PORT OF PORI LTD

CHEMICAL HARBOUR OPERATIONAL GUIDELINES

VALID FROM 1 JUNE 2016

v1.2 (29.8.2016)

Contents

1 Port Operating Principle

The Port's operating principle is based on Port Regulations available at www.portofpori.fi

2 General

This publication is the code of practice of Port of Pori Ltd, which regulates all freight handling and bunkering operations at the Chemical Harbour or at sea areas/anchorages in its vicinity.

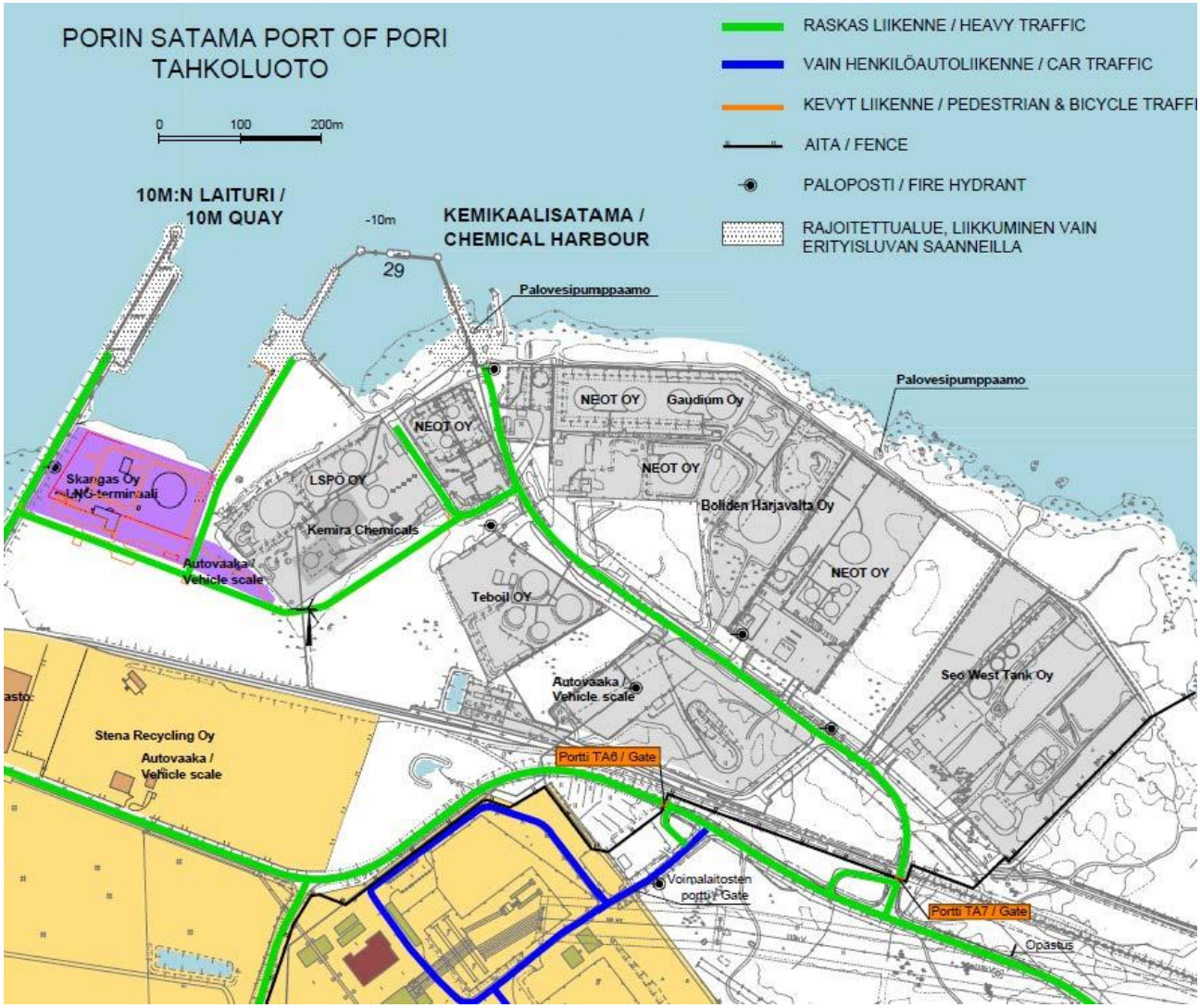
The code of practice applies to all Chemical Harbour actors, operators, and vessels, regardless of whether the vessel in question is empty or partially/fully loaded and whether it is approaching or leaving the harbour.

