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CIRCULAR LETTER

Piraeus, 28 August 2017

Subject: Riyadh MoU - Concentrated Inspection Campaign (CIC) on Crew Familiarization for Enclosed Space Entry

The **Riyadh MoU** on Port State Control (PSC) have announced a CIC applicable to all ships on Crew Familiarization for Enclosed Space Entry. The campaign period will be commenced from 1st of September 2017 and it will be held for 3 months, ending on 30th of November 2017. The purpose of this CIC is to ensure effective procedures and measures are in place to safeguard seafarers on board ships when entering and working in enclosed spaces and to check compliance with the applicable requirements of the SOLAS Convention. The areas of concern include:

- crew familiarization with operation of onboard safety systems and appliances for enclosed spaces;
- crew familiarization with rescue drills and emergency duties for enclosed spaces; and
- crew awareness about the risk when entering enclosed spaces.

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 familiarization. Additional questions will be asked by PSCOs about the availability and use of atmosphere testing equipment (ATE). The CIC will check whether ship operators have established measures to ensure the safe entry of and rescue from enclosed spaces onboard ships, including the conducting of drills.

This guidance has been prepared to assist preparation for the CIC inspection and includes the “standard questionnaires” for use by PSCOs which include 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 and may lead to a detention. **Explanations regarding each one of the questions are provided in Annex I.**

In arriving at a “Yes” or “No” answer to each of the 10 questions the following point will be considered by the PSCO.

- Should a “No” be answered, a deficiency shall be issued for the PSC inspection.
- If a deficiency in the report of inspection is related to the questionnaire, a “No” answer should be recorded against the relevant question.

Relevant International Regulations

- SOLAS 1974, as amended.
- STCW 1978, as amended.
- ISM Code – SOLAS Chapter IX.

IMO Recommendations and Guidance

- 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 Reg. XI-1/7 (MSC.1/Circ.1477).
- Guidelines on Tank Entry for Tankers Using Nitrogen as an Inerting Medium (MSC.1/Circ.1401).
- Implementation of SOLAS Reg. XI-1/7 on ATE for enclosed spaces (MSC.1/Circ.1485).

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RIYADH MEMORANDUM OF UNDERSTANDING
ON PORT STATE CONTROL

مـــذكـــرة تفـــاهم الـــريـــاض
للتفتيش والرقابة على السفن

Questionnaire - CIC on Crew Familiarization for Enclosed Space Entry
1st September 2017 – 30th November 2017

Ships Name:		**IMO No:**	
Port of Inspection:		**Date of Inspection:**	

#	Item	YES	NO	N/A
1	Are there measures in place to test the atmosphere of an enclosed space to confirm it is safe to enter?			
2	Are crew members responsible for testing the atmosphere in enclosed spaces trained in the use of the equipment referred to in Question 1?			
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?			
4 *	Are crew members responsible for enclosed space emergency duties, familiar with those duties?			
5 *	Is the training manual available on board and its contents complete and customized to the ship?			
6 *	Is there evidence on board that enclosed space entry and rescue drills are conducted in accordance with SOLAS Chapter III, Regulation 19?			
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?			
8 *	Are crew members responsible for enclosed space entry aware of the associated risks?			
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?			
10	Is the ship detained as a result of a "NO" answer to any of the questions?			

Note 1 Each question should be answered and only one box ticked for that question.

Note 2 Questions with an asterisk (*) indicate Code 30 may be issued.

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ANNEX I
QUESTIONNAIRE GUIDANCE

Question 1 - Are there measures in place to test the atmosphere of an enclosed space to confirm it is safe to enter? (SOLAS Ch. III, Reg. 19.3.6.2.3)

It is likely that PSCOs will enquire about:
- Practices onboard the ship to test the atmosphere of enclosed spaces prior to entry; and
- The availability of atmosphere testing equipment (ATE), if any, onboard the ship.

The amendments to SOLAS requiring enclosed space entry and rescue drills include reference to the checking and use of instruments for measuring the atmosphere in enclosed spaces.

Guidance on the testing of atmospheres in enclosed spaces can be found in Section 7 of Res. A.1050(27) and in the Guidelines to facilitate the selection of portable atmosphere testing instruments for enclosed spaces, as per SOLAS Reg. XI-1/7 (MSC.1/Circ.1477).

