



## **Guidance on Enclosed Space Entry and Rescue**

### **Preparation for the 2015 Concentrated Inspection Campaign (CIC) by the Paris MoU and Tokyo MoU**

#### **‘Crew Familiarization for Enclosed Space Entry’**

The Paris MoU and Tokyo MoU will conduct a joint Concentrated Inspection Campaign (CIC) on ‘Crew Familiarization for Enclosed Space Entry’ for three months from 1 September to 30 November 2015. The CIC is applicable to all ships.

During the CIC, Port State Control Officers (PSCOs) will verify whether designated crew members are familiar with their duties and relevant equipment, are aware of the hazards of enclosed space entry and rescue, and whether they have received appropriate familiarisation. Additional questions will be asked by PSCOs about the availability and use of atmosphere testing equipment on board. The CIC will check whether ship operators have established measures to ensure the safe entry of and rescue from enclosed spaces on board ships, including through the conducting of drills.

This guidance includes the ‘*standard questionnaire*’ for use by PSCOs which includes 10 specific ‘Yes/No’ questions. Answers under the “No” column may lead to a deficiency being issued by the PSCO. Questions marked with an asterisk (\*) are considered to be particularly important. The first two questions are for information purposes only in the Paris MoU region but in the Tokyo MoU region a negative mark may lead to a deficiency.

The results of the CIC are expected to be publicised in 2016, including information on the specific numbers of deficiencies and detentions that result from the campaign.

#### **Relevant International Regulations**

- International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended
- International Convention on Standards of Training, Certification and Watchkeeping (STCW) for Seafarers, 1978, as amended by the 2010 Manila Amendments
- International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management (ISM) Code) – SOLAS Chapter IX

#### **IMO Recommendations and Guidance**

- Revised recommendations for entering enclosed spaces aboard ships – Resolution A.1050(27), adopted 30 November 2011

- Guidelines to facilitate the selection of portable atmosphere testing instruments for enclosed spaces as required by SOLAS Regulation XI-1/7 (MSC.1/Circ.1477), adopted 9 June 2014
- Guidelines on Tank Entry for Tankers Using Nitrogen as an Inerting Medium (MSC.1/Circ.1401), adopted 9 June 2011
- Early Implementation of SOLAS Regulation XI-1/7 on atmosphere testing instrument for enclosed spaces (MSC.1/Circ.1485), adopted 14 January 2015

## **ICS guidance**

This guidance has been prepared to assist shipowners and operators prepare for Port State Control (PSC) inspections incorporating the CIC on 'Crew Familiarization for Enclosed Space Entry' being conducted in the Paris MoU and Tokyo MoU (and potentially other regions) from 1 September to 30 November 2015.

Guidance and suggestions for each of the CIC standard questions is included. It should be noted that the questions are somewhat repetitive with similar items related to enclosed space entry and rescue being addressed in more than one question.

### **Important Note**

This guidance is intended as voluntary advice which ship operators are not in any way obligated to accept, although they are invited to consider its value in the context of their preparations for the CIC.

The advice given in this document is intended purely as guidance to be used at the user's own risk. No responsibility is accepted by the International Chamber of Shipping (ICS) for any consequences whatsoever resulting directly or indirectly from compliance with or adoption of this guidance even if caused by a failure to exercise reasonable care.



## CIC on Crew Familiarization for Enclosed Space Entry

*This CIC applies to all ships*

Inspection Authority:			
Ship Name:		IMO Number:	
Date of Inspection		Inspection Port:	

No.	Item	Yes	No	N/A
Q.1 Note 1	Are there measures in place to test the atmosphere of an enclosed space to confirm it is safe to enter?	<input type="checkbox"/>	<input type="checkbox"/>	
Q.2 Note 1	Are crew members responsible for testing the atmosphere in enclosed spaces trained in the use of the equipment referred to in Question 1?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Item	Yes	No	N/A
Q.3 *	Are the crew members familiar with the arrangements of the ship, as well as the location and operation of any on-board safety systems or appliances that they may be called upon to use for enclosed space entry?	<input type="checkbox"/>	<input type="checkbox"/>	
Q.4 *	Are crew members responsible for enclosed space emergency duties, familiar with those duties?	<input type="checkbox"/>	<input type="checkbox"/>	
Q.5	Is the training manual available on board and its contents complete and customized to the ship?	<input type="checkbox"/>	<input type="checkbox"/>	
Q.6 *	Is there evidence on board that enclosed space entry and rescue drills are conducted in accordance with SOLAS Chapter III, Regulation 19?	<input type="checkbox"/>	<input type="checkbox"/>	
Q.7	Have the ship's crew participated in an enclosed space entry and rescue drill on board the ship at least once every two months in accordance with SOLAS Chapter III, Regulation 19.3.3?	<input type="checkbox"/>	<input type="checkbox"/>	
Q.8 *	Are crew members responsible for enclosed space entry aware of the associated risks?	<input type="checkbox"/>	<input type="checkbox"/>	
Q.9 *	During the CIC, the PSCO is to observe an enclosed space entry and rescue drill. Did the drill comply with the requirements of SOLAS Chapter III, Regulation 19.3.6?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q.10	Is the ship detained as a result of a "NO" answer to any of the questions?	<input type="checkbox"/>	<input type="checkbox"/>	

Note 1 For PMoU, questions 1 & 2 are for information purposes only.

Note 2 For TMOU all questions apply.

Note 3 Each question should be answered and only one box ticked for that question.

Note 4 Questions with an asterisk indicate Code 30 may be issued.

## Question 1

### **‘Are there measures in place to test the atmosphere of an enclosed space to confirm it is safe to enter?’**

This question addresses measures on board the ship to ensure that enclosed spaces are safe for entry. The question is for information purposes only in the Paris MoU region, however a ‘No’ response could result in a deficiency in the Tokyo MoU region.

It is likely that PSCOs will enquire about:

- Practices on board the ship to test the atmosphere of enclosed spaces prior to entry; and
- The availability of atmosphere testing equipment, if any, on board the ship

The amendments to SOLAS requiring enclosed space entry and rescue drills (SOLAS Chapter III, Regulation 19.3.6) includes reference to the checking and use of instruments for measuring the atmosphere in enclosed spaces. Until 1 July 2016 there is no international requirement for all ships to carry atmosphere testing equipment for enclosed spaces.

Further guidance on the testing of atmospheres of enclosed spaces can be found in Section 7 of the *Revised recommendations for entering enclosed spaces aboard ships* (Resolution A.1050(27)) and in the *Guidelines to facilitate the selection of portable atmosphere testing instruments for enclosed spaces as required by SOLAS Regulation XI-1/7* (MSC.1/Circ.1477).

For some ships, atmosphere testing is already a requirement for operations and therefore the equipment and relevant practices and procedures will be readily available to show to the PSCO. For other ships, measures to test atmosphere prior to entry into enclosed spaces should be explained to the PSCO.

### **Preparations**

Ships should be prepared to show PSCOs:

- Atmosphere testing equipment available, if any, on board the ship;
- What atmospheres the equipment is capable of testing and the relevant ranges;
- That the atmosphere testing equipment available is in good condition;
- Copies of manufacturer’s manuals related to the atmosphere testing equipment; and
- Records of servicing, testing or examination of the atmosphere testing equipment.

### **Tips**

Masters should be prepared to explain the requirements regarding atmosphere testing equipment applicable to the ship. Evidence to support the explanations should be available to provide to the PSCO.

### **References**

SOLAS Chapter III, Regulation 19, Paragraph 3.6.2.3  
SOLAS Regulation XI-1/7 (Entry into force – 1 July 2016)

## Question 2

### **‘Are crew members responsible for testing the atmosphere in enclosed spaces trained in the use of the equipment referred to in Question 1?’**

This question addresses the training of crew members responsible for testing the atmospheres in enclosed spaces in the use of the equipment available on board. The question is for information purposes only in the Paris MoU region, however a ‘No’ response could result in a deficiency in the Tokyo MoU region.

If atmosphere testing equipment is not required or not available on board, the PSCO should be recording ‘N/A’ on the standard questionnaire. It would be expected that a PSCO only checks further if atmosphere testing equipment is available on board.

