

SUB-COMMITTEE ON HUMAN ELEMENT,  
TRAINING AND WATCHKEEPING  
1st session  
Agenda item 17

HTW 1/17/1  
13 December 2013  
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**DEVELOPMENT OF THE INTERNATIONAL CODE OF SAFETY FOR SHIPS  
USING GASES OR LOW-FLASHPOINT FUELS (IGF CODE)**

**Development of training and certification requirements for personnel servicing  
on board ships which deliver liquefied natural gas (LNG) as bunkers  
and ships using LNG as fuel**

**Submitted by Singapore**

**SUMMARY**

*Executive summary:* This document provides information in the development of training and certification requirements for personnel servicing on board ships which deliver liquefied natural gas (LNG) as bunkers and ships using LNG as fuel

*Strategic direction:* 5.2

*High-level action:* 5.2.1

*Planned output:* 5.2.1.2

*Action to be taken:* Paragraph 11

*Related documents:* STW 44/17, STW 44/17/2, STW 44/17/3, STW 44/17/4, STW 44/17/5, STW 44/17/6, STW 44/WP.3, STW 44/19, STW 44/INF.4, STW 44/INF.6 and MSC 92/26

**Background**

1 BLG 17 and its correspondence group are developing a code of safety for ships using gases or other low-flashpoint fuels – referred here as the "IGF Code" – focusing on liquefied natural gas (LNG), and considering accommodation of other fuels, with a view to making relevant amendments to SOLAS. The proposed IGF Code addresses the construction, installation, equipment and fittings of ships using low-flashpoint fuels. The BLG Sub-Committee had sought inputs from STW Sub-Committee regarding training requirements for personnel serving on board ships using low-flashpoint fuels.

2 STW 44 had agreed that the training requirements for officers and ratings on board ships using low-flashpoint fuels be included in chapter V of the STCW Convention and STCW Code. The STW Sub-Committee also noted that the existing training requirements for officers and ratings on board liquefied gas carriers were not entirely suitable for officers and ratings on board ships using low-flashpoint fuels.

### **Considerations for developing training and certification for ships' crew using LNG as fuel or supplying LNG bunkers**

3 It is expected that LNG would increasingly be used as fuel on board ships, particularly, as it is considered to be a more environmentally-friendly fuel. However, using LNG as fuel is a new development for most ships. Also, ships using gases or other low-flashpoint fuels would be required to fuel either at berths, at terminals or at anchorages. Dedicated ships would be required to supply such low-flashpoint fuels to ships in ports. Seafarers, particularly those on board cargo ships, are not necessarily familiar with the safety and operational requirements for LNG bunkering.

4 The number of ships currently using LNG as fuel may be small but this number could substantially increase within a few years, once LNG is widely available as fuel. It is thus important that appropriate training for officers and ratings on board ships using LNG as fuel as well as on board ships supplying LNG as bunkers, be developed early and that the IMO be pro-active in setting appropriate safety standards for seafarers in this area.

### **Discussions**

5 Ships supplying LNG as fuel are built as LNG carriers and have to comply with the IGC Code. They are also required to be manned by officers and ratings qualified under regulation V/1-2 and section A-V/1-2 (paragraphs 1 and 2) of the STCW Convention and Code. However, LNG carriers deployed to supply LNG as bunkers in port operate quite differently from a typical LNG carrier which generally operates between dedicated LNG loading terminals and LNG receiving terminals. Unlike LNG carriers, LNG bunker tankers will be required to make frequent ship-to-ship (STS) operations to deliver LNG in parcels, and would need to go alongside a wide variety of ships and terminals to make the delivery. It is, therefore, proposed that additional training be developed for officers and ratings on board LNG tankers deployed to supply LNG bunkers to other ships to cover these specific competency requirements and to enhance the safety of such operations.

6 It is also proposed that training requirements for personnel on board ships using LNG as fuel, i.e. the LNG carriers, be developed within the ambit of chapter V of the STCW Convention. The key competencies required for deck officers, marine engineer officers and ratings should be developed early so that shipping community will have sufficient lead time to train their crews for such operations.

7 The training should be specific and appropriate to the duties and responsibilities of seafarers on board these vessels. It is thus proposed that training requirements be developed for the following categories of seafarers:

- .1 seafarers manning LNG tankers that supply LNG bunker to ships; and
- .2 seafarers manning ships that use LNG as fuel.

### **Proposal**

#### **Training for personnel on board LNG tankers used to supply LNG bunkers to ships**

8 It is proposed that additional training be developed for seafarers serving on board ships supplying LNG as bunkers. Officers and ratings on board such LNG tankers should be qualified under regulation V/1-2, paragraphs 1 or 3 of the STCW Convention respectively. They would require additional training to cover the specific bunkering activities, and Singapore proposes that three levels of training should be developed, namely:

- .1 basic training for all seafarers on board LNG bunker tankers to take appropriate precautions to prevent hazards and to apply occupational health and safety precautions;
- .2 advanced training for deck officers, marine engineer officers and ratings with immediate responsibilities for loading at terminals, discharging LNG parcels to other ships as bunkers; and
- .3 specialized training for marine engineer officers and ratings with immediate responsibilities for operation and maintenance of cargo related equipment used for bunkering operations.

### **Training for crew of ships using LNG as fuel**

9 Crew on board ships which use LNG as a fuel require training for safe LNG bunkering operations. It is proposed that the training includes:

- .1 basic training for all crew involved in bunkering operations to enable safe bunkering operations, to take appropriate precautions to prevent hazards and to apply occupational health and safety precautions;
- .2 advanced training for deck officers, marine engineer officers and ratings with immediate responsibilities for bunkering to safely perform and monitor bunkering operations, to be familiar with physical and chemical properties of LNG bunkers, to take appropriate precautions to prevent hazards, able to respond to emergencies, take precautions to prevent pollution of environment and apply occupational health and safety precautions; and
- .3 specialized training for marine engineer officers and ratings with immediate responsibilities for operation and maintenance of LNG-related equipment and systems on board.

### **Certification**

10 It is also proposed that appropriate certificate of proficiency be issued to officers and ratings on board ships supplying LNG as bunkers, as well as to officers and ratings on ships using LNG as fuel.

### **ACTION REQUESTED OF THE SUB-COMMITTEE**

11 The Sub-Committee is invited to consider the above information, and take action as appropriate.

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