



LNG Ready Terminal

Port and Terminal guidance

Port Authority Checklist

Checklist to determine a terminal's preparedness level
for LNG Fueled vessels

LNG Ready Terminal - Port Authority Checklist

Base information

Terminal name and location:

Time and date check:

Auditor:

What is the nature of the terminal's involvement?

Project-based

System-based

What activities are planned alongside the terminal?

Lay-by berth

Operations without LNG Bunkering

LNG bunkering without other operations

LNG bunkering simultaneously with other operations

Description of the checklist methodology

In order to find the preparedness measures that apply for the planned operations given the chosen terminal involvement, cross check the letters 'B', 'P' or 'S' against the operation columns. In this the letter codes significate the following:

- B Preparedness measure applicable for both project-based approach and system-based approach;
- P Preparedness measure only applicable for project-based approach;
- S Preparedness measure only applicable for system-based approach;
- Preparedness measure not applicable.

In the checklist the letter indicates that the preparedness measures apply in one or more of the following situations:

- Column 2 Lay-by Berth
The vessel uses the berth as a lay by berth without activities.
- Column 3 Operations without LNG Bunkering
The vessel and terminal will carry out cargo or other activities without LNG bunkering.
- Column 4 LNG bunkering without other operations
The vessel will carry out LNG bunkering without cargo or other activities.
- Column 5 LNG bunkering with simultaneously with other operations
The vessel and terminal will carry out cargo or other activities simultaneously with LNG bunkering.

Port Authorities are to discuss the risk mitigation with the terminal on the issues indicated in the column with a 'B' and, dependent of the involvement/approach: 'P' or 'S'.

#	Lay by Berth	Operations without LNG Bunkering	LNG bunkering without other operations	LNG bunkering simultaneously with other operations	Terminal Organisation <i>Preparatory Actions by the terminal safety organisation</i>	
					Preparedness measure	Check
01	B	B	B	B	Has the terminal taken proper action to be aware of and deal with the risk of an emission of natural gas from the vent riser?	<input type="checkbox"/>
02	-	-	B	B	Is a package of terminal information relevant to LNG bunkering available and ready for exchange with LNG-fuelled vessels and the LNG bunker vessel operator?	<input type="checkbox"/>
03	-	-	P	P	In a project-based safety arrangement, has the terminal participated in HAZIDs and HAZOPs arranged by the LNG bunker facility operator at an early stage in risk assessments? Has the terminal contributed input on location- and terminal-specific information and on restrictions to the drafting of the Joint Plan of Operations (JPO)?	<input type="checkbox"/>
04	-	-	-	P	In a project-based safety arrangement, has the terminal participated in a SIMOPS safety assessment? Does the terminal agree to and accept the safety mitigation strategies specific for terminal operations on the LNG-fuelled vessel concerned? Are appropriate terminal safety procedures in place for handling the LNG-fuelled vessel simultaneously with LNG bunkering?	<input type="checkbox"/>
05	-	-	S	S	In a system-based safety arrangement, has the terminal arranged generic and flexible adaptive preparedness for LNG bunkering? Has the terminal the capacity in terms of know-how and procedures to review a proposal for JPO and to take the appropriate actions (acceptance, discussion or refusal)?	<input type="checkbox"/>
06	-	-	-	S	In a system-based safety arrangement, has the terminal prepared operational safety procedures to make sure the operational part of the terminal organisation is capable of operating with the required risk mitigation during an LNG bunkering?	<input type="checkbox"/>
07	-	-	B	B	Are communication procedures in place to share the proper operational information with all relevant personnel on the LNG bunkering, including restrictions on other activities during the LNG bunkering?	<input type="checkbox"/>
08	-	-	B	B	Has the terminal procedures to inform terminal contractors or third-party visitors on planned STS LNG bunker operations when they sign in at the entrance of the terminal? (Not mandatory)	<input type="checkbox"/>
09	-	-	B	B	If the Safety Zone overlaps with the terminal on the shore side, has the terminal procedures in place to take the proper action to restrict and control all activities within the Safety Zone?	<input type="checkbox"/>
Remarks:						

#	Lay by Berth	Operations without LNG Bunkering	LNG bunkering without other operations	LNG bunkering simultaneously with other operations	General Awareness <i>Awareness of terminal personal and visitors</i>	
					Preparedness measure	Check
10	B	B	B	B	Is terminal personnel acquainted with vessels that use LNG as a fuel and with the primary safety rules?	<input type="checkbox"/>
11	-	B	B	B	Do the relevant terminal personnel understand the behaviour of LNG and the different hazards of LNG compared with liquid fuels?	<input type="checkbox"/>
12	-	-	B	B	Are the terminal personnel acquainted with unusual activities or occurrences?	<input type="checkbox"/>
13	-	-	B	B	Does the terminal have procedures in place to effectuate the monitoring and security area during LNG bunkering, and are terminal personnel trained or instructed to be aware of their environment and all activities that may have an impact on the risks of LNG bunkering?	<input type="checkbox"/>
14	-	-	B	B	Does the terminal provide procedures and means of communication to obtain reports from its personnel on issues that might affect the LNG bunkering? Does the terminal have procedures and means of communication in place to inform vessels of possible safety breaches during LNG bunkering?	<input type="checkbox"/>
15	-	B	B	B	Does the terminal have procedures in place to give the appropriate instructions related to the agreed JPO to the terminal personnel boarding or handling the vessel, such as ed crane operators and planners? Are crane operators instructed to ensure the crane does not remain above the vent riser for a long period?	<input type="checkbox"/>
Remarks:						