Preparations
- That the ATE available, is in good condition, and suitable in measuring and determining the acceptable levels of oxygen and flammable or toxic gases;
- What atmospheres the ATE is capable of testing and the relevant ranges;
- Copies of manufacturer's manuals related to the ATE to be available;
- Records of servicing in accordance with the manufacturer's instructions, testing or examination of the ATE to be available;
- ATE is properly calibrated and evidence kept onboard; and
- Take into consideration the internal structure of the space.

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

References
SOLAS Regulation XI-1/7

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 by ATE available onboard. If ATE is not required

or not available onboard, the PSCO should be recording “N/A” on the questionnaire. It would be expected that a PSCO only checks further if ATE is available onboard.

The PSCO shall:

1. Verify who are the persons responsible for determining that it is safe to enter enclosed spaces on the ship.
2. Verify, by questioning and inspection of records, whether those persons have been trained in the use of the ATE.
3. Verify, by questioning and demonstration, that those persons know how to use the equipment properly, including any calibration prior to use.
4. Verify, by questioning, that those persons are aware of the particular hazards associated with the type of ship, type of space or type of cargo being carried e.g. oxygen-depleting cargoes and materials, and so are using the appropriate testing equipment and sampling techniques to determine whether the enclosed space is safe.
5. Verify by inspection that manufacturer’s instructions are available for the ATE and by questioning that the persons responsible for using the equipment are familiar with those instructions.
6. Verify by questioning that those persons are aware of the limitations of ATE and testing procedures when determining whether the atmosphere in the enclosed space and any adjacent space is safe for entry, and continues to be safe while any person is in that space.

Preparations by relevant crew members with specific responsibilities for using ATE**:**
Crew members should be:

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

Preparations related to the ship:

- Onboard records should demonstrate the timing and key elements of the training delivered to crew members on the ATE and enclosed space entry;
- Manufacturer’s instructions for ATE to be available. Ship or company specific instructions may also suffice to be presented to the PSCO; and
- Ship’s procedures should cover the use of ATE and be available.

Where onboard equipment **IS** provided and used by crew to test atmospheres in enclosed spaces, the crew members responsible for testing should be trained in the correct use and the limitations of the ATE and be able to demonstrate that they can use it competently. In particular, they should be aware that oxygen, flammable or toxic gas or vapour concentrations may not be uniform throughout the space and it may not be possible to measure concentrations throughout the entire space prior to entry.

Where onboard equipment is **NOT** provided, this question should be answered as "N/A" (NOT APPLICABLE).

Tips: 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.

References
SOLAS Chapter III, Regulation 19.4.2.5
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).

Question 3* - Are the crew members familiar with the arrangements of the ship, as well as the location and operation of any onboard safety systems or appliances that they may be called upon to use for enclosed space entry? (SOLAS Chapter II-2 / Reg. 15.2.2)

This question addresses the familiarization of all crew members and specifically designated crew members with enclosed space duties onboard 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.

The PSCO shall check that crew members:
- Are aware of which spaces on the ship are identified as enclosed spaces for the purposes of entry, as described in SMS - **all crew**
- Are aware of the procedures for enclosed space entry that operate on the ship and are familiar with the entry permit system for access to such spaces. This should include communications procedures used when enclosed space entry is being undertaken - **all crew**

- Are familiar with the location and use of safety equipment that may be used for enclosed space entry and rescue, such as ventilation, lifting and other personnel rescue equipment that may be required in an emergency, first aid and resuscitation equipment, gas testing equipment, fire extinguishers, breathing apparatus, etc. - **specifically designated crew**
- Can carry out checks on breathing apparatus and correctly don the equipment - **specifically designated crew**.

The PSCO shall also verify that:
- The enclosed space entry permit form includes all information as per the Appendix to IMO Res. A.1050(27).
- Permit form is implemented in the SMS and issued by Master or the nominated responsible person prior to entry by the personnel who enter the space.
- An initial signed risk assessment has been carried out to identify all enclosed spaces onboard, and this is periodically revised to ensure its continued validity.

As there is the potential for fire or serious injury to occur during enclosed space operations, crew need to be familiar with the ship-wide emergency systems and equipment.

