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**MAN Energy Solutions SE**  
Teglhølmegade 41, 2450 Copenhagen SV,  
Denmark[www.man-es.com](http://www.man-es.com)

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**Group Communications**  
Nils Søholt  
P +45 33 85 26 69  
[Nils.Soeholt@man-es.com](mailto:Nils.Soeholt@man-es.com)

## MAN Cryo to Supply LNG Fuel-Gas System for Gas-Battery Propulsion System

### Vertical LNG FGSS bound for Norwegian, multipurpose, refrigerated vessel

MAN Cryo – MAN Energy Solutions' marine LNG fuel-gas-system manufacturer – has announced that it will supply an LNG fuel-gas supply system to Norwegian ship owner, Egil Ulvan Rederi, for a 'multipurpose palletised cargo and refrigerated vessel' newbuild, also known as a LoLo (Lift-on/Lift-off).

The vessel is designed by Førde, Norway designer, Multi Maritime, that already counts a number of LNG-powered vessels in its portfolio. The MM85CC design will be built at Tersan Shipyard in Turkey. Tersan has, over the years, also built quite a number of LNG-powered vessels and this will be the sixth such vessel since 2016 that it will outfit with a marine fuel-gas system delivered by MAN Cryo. The newbuild is scheduled for delivery in late 2020.

Arild Hoff, CEO at Egil Ulvan Rederi, said: "MAN Cryo has been chosen as supplier for the LNG fuel-gas system based on the company's track record of complex LNG solutions. There was no doubt early in the process that MAN Cryo was the preferred supplier because they showed the right level of understanding and knowhow to meet our requirements."

Louise Andersson, Head of MAN Cryo, said: "This specialised vessel makes its own unique demands for reliability and redundancy and we are happy to rise to the challenge with an innovative solution that includes a vertical fuel tank. Ulvan's interest in clean technology goes hand in glove with our ambition to become a leading supplier of LNG-fuelled solutions. We are also very happy to work once more with such a valued customer as Tersan, and look forward to developing our relationship even further in the future."

MAN Cryo's scope of supply for the vessel covers:

- a vertical, vacuum-insulated 364 m<sup>3</sup> LNG tank
- a complex tank-connection space with two redundant LNG supply trains, based on both a pump and a pressure-build-up unit
- an LNG cold-recovery evaporator
- an integrated bunker station (BS100-GR).

Upon construction, the 3,500 dwt-vessel will have a length of 86 m and breadth of 19.5 m and will service the round trip between Tromsø in northern Norway to Østfold in the southeast. The vessel is a multipurpose design with reefer capacity, a refrigerated hold and elevators for palletised goods, as well as the capability to discharge fish food at fish farms along its route.

## Vertical IMO Type C LNG tank

Worldwide, just a few vertical LNG tanks are in operation that are classed for marine applications. MAN Cryo has produced vertical LNG tanks for marine fuel-gas systems since 2011 and can cite reference projects ranging from 89 to 400 m<sup>3</sup> gross volume.

Vertical tanks offer an alternative to horizontal tanks and bring many advantages, including:

- less impact on stability due to smaller liquid surface
- less likely to create sloshing
- increased hydrostatic pressure, facilitating fuel flow.

## About MAN Cryo

MAN Energy Solutions took over fuel-gas specialist Cryo AB in 2015 and fully integrated it into its business. Under the brand MAN Cryo, the company offers systems for the storage, distribution and handling of liquefied gases.



*Graphical rendering of the new vessel (picture courtesy Multi Maritime and Egil Ulvan Rederi)*



*Graphical rendering of the vertical, vacuum-insulated LNG tank with attached tank-connection space and bunker station*

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MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.