



Case Study LNG #20

Small Scale Multi-functional
LNG Receiving Terminal



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Highlights:

Location — Klaipėda, Lithuania

Scope of Project:

- Complete cryogenic section comprising 5,000 m³ of LNG storage, 10 ambient vaporizers for local gas delivery, 2 trailer loading bays, bunkering skid mainly used for filling the terminal from LNG carrier and utilized also for LNG ship fueling
- Shop built standard, field proven equipment for minimized engineering and production costs, schedule and risk
- Solution that incorporates a planned facility expansion that doubles the storage capacity is already built into the base design
- Evaporation capacity up to 6000 Nm³/hr
- The terminal received its first LNG in 2017

Application:

To create a small-scale LNG infrastructure and establish the port of Klaipėda as an LNG hub for the Baltic countries and northeastern Poland through creating a single value chain from LNG delivered from the floating storage and regasification unit (FSRU) Independence.

Project Background:

The facility demonstrates the economic and technological viability of small-scale LNG storage and distribution. Although unable to provide the same economies of scale as the mega-terminals, Klaipėda was built in a significantly shorter time frame and provides operational flexibility. This creates an attractive business model for terminal operators and owners to quickly address the growing demand for LNG as a fuel for transportation and energy and take advantage of new supply, particularly North American shale.

System Configuration:

LNG offloaded and stored at Klaipėda can be loaded into road tankers for virtual pipeline distribution to off-grid users. It is utilized for ship fueling, bunkering, as well as vaporized as a source of energy for the local community. Catering for all eventualities enables the terminal to make the best use of landed LNG and immediately respond to fluctuations in application demands.

The cryogenic section of the terminal comprises five identical horizontal vacuum insulated storage tanks, each with a capacity of 1,000 m³, ten ambient air vaporizers for gas delivery, twin trailer loading bays, which can simultaneously fill two trailers, four cryogenic submerged pumps for truck filling and bunkering, interconnecting pipework, emergency flare and all associated control and safety systems. All equipment is shop built, standard production and already proven in the field, which minimizes engineering and production costs, schedule and risk.

Standardization and modularization are crucial elements in the reduction of cost and schedule. The cryogenic storage tanks are much smaller than a site-built alternative, which means far less site work, civils and permitting. Modularization also means that the planned facility expansion; doubling the storage capacity from the current 5,000 m³ to 10,000 m³ is already built into the base design.

Accomplishments:

Chart provided single point accountability for project execution and collaborated closely with partners to minimize cost and schedule. The facility was delivered on time and according to budget. Within Chart's overall control, each stakeholder focused on their area of expertise, which avoided duplication of effort and allowed the project to be optimized as a whole, rather than by section.