In order to test safety systems and appliances that may be used in enclosed space entry, crew should have knowledge of both the location and operation of the equipment. Any lack of familiarity may indicate that testing has not been carried out or that onboard familiarization training (STCW Reg. I/14) has been ineffective or that drills have not been carried out.

Preparations
Ships should ensure that all crew members, on being assigned to the ship, have been familiarized with:
- Designated enclosed spaces on the ship as per the SMS;
- 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.

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

Ships should ensure that crew members with specific designated enclosed space entry and rescue duties, on being assigned to the ship, have been familiarized 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 records regarding the familiarization 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 9

Question 4* - Are crew members responsible for enclosed space emergency duties familiar with those duties? (SOLAS Chapter III / Reg. 19)

Crew members with assigned emergency duties **should be familiar with those duties before the voyage begins**. The PSCO shall consult the muster list (required by SOLAS Chapter III/Reg. 37) which should show the duties assigned to different members of the crew in emergency situations.

Individual crew members may be questioned on their assigned duties on the muster list and requested to demonstrate them. On a vessel with a large crew a sampling process may be undertaken.

The PSCO shall also identify those crew members with enclosed space emergency duties and confirm they are familiar with them. SOLAS does not specifically require enclosed space emergencies to be identified on the muster list, but duties in the event of such an emergency should be clearly assigned (**see attached example in Annex II**).

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 or other document to identify or confirm the relevant crew members.

- Where emergency duties are not fully assigned on the muster list in accordance with SOLAS Chapter III/Reg. 37 or crew members are not familiar with their assigned duties, the question should be answered "NO" and a deficiency may be considered.
- Where enclosed space emergency duties are not assigned on the muster list, the question should also be answered "NO" but no deficiency should be issued.

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.

Preparation of the ship: Facilitate the identification in the muster list (or other document) of which crew members have enclosed space emergency duties, by making available appropriate documentation.

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 rescue onboard 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 also suggest to 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 onboard and its contents complete and customized to the ship? (SOLAS Chapter II-2 / Reg. 15.2, Chapter III / Reg. 35)

The training manual, which may comprise several volumes, shall contain instructions and information, in easily understood terms and illustrated wherever possible, on safety equipment provided in the ship and should specifically address enclosed space entry. Any part of such information may be provided in the form of audio-visual aids in lieu of the manual.

SOLAS does not specifically require the training manual to include instructions on enclosed space entry and emergencies, however it is anticipated that the training manual will address these matters.

- The training manual must be in the working language of the ship.
- Crew must have knowledge where the training manual is located.
- Where the training manual does not fully address the requirements of SOLAS Chapter II 2/Reg. 15.2 and Chapter III / Reg. 35, or crew members do not know the location of the manual, the question should be answered “NO” and a deficiency may be considered.
- Where the training manual does not include instructions on enclosed space entry and emergencies, the question should be answered “NO”.

Preparations
- Ensure that the training manual is ship-specific, available onboard 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 and the location of the training manual as appropriate to their duties; and
- Ensure the training manual complies with SOLAS Chapter III, Regulation 35.

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 cases, the training manual may have been revised to include content specific to appliances used for enclosed space entry and rescue.

Question 6* - Is there evidence onboard that enclosed space entry and rescue drills are conducted in accordance with SOLAS Chapter III, Reg. 19? (Regs. 19.3.6.1, 19.3.6.2, 19.3.3, 19.5.)

1. **A drill shall be carried out (refer to Question 9) and the outcome of this question shall be linked to the outcome of the drill.** If the drill is not conducted in a safe manner (e.g. atmosphere not checked or personal protective equipment not used) and there are clear grounds for believing that drills are not planned and conducted in a safe manner, then a deficiency shall be recorded.
2. Enclosed space entry and rescue drills must include, as a minimum, all of the requirements specified in the referenced regulation. During the drill the PSCO shall verify that:
    a. Personal Protective Equipment (PPE) required for entry was checked and used.
    b. Communication equipment and procedures were checked and used.
    c. Instruments for measuring the atmosphere in enclosed spaces were checked and used.
    d. Rescue equipment and procedures were checked and used.
    e. Instructions in first aid and resuscitation techniques were provided.
3. **A sample enclosed space entry permit and completion of the permit prior to entry would provide evidence that pre-entry checks were carried out.**
4. Drills should be conducted in accordance with relevant procedures and documented as appropriate.
5. Checklists, permits and risk assessment forms to be attached in drill's report.