In addition to the Port Regulations and these Operational Guidelines, national laws, regulations, and guidelines must be observed in all operations. In addition, the Safety Guide of Port of Pori and other instructions available at www.portofpori.fi need to be followed.

2.1 Traffic and Working at the Chemical Harbour Territory

The speed limit at the harbour territory is 30 km/h and valid traffic regulations need to be followed. When moving around and working at the harbour area, hi-vis protective clothing complying with the standard EN ISO 20471:2013 must be worn. In addition, at least a bump cap complying with the norm EN 812 must be worn outdoors (however, use of a safety helmet (EN397) is recommended), as well as **safety footwear complying with at least the standard SFS-EN ISO 20346.**

2.2 Map of Chemical Harbour



2.3 Responsibilities

The terminal operators of the Chemical Harbour are responsible for their own equipment at the quay areas and in areas closely associated with them, as well as for all equipment and functions at their own or rented areas.

The Port of Pori is responsible for the maintenance of the Harbour's fire-fighting equipment (water/foam cannons, firewater pumping station, firewater lines, extinguishers and absorbents located on the quays). For the locations of rescue and fire-fighting equipment, see the maps at the end of these Guidelines.

2.4 Chemical and Oil Quay Protection Zones

A berthed tanker is always surrounded by a protection zone extending to the distance of at least 25 metres from the vessel, as specified in the standard SFS 3355. During vessel loading/unloading or

comparable operations, no other activities or motor vehicle/water traffic are allowed within the protection zone.

Operations comparable to loading/unloading include vessel bunkering, tank-cleaning operations, gas purging, and other landside operations, such as line cleaning, for example.

If activities other than related to the vessel operation are detected within the protection zone, this must be reported immediately to the Port Control (call +358 (0)447012633) or over the VFH channel 12, and the loading/unloading operations must be halted.

2.5 Smoking, Open Fire, Sparking Equipment

Smoking and use of open fire is prohibited at the Chemical Harbour territory. When operating in EX areas, all tools and equipment must be EX-approved.

2.6 Work Permit, Hot Work Permit

The work, hot work, and EX permits required for the performance of works at the Chemical Harbour common areas, quay and EX areas (ANNEX 1) must be applied for from the Chemical Port Supervisor, call +358 (0)447012622. At the areas under the operators' control, the work, hot work, and EX permits must be applied for from the company concerned.

When working at a temporary hot work site, the employee performing the hot work is required to hold a Hot Work Card accepted in Finland. For additional information on the Hot Work Card, visit the home page of the Finnish National Rescue Association www.spek.fi. There is a permanent hot work site at the deep-water port's maintenance hall.

2.7 Electric and Communication Equipment

Any electric and communication equipment used in EX-classified areas must be approved for use in the respective area and comply with the ATEX equipment directive and the SFS 3355 standard. (ATEX equipment and conditions directive, Directive 94/9/EC of the European Parliament and of the Council.) For additional information on safety in potentially explosive atmospheres, visit the home page of the Finnish Safety and Chemicals Agency TUKES www.tukes.fi.

2.8 Notification of Substances Stored in Tanks at the Port Area

A terminal operator is required to submit safety data sheets regarding all chemicals and oil products to be handled to the port authority and the local rescue service before the receipt of the goods.

