LNG supply for maritime customers in the Baltic Sea

Jan Schubert, Manager Sales & Business Development

Go LNG Conference, Vilnius, April 26th 2017
Nauticor: Now full member of the The Linde Group

Nauticor and its neighbours in the Linde group

- The Linde Group, leading global player in industrial gases
- German Blue Chip Company (DAX 30)
- 135+ years of experience in gases, cryogenics and process engineering
- 17.9 bn. EUR revenue with ca. 65,000 FTE (2015)
- Over 600 affiliated companies in more than 100 countries
- Linde developed, built and started-up over 20 LNG plants world-wide, yearly output ranging from 40,000 to more than 10,000,000 tons

26/04/2017  Source: The Linde Group, Nauticor
Nauticor is a front runner in developing the complete LNG value chain in North-West Europe

Nauticor in Europe

Projects / Operations

Stockholm (operational)
- 20,000 cbm LNG terminal in Nynäshamn
- World’s first LNG Supply Vessel: AGA’s SEAGAS
- Long-term supply of Viking Grace (AGA)

Baltics: Bunker Supply Vessel (operational 2018)
- Charter contract and yard contract signed 2016 (Bernhard Schulte, Hyundai Mipo)
- Bunker vessel under construction in South Korea, delivery 2018
- BLLNG (90%), Klaipedos Nafta (10%)

North Sea/ Baltic Sea
- Spot LNG supply for ships & shipyards
- Rostock: first bunkering of a chemical tanker

Cuxhaven (operational)
- Long-term supply of LNG-fuelled newbuild “Helgoland” since Q3/2015

Emden (operational)
- Long-term supply of first seagoing LNG-fuelled vessel in GER “MS Ostfriesland”

26/04/2017 Source: AGA, AG EMS, Nauticor
20,000 cbm LNG terminal in Sweden (Nynäshamn)
Experienced ship-to-ship LNG supplier: The world’s first LNG bunker vessel "SEAGAS"

Operations in Stockholm and Nynäshamn

- Experience: already 1200+ safe ship-to-ship bunkering operations
- Performance: fast fuelling operation to Viking Grace (45 minutes per refuelling operation)
- Quality: "State of the art" cryogenic technology manufactured by The Linde Group
Hundreds of truck-to-ship operations over the last years

Ferry bunkering operations in Germany

Comments

• Long-term contracts for two vessels since early 2015

• Hundreds of truck-to-ship bunker operations in Germany & Denmark

• Recently: initial fuelling of the “Searoad Mersey II” RoRo ferry at the FAYARD shipyard in Flensburg

• Weekly LNG supply to the Port of Emden and Port of Cuxhaven

26/04/2017 Source: Marlies Menger, Nauticor
First bunkering of a chemical tanker with LNG engine in Germany

Truck-to-ship bunkering in the Port of Rostock

Comments

• First bunkering of a chemical tanker with LNG engine in Germany

• Largest LNG bunker operation in the Port of Rostock

• LNG supply with 4 trucks for the retrofitted „Fure West“ in February 2017

• Nauticor has obtained the necessary permits for the customer & the bunker and security guidelines for the operation
The next level: Nauticor ordered world’s largest LNG bunker supply vessel

Vessel
• LOA: 117 m
• Breadth: 18 m
• Draught: 5.3 m
• Crew: max. 20

LNG
• Capacity: 7,500 cbm (LNG)
  170 cbm (MGO)
• Tank type: Type C
• Pressure: 3.75 barg
• Hose diameter: 6 inch (4+8 opt.)
• Flow rate: 200 - 1,250 cbm /h
• Delivery height: 2 – 25 m

Set-up
• Speed: 13 knots
• Generator: 3 DF gensets
• Propulsion: 2 x azimuth thrusters
  2 x pump jets
• Dynamic Positioning 2 (DP2) ready

26/04/2017  Source: Nauticor
Nauticor’s Baltic Sea project: a unique LNG supply network and a blueprint for roll-out to other geographies

Klaipeda as Break-bulk hub for the Baltics

Comments

Nauticor will offer LNG to different types of clients:

1. LNG bunkering of maritime customers
2. LNG supply to small-scale terminals
3. LNG supply via truck to industrial customers
4. Option: LNG regasification to gas pipeline customers

LNG onshore storage in Klaipeda:

- LNG deliveries via truck
- Back-up solution for maritime customers

Source: Nauticor