SHIP TO SHIP LNG BUNKERING ALONGSIDE A TERMINAL

SEPTEMBER 2019

Cees Boon, Port Authority Rotterdam
FIGURE 4.1.15
World maritime sub-sector energy demand by carrier

Units: EJ/yr

- Electricity
- Ammonia / hydrogen
- Biomass
- Natural gas
- Oil

Natural gas includes LNG and LPG. Biomass includes advanced biodiesel and LBG.

Historical data source: ICA WEB (2018)
Both ships will comply with IMO regulations (IGF and IGC)
The Port Authority have checked the safety distance to populated areas (external safety);
The Port Authority have checked the nautical safety on the berth;  
The Port Authority will control other ships activities;
2017: 1ST LNG BUNKER VESSEL

PROGNOSES 2020: 6 LBV'S OPERATIONAL IN ROTTERDAM, + 3 LBV'S LICENSED
The LNG bunkering is operational prepared and checked (Checklists);
The Port Authority has checked the terminal preparation.
Zoning: Hazardous Area
Simultaneous Operations during the LNG Bunkering are checked and controlled;
"LNG ready terminal"

- Project preparedness - or -
- System preparedness

Preparation levels:
• Lay by berth
• Lay by and LNG bunkering
• Cargo handling
• Cargo handling and LNG bunkering

- Preparation:
  ➢ LNG Awareness
  ➢ Preparedness of the terminal incident response organization
  ➢ Situational Plan + safety boundaries
  • Quay plan
  • Fire water supply + hydrants
  • ER tasks plan
  • Evacuation plan
  • Education & training & equipment

- Operational:
  • Information sheet
  • Informed personal
  • Communication procedures
  • SIMOPS restrictions
  • Dedicated watch on tasks
  • Control zones
  • Knowledge of alarm signals
  • Security / precaution zone

In Rotterdam no impact on the terminal environmental license, WM is not applicable for STS, we use the two columns checklist
When a ship with LNG propulsion is alongside a terminal and it attend to do a ship to ship LNG bunkering in Rotterdam:

- both ships will comply with IMO regulations;
- the Port Authority audited and licensed the LNG bunker vessel operator to assure the vessel can perform a safe LNG bunkering;
- the Port Authority have checked the local nautical safety;
- the Port Authority have checked the safety distance to populated areas (external safety);
- the Port Authority will control other ships activities (VTS);
- the LNG bunkering is operational prepared and will be checked (IAPH Checklists and enforcement);
- simultaneous Operations during the LNG Bunkering are checked and controlled (ISO + SGMF);
- the Port Authority has checked the terminal is “LNG Ready”
“Ship To Ship” LNG bunkering at the Cruise Terminal Rotterdam

Cruise vessel with the LBV alongside

3000 m³ LNG-bunkering in 6 hour
CLEAN MARINE FUELS

The IAPH Clean Marine Fuels Working Group's aim is to assist ports to establish safe and efficient bunker operations as they migrate towards clean marine fuel provision. The ultimate goal is to contribute to the overall IAPH aim of supporting the transition of the shipping industry towards decarbonisation and improving air quality.
Thank you for your attention

Cees Boon
JC.Boon@portofrotterdam.com