#	Lay by Berth	Operations without LNG Bunkering	LNG bunkering without other operations	LNG bunkering simultaneously with other operations	Incident Response <i>Preparedness of the terminal incident and emergency response organisation</i>	
					Preparedness measure	Check
20	-	B	B	B	Does the terminal have established alarm procedures and proper lines of communication?	<input type="checkbox"/>
21	B	B	B	B	Have terminal personnel been instructed on how to recognise an alarm and how to act in the event of an alarm?	<input type="checkbox"/>
22	-	-	B	B	Are the in-house emergency response plans and the terminal's incident response organisation prepared and aligned with external incident response plans?	<input type="checkbox"/>
23	B	B	B	B	Will the terminal inform vessels should an incident occur on the terminal that could affect these vessels?	<input type="checkbox"/>
24	B	B	B	B	Does the terminal require LNG-fuelled vessels to provide proper safety information at the gangway?	<input type="checkbox"/>
25	-	-	B	B	In case the safety zone has an overlap with the shore: Do the terminal emergency response plans consider a possible escalation of a ship incident into a shore incident?	<input type="checkbox"/>

Remarks:

#	Lay by Berth	Operations without LNG Bunkering	LNG bunkering without other operations	LNG bunkering simultaneously with other operations	LNG Bunker Operations <i>LNG Bunker Awareness and Training for terminal personnel boarding the vessel during LNG bunkering</i>	
					Preparedness measure	Check
30	-	-	P	-	Does the terminal have a procedure in place to fill in the 'A' format of the IAPH CMF Working Group LNG STS bunker checklist? Will the terminal review and agree on a final JPO? Will the terminal clearly state that in this case no simultaneous operations will be performed by the terminal during the LNG bunkering?	<input type="checkbox"/>
31	-	-	S	-	Does the terminal have a procedure in place to receive Terminal Information Sheet, and act accordingly upon its content? Will the terminal review and agree on a final JPO? Will the terminal clearly state that in this case no simultaneous operations will be performed by the terminal during the LNG bunkering?	<input type="checkbox"/>
32	-	-	P	-	Will the terminal participate in the pre-operation meeting with the vessel operators?	<input type="checkbox"/>
33	-	-	S	-	Will the terminal participate in the pre-operation meeting?	<input type="checkbox"/>
34	-	-	B	-	Have terminal personnel boarding the vessel been instructed how to act in the event of an alarm or another signal indicating a process failure in the bunker process?	<input type="checkbox"/>
35	-	-	B	-	Are terminal personnel boarding during LNG bunker operations acquainted with the risks of LNG and the safety measures to be taken during an LNG bunkering? Do they know about the control zones and the restrictions applying within the control zones during an LNG bunkering?	<input type="checkbox"/>
Remarks:						

#	Lay by Berth	Operations without LNG Bunkering	LNG bunkering without other operations	LNG bunkering simultaneously with other operations	Simultaneous Operations	
					Preparedness measure	Check
					<i>Awareness and training for terminal personal involved in cargo handling during LNG bunkering</i>	
40	-	-	-	P	Does the terminal have a procedure in place to fill in the 'A' format of the IAPH CMF Working Group LNG STS bunker checklist? Will the terminal review and agree on a final JPO? Is the terminal able to identify which simultaneous activities may be carried out by the terminal during the LNG bunkering and which conditions apply during the SIMOPS in order to maintain the required level of safety?	<input type="checkbox"/>
41	-	-	-	S	Has the terminal received a Terminal Information Sheet? Has the terminal received and agreed to the JPO? Is terminal able to identify which simultaneous activities may be carried out by the terminal during the LNG bunkering and which conditions apply during the SIMOPS in order to maintain the required level of safety?	<input type="checkbox"/>
42	-	-	-	P	Will the terminal participate in the pre-operation meeting with the vessel operators?	<input type="checkbox"/>
43	-	-	-	S	Will the terminal participate in the pre-operation meeting with the vessel operator?	<input type="checkbox"/>
44	-	-	-	B	Are terminal personnel boarding the involved vessels acquainted with the risks of LNG and the safety measures that are necessary to ensure safe cargo handling simultaneously with an LNG bunkering, and vice versa? Do they know about the applicable control zones and the restrictions applying within them? Have terminal personnel been properly informed about the applicable safety measures?	<input type="checkbox"/>
45	-	-	-	B	Will cargo activities be planned to ensure that they do not take place in the Safety Zone during the LNG bunkering?	<input type="checkbox"/>
46	-	-	-	B	Are terminal personnel handling the ships that will bunker LNG (planners, crane operators) acquainted with the safety measures that are necessary to ensure safe cargo handling simultaneously with an LNG bunkering? Do they know about the applicable control zones and the restrictions applying within them? Have the terminal personnel been properly informed about the applicable safety measures?	<input type="checkbox"/>
47	-	-	-	B	Do terminal personnel boarding the vessel or handling the vessel, such as crane operators, know how to act in the event of an alarm or other signal indicating a process failure in the bunkering process?	<input type="checkbox"/>
48	-	B	-	B	Are the crane operators acquainted with the location of the vent riser? Do they know that they must not allow the crane to remain above the vent riser for a long period?	<input type="checkbox"/>
49	-	-	-	B	Are the crane operators aware of the safety measures in place to reduce the risk of objects falling on the LNG bunker vessel and its equipment?	<input type="checkbox"/>

Remarks: