

Södertälje 18/03/2019

## **Ship-to-ship LNG storage**

### **Summary**

Storage regulations established by Södertälje Hamn to ensure safe LNG storage.

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## **Contents**

1. Definitions
2. References
3. Application
4. Division of responsibility
5. Before bunkering begins
6. During ongoing bunkering
7. Piloting duties
8. Approved quays for LNG storage
9. Emergency situations
10. Contact details

### **1. Definitions**

#### **Receiving vessel**

The term *receiving vessel* means a vessel which, through pipes from shore or from another vessel, receives bunker.

#### **Bunker boat**

The term *bunker boat* means a vessel which supplies marine fuel to the receiving vessel (bunker).

#### **LNG**

The abbreviation *LNG* stands for Liquefied Natural Gas, i.e. natural gas in liquid form. Natural gas is a fossil gas.

#### **Safety zone**

The term *safety zone* means an area created around a bunkering station and its facilities for LNG. This is to manage the sources of ignition and to ensure that only the necessary personnel and business are permitted in the area which can be exposed to flammable gas in the event of unintentional release of, or other incident linked to, LNG or natural gas during bunkering.

### **SIMOPS**

This acronym stands for Simultaneous Operations, which can be defined as a conflict in potential activities that can lead to an undesirable event or circumstances. Examples of SIMOPS can be loading, unloading and repair work during ongoing bunkering operations.

## **2. References**

- The Swedish Transport Agency - National guidelines for the bunkering of liquid methane in Sverige (TSG 2018-4023)
- IGF code for the receiving vessel.
- IGC code for the supplying vessel.
- TSFS 2017:89.

## **3. Application**

An application for bunkering must be made to Södertälje Hamn AB, Operations, at least 24 hours prior to the intended bunkering.

The application must contain details of:

- The name of the receiving vessel.
- The name of the bunker supplier.
- The time and place of the bunkering.
- The designation of the product to be bunkered.
- The quantity of product to be bunkered.
- An approved certificate for LNG bunkering.
- The vessel must have the appropriate authorisation from the Swedish Transport Agency in accordance with section 4.15 of the national guidelines (TSG 2018–4023) for the bunkering of liquid methane.

## **4. Division of responsibility**

Prior to the bunkering, the individual responsible for bunkering on the receiving vessel must appoint a safety officer who, where required, can order pumping to be stopped.

The commander of the bunker boat and the commander of the receiving vessel must, within their relevant areas of responsibility, take all necessary measures to prevent the release or leakage of methane. The responsibility for ensuring that bunkering is carried out at a site that is suitable from an environmental and safety viewpoint lies with the commander of the bunker boat.

If any of the parties, i.e. the receiving vessel, the port or any of the other relevant operators, considers that SIMOPS is necessary, the decision must be made as follows:

- The party that considers SIMOPS necessary for the business shall carry out a risk analysis.
- This risk analysis shall be carried out together with all other relevant parties.
- The analysis must be submitted to the port for final approval.
- The party that considers SIMOPS necessary for the business shall create a routine for SIMOPS operations. The routine shall be developed together with other parties.

## **5. Before bunkering begins**

Before bunkering may begin, the bunkering checklist (ship to ship) must be completed and signed by both the receiving vessel and the bunker supplier. The checklist must be one of those referred to by the Swedish Transport Agency in the national guidelines. The checklist contains points before, during and after bunkering. Copies of the checklist must be stored at the port. Södertälje Hamn advises the LNG supplier and the LNG receiver to use the LNG bunkering checklists from IAPH:  
<http://www.lngbunkering.org/lng/bunker-checklists>

The safety zone at the waterfront is set at 25 metres. LNG bunkering must be stopped if a vessel or craft comes closer than the safety zone. Electrical equipment around a bunker station onboard must be Ex classed.

All hoses that are used are fitted with break-away connections which automatically and safely disconnect the hose when it is subjected to large tensile stresses. The location of break-away connections must specifically be ensured so that functions are retained. All bunkering is carried out through 'drop-free' quick connect/disconnect connections.

Safe communication, which should ideally be done by radio, must be established between the receiving vessel and the bunker boat. This communication must be maintained until the bunkering is complete and the bunker hose is disconnected.

## **6. During ongoing bunkering**

Hose connections must continuously be checked to prevent leakage.

During the entire bunkering operation, the vessel must have a skilled safety officer present on each side. None of the safety officers may leave their post until the bunkering is complete.

During the entire bunkering operation, a good connection must be maintained between the bunker boat and the receiving vessel. If communication is broken, the bunkering must immediately be stopped.

## **7. Piloting**

See the national guidelines for the bunkering of liquid methane in Sweden, appendix 3.

## **8. Approved quays**

LNG may be bunkered on quays 6–16 at Södertälje Hamn.

## **9. Emergency situations**

The LNG supplier and LNG receiver must always have a documented management plan (internal) for dealing with emergency situations and to limit as far as possible the effects of any disaster scenario with respect to health and the environment. The management plan (internal) must be able to be shown to the relevant responsible individual at Södertälje Hamn when requested.

All near-misses, incidents or damage that occurs in conjunction with LNG bunkering must immediately be reported to the responsible individual at Södertälje Hamn and the Swedish Transport Agency. This reporting obligation is also applicable even if the event is of minor significance.

## **11. Contact details**

All queries on this LNG bunkering regulation should be directed to:

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