Preparations: Ships should ensure that their planned drills contain all the elements listed in SOLAS Chapter III Reg. 19, and take due account of additional recommendations contained in Res. A.1050(27). The PSCO could be directed to the plans as set out in the SMS. Ships should ensure that the dates when enclosed space entry and rescue drills are held and details of drills carried out are recorded.

Question 7* - Have the ship's crew participated in an enclosed space entry and rescue drill onboard the ship at least once every two months in accordance with SOLAS Chapter III, Regulation 19.3.3?

The frequency of drills for those with enclosed space entry responsibilities is specified as once every 2 months as a minimum. Dates when drills are held are required to be recorded in the Logbook, as is the case for other emergency drills. When drills are not held at the appointed time, an entry shall be made in the Logbook stating why the drill was not conducted. The PSCO shall:

- Request records and review them to verify that enclosed space entry and rescue drills have been carried out as scheduled.
- Confirm who has "assigned responsibilities" for enclosed space entry and rescue drills (see Question 2). They shall also confirm that those crew members have taken part in the drills conducted at the required frequency both by reference to records and by verifying directly with the crew members concerned.

Preparations

Demonstrate to the PSCO that drills are carried out onboard the ship:

- Ships should ensure that dates when the drills are held and details of the drills carried out are recorded as prescribed by the flag State.
    - Ships should ensure that crew members with designated enclosed space entry or rescue responsibilities have participated in an enclosed space entry and rescue drill onboard the ship at least once every two months since the SOLAS requirements (1 January 2015) entry into force and that the 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.

Question 8* - Are crew members responsible for enclosed space entry aware of the associated risks? (SOLAS Chapter III / Regulation 19)

This question addresses the awareness of crew members with designated enclosed space entry and rescue duties of the risks associated with enclosed spaces onboard 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.

The atmosphere in any enclosed space may be oxygen-deficient or oxygen-enriched, and/or contain flammable and/or toxic gases or vapours. Such unsafe atmospheres could also subsequently occur in a space previously found to be safe. Unsafe atmospheres may also be present in spaces adjacent to those spaces where a hazard is known to be present.

The PSCO shall:

1. Verify that information on enclosed space entry for crew members with responsibilities for enclosed space entry and rescue is provided.
2. Verify that crew members with responsibilities for enclosed space entry and rescue are:
   - aware of what spaces have been identified as enclosed spaces (such as tanks, cargo hatches, cargo access ways, void spaces, engine crankcases, scavenge spaces etc.);
   - aware of the need to follow safe entry procedures in accordance with the ship's practices and procedures;
   - aware of the risks associated with entry into those spaces (hazards may be different for different spaces);
   - aware that there is a procedure for safe entry into enclosed spaces;
   - familiar with the atmospheric limitations (oxygen, flammable or toxic vapour) required to be confirmed prior to entry;
   - aware of factors that may result in oxygen deficiency in the enclosed spaces on their particular ship such as the internal structure of the space, the nature of cargo in the space, the effects of cargo residues and tank coatings;
   - aware that there may be a need to test for specific toxic contaminants such as benzene or hydrogen sulphide in some circumstances;
   - aware that unsafe atmospheres 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.

Responsible crew members should also know and be aware of:

1. the safe levels of oxygen, flammable or toxic vapours and that unsafe atmosphere may occur in spaces adjacent to those spaces where a hazard is known to be present;
2. the limitations of any testing and need to continue monitoring the conditions for the duration of the entry.

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

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, Reg. 19.4.2.5 and IMO/Res. 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, Reg. 19.3.6?

This question addresses the enclosed space entry and rescue drills that are required to be carried out onboard all ships at least every 2 months. The PSCO shall request a drill to be conducted, with the purpose to:

- demonstrate that the crew is familiar with their assigned duties for enclosed space entry and rescue;
- verify that crew is able to conduct drills competently and in a safe manner;
- verify that crew can communicate effectively during both a planned entry and in an emergency situation.