Prior notice of any incoming consignments classified as hazardous must be submitted to the port authority at least 24 hours before the consignment arrives to the port area. Notification of vessel visits

and hazardous cargoes must be entered in the Portnet system, see www.portnet.fi. In addition, fill in the hazardous goods preliminary notification form of the Port of Pori at www.portofpori.fi

3 Quays

There are dedicated berths for petrochemical and chemical products at the Chemical Harbour. See Annex 2 for the quay details and Mooring Plan.

3.1 Oil Quay

Oil quay		
ARM	**SIZE**	**PRODUCT**
1	DN250	DI
VESSEL HOSE BUNKERING	DN100	DI
2	DN250	BE
3	DN200	POK
-VESSEL HOSE		POK
4	*DN200*	*NOT IN USE*
5	DN300	POR
6	DN250	POK

3.2 Chemicals Quay

Chemicals/LNG quay			
ARM	**SIZE**	**PRODUCT**	**CAPACITY**
PL-1201	12" LIQUID 8" GAS	LNG	1,500 m3/h
PL-1202	8" LIQUID 6" GAS	LNG	1,000 m3/h
HOSE	**SIZE**	**PRODUCT**	
1	8”	Lye/Sodium Chlorate	
2	8”	Sulphuric acid	

4 Vessel Arrival to the Chemical Harbour, Berthing

Vessels are not allowed to berth, leave the berth or move within port limits without the port authority's permission. Vessel arrival, mooring, and berthing precautions are specified in the Port Regulations. Under 5.1 Pilotage Requirements, restrictions of LNG vessel traffic are specifically mentioned, as well as restrictions of other vessels' traffic during LNG operations.

To ensure safe passage, a vessel is required to use tug assistance to the extent considered necessary by the vessel's master. The hatches or valves of a vessel carrying hazardous cargo may not be opened during tug assistance. For safety reasons, the port authority may order a vessel to use tug(s).

A vessel is required to discontinue unloading/loading and empty the unloading/loading arms if the 10-minute average wind speed exceeds 19 m/s or the sea gets too rough for safe operation. Before unloading/loading commencement, it is necessary to establish the wind conditions for the duration of the entire operation and consider whether the operation can be carried out safely (e.g., www.fmi.fi).

The main engine of a vessel must be ready for operation at all times. If the main engine of a berthed vessel is not ready for operation (because of engine repairs, for example), a 'stand by' tug must be used.

4.1 Vessel Safety Officer

The master and officers of a vessel are required to familiarize themselves with the safety arrangements at the quay area (ANNEX 3), rescue and fire-fighting equipment, and the safety manual of the Port of Pori "Safety First", which can be found at www.portofpori.fi

A Safety Officer must be appointed from among the vessel's crew, whose tasks include supervision over the vessel's mooring ropes and landing bridge, making sure there are no chemical/oil leaks on board the vessel, and reporting of all possible hazardous situations. The Safety Officer must also be familiar with the port's operation instructions and with the rescue and fire-fighting equipment at the quay area.

4.2 Cargo Handling

Vessel loading and unloading must take place in co-operation between the operator and vessel master. The operator is responsible for all landside loading or unloading-related operations and personnel. The operator is required to have written instructions regarding its operations.

There must also be a reliable communication link between the vessel and operator over telephone, portable VHF/UHF, or radiotelephone. In addition to the primary communication system, a back-up system must be agreed upon. Before loading or unloading commencement, the operator and vessel master are required to go through the Ship/Shore Safety Check List to be submitted to the port authority by e-mail: henrik.raisanen(at)portofpori.fi

The vessel crew must make sure that all doors, windows, gates and similar openings leading from the vessel's main cargo deck to the crew's quarters remain closed during cargo handling and comparable operations. All rainwater drainage and other corresponding apertures leading from the vessel deck to the sea must be closed off prior to the cargo handling commencement.

Before the start of loading or unloading operations, the operator must make sure that the quay's drain basins are empty and the shut-off valves closed. At the chemicals quay, it must be additionally ensured that the collection wells are empty and the shut-off valves closed (ANNEX 4). The shut-off valves must be kept closed throughout the duration of berthing and operations comparable to loading and unloading.

4.3 Chemical Hose Handling

A separate manual (ANNEX 5) needs to be followed upon chemical hose handling.

4.4 Piping Supervisor

For the duration of loading or unloading operations, a Piping Supervisor must be appointed landside by the operator.

4.5 Sampling

Sampling must take place in accordance with the current edition of the International Safety Guide for Oil Tankers and Terminals (ISGOTT). The ATEX equipment and conditions directive (94/9/EC) must also be taken into account.

4.6 Cargo Tank Cleaning Measures

Washing of the cargo tanks of a berthed vessel is generally prohibited. The consent of the port authority (call +358 (0)447012622) is required in case of washes and measures specified in Annex II to the Marpol Convention.

4.7 Measures to Prevent Land and Water Pollution

Loading and unloading measures, as well as comparable other operations must be performed so that marine, air, or land pollution is prevented. In case of an accident, the Safety Guide of Port of Pori (www.portofpori.fi) is to be followed.

4.8 International agreements to be followed:

- International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code); Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code) (in case of older vessels).
- Liquid fuel legislation; MARPOL 73/78 International Convention for the Prevention of Pollution from Ships.
- Where applicable, the current edition of the International Safety Guide for Oil Tankers and Terminals (ISGOTT).
- IMO International Code of Safety for Ships using Gases or other Low-flashpoint Fuels (IGF Code).
- International Code for the Construction and Equipment of Ships Carrying Liquefied Gases In Bulk (IGC)

5 LNG Operation

In case of LNG vessel traffic, the Port Regulations of the Port of Pori, these Guidelines, and national regulations shall be followed. In addition, the operators shall comply with their own guidelines. Besides instructions provided earlier in these Guidelines, the parties involved in LNG operation and handling are required to comply with the following code of practice.

5.1 Pilotage Requirements

Upon arrival and departure, LNG tankers must use a single ASD tug of minimum bollard pull (BP) at least 25 tn. In the ice season conventional tug can replace the ASD tug. To ensure safe passage, at the vessel master's discretion, an additional tug must be used. Pilotage will not be performed if the 10-minute average wind speed exceeds 14 m/s at wind direction 210°–360° or wave height exceeds 1.0 metres. Vessels en route to berths 28 and 29 must use a tug while LNG vessel operation is underway.

The passage of a LNG vessel arriving to the chemicals quay must take place in daylight; before the arrival, a meeting must be arranged to review the details and procedures of port entry.

5.2 LNG Bunkering Code of Practice

- The bunkering vessel and tank truck must be authorised by the Port of Pori Ltd (see bunkering vessel and tank truck criteria).
- The receiving vessel must comply with the IMO MSC.285(86) Interim Guidelines.
- Bunkering at the Chemical Harbour is allowed if the terminal complies with a safety management system and routines approved by the Port of Pori.
- All bunkering operations must be notified to the Port Control, +358 (0)447012623.

5.2.1 Bunkering vessel and tank truck criteria

A bunkering vessel and a tank truck must be:

- built in compliance with the IGC code;
- checked in accordance with the Green Bunkering concept;
- accompanied by evidence of appropriate training and authorisation as per the IMO MSC.285(86) Interim Guidelines.

5.2.2 Receiving vessel criteria

The receiving vessel must comply fully with the IMO MSC.285(86) Interim Guidelines and the IGF Code (after entry into force). The vessel must also comply with the safe bunkering procedure implemented in accordance with an approved ISM manual on board the vessel.

5.2.3 Terminal criteria

A terminal is required to have safe bunkering instructions to be implemented in accordance with an approved safety manual.

5.3 Hazardous Areas and Safety Zone

Prior to LNG fuel transfer operations, a special safety zone must be set up around the fuel transfer station, in addition to the hazardous areas.

