



Enclosed space familiarization programme

Name of vessel:

1. List of enclosed spaces on board (Please identify ship specific enclosed space)

S.NO	LIST OF ENCLOSED SPACES ON BOARD
1	Cargo holds / cargo access ways
2	Ballast tanks (Top side / wing / DB / peak tanks)
3	Void spaces
4	Pipe ducts /Duct keels/ Inter barrier spaces
5	Coffer dams
6	Chain lockers
7	Boiler furnaces and uptakes/ Boiler air spaces and heaters / steam side of boiler
8	Main engine crank case
9	Fuel oil tanks
10	Engine exhaust and scavenge receiver
11	Sewage tanks
12	Fresh water tanks
13	Engine room bilge tanks
14	Lubricating oil storage tank
15	Steam side of turbines
16	Waste oil holding tanks
17	Adjacent connected spaces

Note:

- Ø All enclosed space shall be marked/stenciled onboard to prevent accidental or unauthorized entry(ensure that adequate signs and barriers are provided against all openings)
- Ø All staff to be familiar with the location of enclosed spaces on board

2. Company procedures for enclosed space

Refer HSE procedures manual - 4.10. ENCLOSED SPACE ENTRY

All ship staff shall read and understand the chapter on enclosed space entry

3. Enclosed space permit

Enclosed space permit to be completed and strictly complied with prior entry into any enclosed space. Refer Permit to work form 3.3.1.

Enclosed space permit to be signed by each person entering the space.

Even during drills , permit has to be completed

4. Risk assessment / Tool box meeting

Risk assessment / tool box meeting to be prepared prior entering any enclosed space.

Crew members responsible for enclosed space entry shall be made aware of the associated risks



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- a) Oxygen depletion or enriched atmosphere
- b) Flammable atmosphere /Hydrocarbon vapors
- c) Toxic gases
- d) Products of inert gas
- e) Risk of physical harm due to difficult access and working conditions
- f) Weak metals/ sharp edges of rusted tank structures
- g) Slick / wet surfaces & tripping hazards
- h) Weak structures may cause personnel to trip and fall
- i) Extreme temperature (hot or cold)
- j) Engulfment hazard (such as grain, coal, sand, gypsum, or similar material)
- k) Extreme noise
- l) Falling objects
- m) Potential for rapidly changing atmosphere
- n) unsafe atmospheres may also occur in spaces adjacent to those spaces where a hazard is known to be present

5. List of portable gas equipment / Personal gas detector on board

S.NO	MODEL	MAKE
1		
2		

Note:

- Ø Gas equipment to be calibrated as per maker instructions
- Ø All deck officers and engineers to be trained in use and calibration of gas equipment and training records to be maintained.
- Ø Sampling tubes shall be in good order and length sufficient enough to reach bottom of enclosed space

6. List of rescue equipment on board (Please identify ship specific equipment)

S.NO	EQUIPMENT	QUANTITY	LOCATION
1	Rescue harness		
2	Stretcher		
3	SCBA sets		
4	Lifeline		
5	Portable lights		
6	Ventilation fans /blowers		
7	Flash lights		
8	Tripod		
9	Blocks /pulleys		
10	Ropes		
11	EEBD		
12	Communication equipment (Walkie talkies)		
13	Oxygen bottle		
14	Resuscitator		
15	First aid kit		
16	PPE (Helmet/boiler suits/safety shoes/gloves)		



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Crew members shall be 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

Breathing apparatus including all spare SCBA bottles shall be kept fully charged and all other rescue equipment kept in readiness and in good order

7. Enclosed space drill requirements

Following drills shall be conducted every 2 months

- a. Enclosed space entry drill
- b. Enclosed space rescue drill

Refer to form 3.2.1 “Emergency Drill planner”

Drill shall include the following:

- Ø Checking and use of personal protective equipment required for entry
- Ø Checking the use of communication equipment and procedures including emergency signals
- Ø Checking and use of instruments for measuring the atmosphere in enclosed spaces including the suitability, including the length, of sampling hoses of portable detectors for gas measurement at all levels in double bottom spaces
- Ø Checking and use of rescue equipment and procedures
- Ø Instructions in first aid and resuscitation techniques.
- Ø Instruction on risks associated with enclosed spaces and on board procedures for safe entry into such spaces.

Drill should not take longer than 20 minutes

Crew members responsible for enclosed space emergency duties shall be familiar with duties as per Muster list.

Following the drill, the crew members on board shall be competent and trained in enclosed space hazard recognition, evaluation, measurement, control and elimination of hazards associate with the entry into enclosed space

Master signature:



Guidance on the CIC Questionnaire on Crew Familiarization for Enclosed Space Entry

S.NO	QUESTION	GUIDANCE
1	Are there measures in place to test the atmosphere of an enclosed space to confirm it is safe to enter?	<ul style="list-style-type: none">Ø Ensure gas meters are in good working order and calibrated and tested in accordance with the manufacturer's instructionsØ Calibration kit / bottles to be available on boardØ Length of sampling hose to be sufficient to reach bottom of enclosed space from deckØ Maker manual to be available onboard (Refer Memo section 7)Ø Bump test to be carried every 3 months (Refer bassnet COMPONENT 503.501)Ø Calibration to be carried annually(Refer bassnet COMPONENT 503.501)Ø If gas meter is not operational , please inform ship manager
2	Are crew members responsible for testing the atmosphere in enclosed spaces trained in the use of the equipment referred to in Question 1?	<ul style="list-style-type: none">Ø CNO to provide training in use , operation and calibration of equipment to all deck officers and engineersØ Officers /engineers shall be aware of limitations of the testing equipment and should be able to demonstrate that they can use it competentlyØ Crew should be aware that oxygen, flammable or toxic gas or vapor concentrations may not be uniform throughout the space and it may not be possible to measure concentrations throughout the entire space prior to entryØ Records of training to be maintained on board – Form 3.2.3Ø All crew members are aware of the location of gas meters & monitors and their use
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?	<ul style="list-style-type: none">Ø Ensure RECORD OF SHIP SPECIFIC FAMILIARISATION TRAINING – 4.1.2 B is completed for all staff on boardØ All crew members must be aware of the spaces identified as enclosed space on board, Risks involved , entry procedure, entry permit, PPE and communication required during entering enclosed spaceØ All crew members must be aware of the safety equipment 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,



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		<ul style="list-style-type: none"> breathing apparatus etc Ø Crew must be able to don the breathing apparatus and carry out checks correctly Ø Breathing apparatus including all spare SCBA bottles shall be kept fully charged and all other rescue equipment kept in readiness and in good order
4	Are crew members responsible for enclosed space emergency duties familiar with those duties?	<ul style="list-style-type: none"> Ø All crew members shall be familiar with their duties as assigned in enclosed space emergency muster list before the voyage begins. Ø All crew members shall familiarize with contingency plan 35. Rescue from enclosed space
5	Is the training manual available on board and its contents complete and customized to the ship?	<ul style="list-style-type: none"> Ø Ship specific training manual shall be available at common spaces – Crew & Officers recreation rooms, Ø Crew members must be aware of the location of the SOLAS training manual and Fire Safety operational booklet Ø Master shall ensure that instructions correspond to make and model of LSA/FFA/Rescue items. Ø There must be record of reading of these manual by all crew on board Ø Add a section of enclosed space entry in training manual and keep following documents: <ul style="list-style-type: none"> · <i>Uncontrolled copy of Enclosed Space Entry from HSE Procedure Manual (4.10)</i> · <i>Enclosed space entry permit - Form 3.3.1</i> · <i>Copy of Instruction Manual of Gas meters</i> · <i>Contingency plan 35 – Rescue from Enclosed Space</i> · <i>Generic Risk assessment for entering enclosed space</i> · <i>Instruction on use of Resuscitator and first aid</i>
6	Is there evidence on board that enclosed space entry and rescue drills are conducted in accordance with SOLAS Chapter III, Regulation 19?	<ul style="list-style-type: none"> Ø Ensure enclosed space entry and enclosed space rescue drills are conducted in accordance with drill planner (Every 2 months) Ø Drill record sheet and entry permit used for entering the enclosed space shall be available Ø Entry permit is an evidence that pre-entry checks and authorization of entry Ø Following shall be checked and entered in drill record sheet FORM 3.2.3 <ul style="list-style-type: none"> · <i>Personal protective equipment required for entry was checked and used.</i>



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		<ul style="list-style-type: none"> · <i>Communication equipment and procedures were checked and used.</i> · <i>Instruments for measuring the atmosphere in enclosed spaces were checked and used</i> · <i>Rescue equipment and procedures were checked and used.</i> · <i>Instructions in first aid and resuscitation techniques were provided</i>
7	<p>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?</p>	<ul style="list-style-type: none"> Ø The interval of the enclosed space entry and rescue drills should not exceed two months. Refer to form 3.2.1 "Emergency Drill planner" Ø There shall be an entry in the log book if drills were not conducted at the appointed time for interval more than 2 months Ø The drill shall be recorded in Deck Log Book and FORM 3.2.3 Ø Drill should not take longer than 20 minutes
8	<p>Are crew members responsible for enclosed space entry aware of the associated risks?</p>	<ul style="list-style-type: none"> Ø Crew members shall be made aware of the hazards of enclosed space <ul style="list-style-type: none"> • Oxygen depletion or enriched atmosphere • Flammable atmosphere /Hydrocarbon vapors • Toxic gases • Products of inert gas • Risk of physical harm due to difficult access and working conditions • Weak metals/ sharp edges of rusted tank structures • Slick / wet / surfaces & tripping hazards • Presence of mud • Weak structures may cause personnel to trip and fall • Extreme temperature (hot or cold) • Engulfment hazard (such as grain, coal, sand, gypsum, or similar material) • Extreme noise • Falling objects • Potential for rapidly changing atmosphere • Adjacent spaces Ø Refer HSE Procedure Manual, 4.10. ENCLOSED SPACE ENTRY. Ø Discuss the risks associated with entry into enclosed space using Risk Assessment sheet Ø Pre-entry atmosphere test reading for entering the enclosed space: Oxygen – 21 % Volume, Hydrocarbon – Less than 1% LEL , No toxic gases Ø Atmosphere shall be monitored at regular intervals for the duration of entry.



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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?	<ul style="list-style-type: none">Ø Be ready at any time for this request from PSCOØ Inspector shall verify that crew are able to conduct enclosed space entry and rescue drills competently and in a safe mannerØ Inspector shall verify that crew can communicate effectively during both a planned entry and in an emergency situationØ Inspector shall verify that documented procedures are being followed, 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 and authorizationsØ Drill should not take longer than 20 minutesØ Scenario for a planned enclosed space and subsequent rescue should be agreed with PSCO. The scenario should reflect a designated enclosed space on the ship, and the hazards associated with entry into that particular space.Ø Follow the procedure as provided in contingency plan and sample drill sheetØ Crew shall be made aware of their duties and equipment locations.Ø All equipment shall be kept in readinessØ Following shall be complied as per SOLAS :<ul style="list-style-type: none">· <i>Checking and use of personal protective equipment required for entry</i>· <i>Checking the use of communication equipment and procedures including emergency signals prior entry</i>· <i>Checking and use of instruments for measuring the atmosphere in enclosed spaces</i>· <i>Checking and use of rescue equipment and procedures</i>· <i>Instructions in first aid and resuscitation techniques.</i>
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