The drill will serve to further confirm that the requirements for familiarization, training and instruction have been met and it is anticipated that will take no longer than 20 minutes. It is expected that the drill should be:

- Carried out in a space or location onboard that has not been designated as an enclosed space by the SMS;
- Realistic and specific to the ship;
- Conducted in a safe manner and in a safe area onboard;
- Planned to incorporate both an enclosed space entry and an emergency enclosed space rescue.

A detention may result if the crew is 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.

The PSCO shall decide the emergency scenario on which the drill will be based in conjunction with the Master. The scenario should reflect a designated enclosed space on the ship, and the hazards associated with entry into that particular space. The PSCO shall:

1. Verify that those responsible for the drill can identify the specific hazards of the enclosed space, including but not limited to:
    - The atmosphere in the enclosed space
    - What testing is needed to confirm that entry is safe and will remain safe
    - Any limitations on the ability to confirm that conditions are safe
    - Any difficulties with access, or matters that may impede quick and effective rescue.
2. Verify that the prescribed safety briefings are given, and the required authorizations (permits) are completed and sign-offs are obtained. Those taking part should be identified on the appropriate checklists & authorizations.
3. Verify that personal protective equipment is available and correctly worn.
4. Verify that communications equipment is available and working correctly, and that communications procedures, including emergency signals, are agreed and

tested prior to entry. This should include stationing a crew member at the entry point for the duration of the entry, confirmation of entry, monitoring of persons in the space and confirmation of exit.

5. Verify that ATE, if available, is working and is suitable for the purpose for which it is being used, is correctly calibrated and has been serviced in accordance with the manufacturer's instructions.
6. Verify that those crew members responsible for testing understand how to use the equipment and any limitations of the equipment (see also Question 2).
7. Verify what steps are taken to make the space safe if testing indicates that the atmosphere is not safe to enter.
8. Verify that rescue equipment is in place, in good order and ready for use, and that those who have "designated rescue responsibilities" are trained accordingly.
9. Verify that at the end of the drill all the necessary records are completed and the 'enclosed space' is secured.

The drill scenario must be credible, realistic in relation to the ship and 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;
- instructions in first aid and resuscitation techniques.

Preparations: Ships should verify that the drills planned and conducted comply with SOLAS Chapter III, Reg. 19.3.6, and take into account the guidance contained in the Res. A.1050(27).

Tip: 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.

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 asterisk (*) on the standard questionnaire are recorded under the "No" column.

The PSCO may detain the ship as a result of a "NO" answer to questions with an asterisk.

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ANNEX II
EMERGENCY RESPONSE – RESCUE FROM ENCLOSED SPACE

1. General
In case where a person has been incapacitated in an enclosed space and is unable to leave the space without outside help, a rescue operation must be organized and conducted without delay. The first action must be to raise the alarm and designate the C/O in charge of the rescue team.

- **On no account should anyone attempt to enter into the space before additional help has arrived.**
- **No one should attempt a rescue (enter a confined space) without wearing breathing apparatus and a rescue harness and, whenever possible, using a lifeline.**
- **On NO account may any person enter the space without a breathing apparatus until the Master or C/O has declared it safe for entry.**
- **If the victim has been overcome by hydrocarbon, the regular supply of oxygen to the brain is interrupted and brain damage will occur unless oxygen is supplied within a short period of time. The amount of damage will depend on the concentration of gas and the physical condition of the victim.**

A team of 3-4 persons (e.g. 2/O, 2/E, A/B, Oiler, Pumpman, etc.) are required to attempt rescue from a confined space. More rescuers may be required if the space is large. Additional hands will be required if hoisting the victim from the space will be necessary. Appropriate atmosphere monitoring equipment (oxygen indicator, or gas meter) with an extension sampling line should be used to check for possible gas concentration in the enclosed space, especially in the vicinity of the victim. The leader of the rescue team should remain outside the space, from where the most effective control can be exercised. To conserve resources, the minimum necessary number of persons should enter the space.

Guidance on Entering Enclosed/Confined Spaces is provided in the *SMS Manual*.

2. Initial report
In the initial report, the field with code “X” shall include, but not limited, the following:
1. Names and rank of persons involved.
2. Results of enclosed space rescue operation.
3. Description of treatment onboard.
4. Master’s intention / actions to arrange medical treatment.
   - If shore assistance is required and type of assistance.
   - If deviation from voyage is necessary.
   - If evacuation is necessary.
5. Time required before resuming normal operations.

3. Actions checklist

Actions listed in Checklist for "Rescue from Enclosed Space", as follows, shall be observed:

RESCUE FROM ENCLOSED SPACE

No.	Initial Actions to be taken as required:	By:
1.	Raise alarm (internal and external).	OOBW
2.	Advise Master and Chief Engineer - Record time of incident.	OOBW
3.	Prepare rescue team.	Master
	Prior to commencing the Rescue Operation	
4.	Ensure that only trained personnel enter. The number of persons entering the space should be limited.	Master
5.	Agree plan and communication procedures between entrants and control centre.	Master
6.	Ensure equipment to be used for the rescue include breathing apparatus (BA) and resuscitation equipment, fully charged spare air cylinders, life lines of an appropriate length and harnesses, approved torches or lamp for use in a flammable atmosphere and possibly, a means of hoisting an incapacitated person from the space.	C/O
7.	Check emergency equipment and ensure that the person wearing breathing apparatus understands whether his air supply may be shared.	C/O
8.	Test the oxygen resuscitator for immediate use.	C/O
9.	Ensure that access to the space is adequate and well illuminated.	C/O
10.	Ensure that space is being thoroughly ventilated by natural and/or mechanical means.	C/O
	During the Rescue Operation	
11.	DO NOT enter the space without breathing apparatus.	Rescue team
12.	DO NOT enter the space without a lifeline (adequate lifeline of rescue harness).	Rescue team
13.	A resuscitator pack should be carried in the space.	Rescue team
14.	Use the portable resuscitation apparatus if the victim has stopped breathing. *Note:* When full consciousness is regained, the victim may vomit and react violently.	Rescue team
15.	Remain at the entrance of the space as attendant.	C/O
16.	Have another member of the rescue team, wearing self-contained breathing apparatus, stand-by for any assistance required.	C/O
17.	Check frequently atmosphere and ventilation during rescue.	Master
18.	No one should remove his breathing apparatus.	Rescue team
19.	Use rescue harnesses.	Rescue team
20.	Examine any difficulty of movements within any part of the space.	Rescue team

No.	Initial Actions to be taken as required:	By:
21.	Remove casualty as quickly as possible.	Rescue team
22.	If the casualty is breathing, any injuries should be assessed before the casualty is removed from the space.	Rescue team
23.	Breathing apparatus not to be removed from a person unless it is necessary to save his life.	Rescue team
24.	If unforeseen difficulties develop, stop the rescue and evacuate the space.	Rescue team
25.	Rescue team members shall exit immediately following the rescue.	Rescue team
26.	Record events in Bridge logbook.	Master
27.	Forward initial report as per relevant Section of SMS Manual.	Master / G.O.
	Follow up actions to be taken as required:	
28.	Provide extra ventilation to the affected space.	C/O
29.	After the victim has been brought into the fresh air, administer mouth-to-mouth resuscitation if normal breathing has not resumed.	C/O / Master
30.	Consider further shore medical assistance to the person.	Master
31.	Contact vessel' agent ashore and arrange transportation to Hospital, if necessary.	Master
32.	Forward follow up report as per relevant Section of SMS Manual.	Master / G.O.
	Actions to be taken when the situation is stabilised as required:	
33.	Cancel any Urgent message.	G.O
34.	Start establishing facts/collecting evidence for subsequent investigation (photos, etc.).	Master / C/O
35.	Restore normal vessel operation.	Master
36.	Arrange for the renewal or repair of any equipment used in the rescue operation.	C/O / C/E
37.	Forward follow up - final report as per relevant Section of SMS Manual.	Master / G.O.
38.	Update Bridge logbook.	Master

4. Rescue from Enclosed Space Drills

Crew members with enclosed space entry or rescue responsibility shall participate in enclosed space entry and rescue drills onboard the vessel.

The drill should be planned and conducted in a safe manner taking into account the guidance developed by the IMO Res. A.1050(27). The drill should be performed every two months and shall include the following:

- Checking and use of required PPE 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.
- Instructions in first aid and resuscitation techniques.