The PSCO will likely verify whether crew members responsible for using atmosphere testing equipment:

- Have been trained in the use of the specific atmosphere testing equipment available;
- Know how to use the atmosphere testing equipment;
- Are aware of the particular hazards associated with the type of ship, type of space and type of cargo being carried;
- Are using the appropriate testing equipment for the particular hazards associated with the type of ship, type of space and type of cargo being carried;
- Are familiar with the manufacturer’s instructions for the atmosphere testing equipment being used; and
- Are aware of the limitations of testing equipment and testing procedures (see Revised recommendations for entering enclosed spaces aboard ships – Resolution A.1050(27) adopted 30 November 2011).

The PSCO will also likely verify that:

- Manufacturer’s instructions are available for the atmosphere testing equipment used on board the ship; and
- That the ship’s procedures for enclosed space entry cover the use of atmosphere testing equipment.

### **Preparations**

Preparations by relevant crew members:

- Crew members with specific responsibilities for using atmosphere testing equipment should be briefed, ready and able to explain the circumstances and key elements of the training they received on the use of the equipment;
- Crew members with specific responsibilities for using atmosphere testing equipment should be able to explain and demonstrate its use and also its calibration if the latter forms part of their responsibilities;
- Crew members with specific responsibilities for using atmosphere testing equipment should be able to explain the hazards associated with the type of ship, types of spaces being entered and cargo being carried and how the testing equipment is appropriate for the specific hazards;

- Crew members with specific responsibilities for using atmosphere testing equipment should be familiar with the location and contents of the manufacturer's instructions and relevant ship's procedures and be able to indicate these to the PSCO; and
- Crew members with specific responsibilities for using atmosphere testing equipment should be briefed, ready and able to explain the limitations of the atmosphere testing equipment to the PSCO.

Preparations related to the ship:

- On board records should be available to demonstrate the timing and key elements of the training delivered to crew members on the atmosphere testing equipment and enclosed space entry;
- Manufacturer's instructions for the atmosphere testing equipment available are available to show the PSCO. Ship or company specific instructions may also suffice to show the PSCO; and
- Ships procedures should cover the use of atmosphere testing equipment and be available to show the PSCO.

### **Tip**

On the standard questionnaire being used by the PSCO, there is an option for the PSCO to record 'N/A'. If atmosphere testing equipment is not available on board, the Master should seek to ensure that the PSCO records 'N/A' on the standard questionnaire. This will ensure the statistics and analysis resulting from this CIC are correct.

### **References**

SOLAS Chapter III, Regulation 19.4.2.5

Revised recommendations for entering enclosed spaces aboard ships (Resolution A.1050(27))

Guidelines to facilitate the selection of portable atmosphere testing instruments for enclosed spaces as required by SOLAS Regulation XI-1/7 (MSC.1/Circ.1477), adopted 9 June 2014

## Question 3

**‘Are the crew members familiar with the arrangements of the ship, as well as the location and operation of any on-board safety systems or appliances that they may be called upon to use for enclosed space entry?’**

This question addresses the familiarization of all crew members and specifically designated crew members with enclosed space duties on board the ship, procedures and operation of relevant safety equipment for enclosed space entry and rescue.

A detainable deficiency and an ISM deficiency may be given if the PSCO judges that the crew have a lack of familiarity with the location of enclosed spaces, procedures and systems for enclosed space entry, and operation of any safety equipment used for entry or rescue.

PSCOs are likely to check that all crew members are familiar with:

- Which spaces on the ship have been designated as enclosed spaces within the on board safety management system;
- Procedures for enclosed space entry on the ship;
- The entry permit system for access to designated enclosed spaces; and
- Communications procedures used during enclosed space entry.

PSCOs are also likely to check that crew members with specific designated enclosed space entry and rescue duties are additionally familiar with:

- The location of safety equipment that may be used for enclosed space entry and rescue;
- Breathing apparatus use and associated safety checks; and
- Correct use of other safety equipment used for enclosed space entry.

It should be noted that all crew members, on being assigned to a ship, should be familiarised with their specific duties and with all ship arrangements, installations, equipment, procedures and ship characteristics that are relevant to their routine or emergency duties.