The safety zone is an area surrounding the fuel transfer station or facilities; by this zone, sources of ignition are controlled and access to areas possibly exposed to accidental emission of flammable gas or other hazards in connection with LNG or natural gas transfer is ensured to authorised personnel only.

The safety zone should never be smaller than the distance of the hazardous area from the receiving vessel, bunker barge, terminal building, or truck.

Safety zone distances at the Port of Pori:

Vessel type	**At sea/roadstead**	**At quay**	**In terminal**
LNG/LPG/tanker	25 meters	25 meters	25 meters
Tank/Bulk vessel	25 meters	15 meters	15 meters
Ro-ro vessel	25 meters	25 meters	15 meters
Passenger ships	25 meters	25 meters	25 meters

5.4 LNG Fuel Bunkering from Tank Truck

Fuel transfer from a LNG tank truck to a vessel is comparable to the operations between a fuel transfer vessel and a receiving vessel, for which reason the same code of practice applies and the corresponding checklist must be filled in.

To operate a LNG fuel tank truck at the Port of Pori, the driver is required to submit an approved ADR training certificate and to prove his or her knowledge of the terminal's safety manual with respect to LNG fuel transfer.

5.5 Bunkering Measures and Requirements

The maximum pressure and pumping rate upon fuel transfer depend on the capacity for receiving of the terminal, LNG tank truck, and the receiving vessel. The figures must be entered in the safe fuel transfer checklist.

In case of a terminal emergency that does not interfere with vessel operation, the terminal shall report the matter to the vessel, bunkering vessel and/or LNG tank truck over VHF radio or other agreed means of communication.

In case of a terminal emergency interfering with vessel, bunkering vessel, or LNG tank truck operation, the decisions on leaving the vessel or quay are made by the Port.

Mooring of two LNG fuel transfer vessels next to the receiving vessel is prohibited.

The personnel carrying out LNG bunkering and the crew of the vessel to be loaded must be aware of the general operating rules of each terminal.

All luminaires and cables located in the safety zone of the LNG vessel or tank truck must be disconnected so that the power supply is cut off completely. This does not apply to ATEX classified equipment.

Inside the safety zone, to avoid sparks or heat generation in case of a failure or while in transit, use of equipment such as ro-ro vessel ramps, landing bridges, and hydraulic/pneumatic tools/equipment is prohibited.

Any passengers must be informed about ongoing LNG transfer operations by warning signs (no smoking, do not turn on the lights, etc.) and about restrictions on access to decks involved in LNG operations.

5.6 Safe LNG Fuel Transfer Checklist

The safe LNG fuel transfer checklist is used step by step to secure the LNG fuel transfer operations at the Port of Pori. The vessel-specific safe LNG fuel transfer checklist must be filled in so that all risks related to handling of the freight and passengers of the receiving vessel are considered and assessed.

5.7 Division of Responsibility

5.7.1 Vessels

When a vessel is receiving fuel from a barge or tank truck, the responsibility for the operation's safety is divided between the receiving vessel, fuel vessel, and tank truck driver.

All of the parties are responsible for interrupting their operations to prevent incidents and accidents, regardless of the party that caused the interruption.

The vessel's captain is responsible for all operations on board the vessel controlled and supervised by him or her. The bunker vessel's captain is responsible for all operations on board the bunker vessel controlled and supervised by him or her. The tank truck driver is responsible for all the tank truck operations controlled and supervised by him or her.

5.7.2 Terminal

Operating instructions concerning safe fuel transfer and freight operations must be in force at a terminal. The terminal representative is responsible for the preparation of a comprehensive emergency plan to be followed in case of LNG-related emergencies.

The terminal representative shall prevent unauthorised access to the specified and agreed safety zone on the quay territory. The terminal representative must also make sure the LNG tank truck is parked correctly and is not blocked by any vehicles. The LNG tank truck must be parked so that immediate departure is possible without any special manoeuvres.

The terminal representative must check that all safety precautions comply with the terminal's code of practice.

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GENERAL

EMERGENCY NUMBER

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