



Case Study #33

LNG Marine On-board Fuel Gas Supply System (FGSS)



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Highlights:

- M/T Prospero named Tanker of the Year 2021
- On deck LNG Fuel Gas Supply System supplied by Chart

Location—Changzhou, China

Scope of Project:

- Design, engineer and manufacture the two LNG fuel tanks, 300m³ each
- Manufacture the tank connection space, designed by LGM of China
- DNV-GL classed vessel

Application: Two new build chemical tanker vessels, of 28,000m³ each, built in China. The two tankers are fueled by Liquefied Natural Gas (LNG). Each ship carries 600m³ of LNG bunker fuel storage in two IMO Type C Tanks, designed to IGF Code. The ships being built by Wuhu Shipyard of China. M/T Prospero is the first of these two ships. Her sister ship is Pacifico, delivery June 2022.

Project Background: The Swedish company, Donsötank, owns and operates a fleet of chemical tankers. The multi-generational, family-owned company worked with FKAB of Sweden, to design a ship with specific criteria that included focus on energy efficiency, propulsion by LNG, and regenerative technologies to reduce carbon emissions.

System Configuration: The LNG fuel tanks were built at Chart's facility in Changzhou, China. Each tank is perlite and vacuum insulated. Inner tank, outer tank and TCS are SS material. Overall outer dimensions 19730mm (L) x 6260mm (W) x 6210mm (H). Tare weight is 150 Tonne and the MARVS (max. allowable relief valve setting): 6 Barg. Tank connection space built in accordance with LGM and tanks were delivered to the Wuhu Shipyard.

Significant Accomplishments: M/T Prospero—a future proof design for the small, clean tanker sector. The FKAB design is an ice class 1A environmentally friendly tanker, equipped with batteries and dual fuel engines for LNG operation. LNG fuel has zero sulfur and 25% reduction in CO₂ emissions—meeting ECA requirements for the North Sea and Baltic Sea. The vessel is shore-side, power-ready and can run on LNG Biofuel.

Chart is proud to be part of this vessel project via LGM and Wuhu.