### Preparations

Ships should ensure that all crew members, on being assigned to the ship, have been familiarised with:

- Designated enclosed spaces on the ship;
- Procedures for enclosed space entry on the ship;
- The entry permit system for access to designated enclosed spaces; and
- Communications procedures during enclosed space entry.

Ships should ensure that crew members with specific designated enclosed space entry and rescue duties, on being assigned to the ship, have been familiarised with:

- The location of safety equipment that may be used for enclosed space entry and rescue;
- Breathing apparatus use and associated safety checks; and
- Correct use of other safety equipment used for enclosed space entry.

### Tip

Ships should have readily available records regarding the familiarisation of crew with enclosed spaces, enclosed space entry requirements and procedures as appropriate.

### **References**

SOLAS Chapter III - Regulation 19.3.6  
STCW Regulation I/14, paragraph 1.5



## Question 4

### **‘Are crew members responsible for enclosed space emergency duties familiar with those duties?’**

This question addresses the familiarisation of crew members with designated enclosed space entry emergency duties. A detainable deficiency and an ISM deficiency may be given as a result of a negative response to this question.

PSCOs will likely ask which crew members have designated enclosed space entry emergency duties. They may also ask to consult the ship’s muster list to identify or confirm the relevant crew members. PSCOs might be expected to:

- Speak to the relevant crew members about their designated enclosed space emergency entry duties; and/or
- Ask the relevant crew members to demonstrate certain aspects of their duties to the PSCO.

### **Preparations**

Preparation of the ship:

- Facilitate the identification of which crew members have enclosed space emergency duties by making available appropriate documentation to show the PSCO. This may be the muster list, part of the on board safety management system or other list.

Preparation of the crew:

- Crew members with enclosed space emergency duties should be briefed, ready and able to explain or demonstrate the procedures and their own duties for enclosed space rescues on board the ship.

### **Tips**

If necessary, Masters should remind PSCOs that muster lists drawn up in accordance with SOLAS do not have to include assignment of enclosed space emergency duties.

Masters could suggest to the PSCO that this question should be considered as part of the drill to be observed by the PSCO under Question 9.

### **References**

SOLAS Chapter III, Regulation 19.3.6  
SOLAS Chapter III, Regulation 37

## Question 5

### **‘Is the training manual available on board and its contents complete and customized to the ship?’**

This question addresses the training manual ships should carry on board in accordance with SOLAS. A detainable deficiency and an ISM deficiency may be given as a result of a negative response to this question.

PSCOs will likely seek to check that:

- There is a training manual on board the ship;
- The contents of the training manual are complete and customised for the ship;
- The training manual is written in the working language of the ship; and
- Crew members can identify where the training manual is located on board the ship and are familiar with its contents as appropriate to their duties.

A training manual complying with the requirements of SOLAS Chapter III, Regulation 35 is to be provided in each crew mess room and recreation room or in each crew cabin.

### **Preparations**

Preparations related to the ship:

- Ensure that the training manual is ship-specific, available on board the ship in the required locations (i.e. in each crew mess room and recreation room or in each crew cabin);
- Ensure crew members are familiar with the contents of the training manual as appropriate to their duties; and
- Ensure the training manual complies with the elements required by SOLAS Chapter III, Regulation 35.

Preparation of the crew:

- Crew members should be prepared to identify or show the PSCO where the ship's training manuals are located on board the ship and answer questions relevant to their duties.

### **Tip**

The master should be prepared to advise the PSCO that there is no requirement for the training manual to refer explicitly to safety equipment or apparatus used for enclosed space entry and rescue. However, the training manual is to cover all other functions contained in the muster list and emergency instruction, therefore, in some instances, the training manual may have been revised to included content specific to appliances used for enclosed space entry and rescue.

### **Reference**

SOLAS Chapter III, Regulation 35

## Question 6

### **‘Is there evidence on board that enclosed space entry and rescue drills are conducted in accordance with SOLAS Chapter III, Regulation 19?’**

This question addresses the safety of drills on enclosed space entry and rescue carried out on board the ship. A detainable deficiency and an ISM deficiency may be given as a result of a negative response to this question.

