous safe man-hours and its outstanding performance for blue-chip clients demonstrates its execution capabilities. Throughout its history, AG&P has focused on delivering solutions that increase efficiencies, lower costs and accelerate schedule, enabling projects to become operational sooner.

For more information, visit www.agp.ph

Published November 2018