SOLAS Chapter III, Regulation 19 requires that an enclosed space entry and rescue drill shall include:

- *Checking and use of personal protective equipment required for entry;*
- *Checking and use of communication equipment and procedures;*
- *Checking and use of instruments for measuring the atmosphere in enclosed spaces;*
- *Checking and use of rescue equipment and procedures; and*
- *Instructions in first aid and resuscitation techniques.*

The PSCO will likely make their assessment based on the drill witnessed under Question 9. In principle and as a minimum, a drill that follows the elements contained in SOLAS Chapter III, Regulation 19, should be considered as having been planned and conducted in a safe manner.

### **Preparations**

Ships should ensure that their planned drills contain all the elements listed in SOLAS Chapter III Regulation 19, and take due account of additional recommendations contained in *Revised recommendations for entering enclosed spaces aboard ships* (Resolution A.1050(27)). The PSCO could be directed to the plans as set out in the ship’s on board safety management system.

Ships should ensure that the dates when enclosed space entry and rescue drills are held and details of drills carried out are recorded as prescribed by the flag State. The relevant records should be readily available for the PSCO.

### **References**

SOLAS Chapter III, Regulation 19.3.3, 19.3.6.1, 19.3.6.2, 19.5

## Question 7

**‘Have the ship’s crew participated in an enclosed space entry and rescue drill on board the ship at least once every two months in accordance with SOLAS Chapter III, Regulation 19.3.3?’**

This question addresses the regularity and subsequent recording of enclosed space entry and rescue drills. This is not identified as a question where a detainable deficiency might be given, an ISM deficiency may be recorded.

Crew members with designated enclosed space entry or rescue duties are required to participate in an enclosed space entry and rescue drill to be held on board the ship at least once every two months (SOLAS Chapter III Regulation 19.3.3).

PSCOs will likely seek to check that:

- Records indicate the date and details of enclosed space entry and rescue drills held on board the ship; and
- Crew members with designated enclosed space entry or rescue responsibilities took part in the drills found in the records (related to Question 4).

### Preparations

To demonstrate to the PSCO that enclosed space entry and rescue drills are carried out on board the ship:

- Ships should ensure that dates when the enclosed space entry and rescue drills are held and details of the drills carried out are recorded as prescribed by the flag State. The relevant records should be made available for the PSCO during the inspection.
- Ships should ensure that crew members with designated enclosed space entry or rescue responsibilities have participated in an enclosed space entry and rescue drill on board the ship at least once every two months since entry into force of the SOLAS requirements (1 January 2015) and that corresponding records are kept.

### Tips

Masters should ensure that the records are complete, sufficiently detailed and clearly identify the crew members that participated in the drills.

Masters should ensure that if a drill is not held at the appointed time, an entry is made in the records stating the circumstances and the extent of the drill held.

### Reference

SOLAS Chapter III, Regulation 19.3.3, 19.5

## Question 8

### ***'Are crew members responsible for enclosed space entry aware of the associated risks?'***

This question addresses the awareness of crew members with designated enclosed space entry and rescue duties of the risks associated with enclosed spaces on board ships. A detainable deficiency and an ISM deficiency may be given as a result of inspection under this question if a lack of instruction or familiarity is deemed to pose a danger to the ship's personnel.

PSCOs will likely expect that every crew member will have been given instruction on the risks associated with entry into enclosed spaces, even if they do not have specific enclosed space entry or rescue duties. All crew members should:

- Be able to identify areas on board that might normally be considered enclosed spaces or have been designated as enclosed spaces; and
- Be aware of the need to follow safe entry procedures in accordance with the ship's practices and procedures.

PSCOs will likely seek to verify that crew members with designated responsibilities for enclosed space entry and rescue are aware of:

- Information provided on the hazards and risks of enclosed spaces;
- What spaces have been designated as enclosed spaces on board the ship;
- The risks associated with entry into those spaces;
- The procedures for safe entry into enclosed spaces;
- Atmospheric levels required to be confirmed prior to entry;
- Factors that may result in oxygen deficiency in the enclosed spaces on board the ship;
- The need to test for specific toxic contaminants in some circumstances; and
- Unsafe atmospheres that may also occur in spaces adjacent to those spaces where a hazard is known to be present and that this needs to be reflected in the procedures.

### **Preparations**

Ships should ensure that crew members with designated enclosed space entry and rescue duties are prepared and able to explain or demonstrate to the PSCO awareness of the elements listed above as appropriate.

### **Reference**

SOLAS Chapter III, Regulation 19.4.2.5

Revised recommendations for entering enclosed spaces aboard ships (Resolution A.1050(27))

## Question 9

**‘During the CIC, the PSCO is to observe an enclosed space entry and rescue drill. Did the drill comply with the requirements of SOLAS Chapter III, Regulation 19.3.6?’**

This question addresses the enclosed space entry and rescue drills that are required to be carried out on board all ships at least every two months, in accordance with amendments to SOLAS Chapter III, Regulation 19 which entered into force on 1 January 2015.

For the purposes of completing this question, the PSCO is required to observe an enclosed space entry and rescue drill. The drill should comply with the requirements of SOLAS Chapter III, Regulation 19.3.6, taking into account the guidance contained in the *Revised recommendations for entering enclosed spaces aboard ships* (Resolution A.1050(27)).

It is expected that the drill should be:

- Agreed first with the PSCO;
- Carried out in a space or location on board that has not been designated as an enclosed space as such by the on board safety management system;
- Realistic and specific to the ship;
- Conducted in a safe manner and area on board;
- Planned to incorporate both an enclosed space entry and an emergency enclosed space rescue; and

The purpose of the drill is likely to allow the PSCO to verify that:

- Crew members are able to conduct enclosed space entry and rescue drills competently and in a safe manner; and
- Crew members can communicate effectively during both a planned enclosed space entry and in an emergency situation for an enclosed space rescue.

A detention may result if the crew are deemed not to have successfully conducted the drill or if there were significant failures identified during the drill that could pose a danger to persons during enclosed space entry. An ISM related deficiency may also be recorded by the PSCO.

### Preparations

Ships should verify that the drills planned and conducted on board the ship comply with SOLAS Chapter III, Regulation 19.3.6, and take into account the guidance contained in the *Revised recommendations for entering enclosed spaces aboard ships* (Resolution A.1050(27)). It should be ensured that the relevant crew members required for the drill are available for the CIC component of the PSC inspection.

### Tips

Masters should be prepared to suggest a drill and scenario to the PSCO for their agreement. For this purpose, it would be advisable to have planned an appropriate enclosed space entry and rescue drill.

### References

SOLAS Chapter III, Regulation 19.3.6

## Question 10

### **‘Is the ship detained as a result of a “NO” answer to any of the questions?’**

Question 10 will be completed by the PSCO after considering the responses indicated for the rest of the questionnaire. Detention of a ship will be considered by the PSCO if any questions marked with an ‘\*’ on the standard questionnaire are recorded under the ‘No’ column. These are Questions 3, 4, 6, 8 and 9. The detail of any deficiencies will be indicated by the PSCO on the PSC report of inspection.

### **Tips**

Questions 1 and 2 are identified on the standard questionnaire as being for information purposes only in the Paris MoU region. Masters could bring this to the attention of the PSCO if necessary and as appropriate.

As the standard questionnaire states that all questions apply in the Tokyo MoU region, it should be considered that 1 and 2 are not for information purposes only in that region. Masters are advised to engage the PSCO on the responses to these two questions if there is no regulatory requirement for the particular ship and its crew members to meet the positive responses to these questions and any other follow-up questions the PSCO may have. In most cases, the Master should ensure that ‘N/A’ is marked for Question 2.

Given that ‘Yes’ is the positive response and ‘No’ is the negative response for all other questions, it is somewhat confusing that the ‘No’ is the positive outcome for this question. Whilst a ship is unlikely to be accidentally detained, Masters should seek to ensure that the PSCO records ‘No’ if the ship is not detained as a result of the CIC questions. This will ensure the statistics and analysis resulting from the CIC are correct.