



Technical Circular

No.: 015/2021

Date: 23rd March 2021

Subject: RMI – Enclosed Space Entry Incidents / Procedures

1. The Republic of the Marshall Island (RMI) has published Marine Safety Advisory No. 23-20 warning that shipboard incidents relating to improper entry of and rescue from enclosed spaces continue to occur. According to the flag State's records, six seafarers died in four enclosed space entry incidents onboard RMI-flagged vessels during 2018-2019. Both tankers and bulk carriers have experienced such incidents and although the details of each incident differ, the RMI has noted that there are some similarities, including:
 - a. crewmembers lacking awareness of the potential hazards posed by the improper entry into enclosed spaces;
 - b. senior crewmembers failing to ensure that the ship management's enclosed space entry procedures are followed prior to directing junior crewmembers to enter an enclosed space; and
 - c. masters not being notified that an enclosed space was going to be entered.

2. As highlighted by the RMI, these incidents serve as a stark reminder that failure to observe and understand simple enclosed space entry procedures can result in seafarers being killed or seriously injured. They are also reminders that a well-intentioned seafarer who enters an enclosed space to assist a fellow crewmember is likely to become a victim requiring assistance, as well as delay a proper rescue operation and increase the potential for additional deaths.

3. In view of above, the Administration has recommended following to ensure the safety of crewmembers:
 - i. Recommendation No.1: Review existing procedures:**
 - A. The RMI recommends that ship managers review their enclosed space entry procedures and, if necessary, revise them to ensure they comply with the applicable requirements.
 - a. The IMO's recommendations for entering enclosed spaces aboard ships are outlined in Resolution A.1050 (27) and its guidelines for selecting portable atmosphere testing instruments can be found in MSC.1/Circ.1477.
 - b. For RMI-flagged ships, the requirements and safety standards that must be followed by personnel entering enclosed spaces are outlined in RMI Marine Notice 7-041-1.

- c. Other flag states will have similar requirements and one such example is the UK “Code of Safe Working Practices for Merchant Seamen” (COSWP) and its Chapter 15 deal with the entering of dangerous enclosed spaces.
 - d. Section 10 of the ILO’s “Code of practice for accident prevention on board ship at sea and in port” provides similar practical recommendations and guidance.
- B. Ship managers to ensure that a risk assessment is conducted to identify all enclosed spaces on board the ship and periodically revisit the assessment to ensure its continued validity.
- C. In this regard, GARD P&I Club also recommends that an inventory of all enclosed spaces on board be established where seafarers may enter and where there is any likelihood that they might become dangerous. The inventory should record the particular characteristics of the space, the likely hazard involved, and the measures taken to prevent entry unless safety procedures are followed. Any difficulties inherent in a rescue from the space should also be considered, and solutions identified, so that in the event of an emergency, the crew is in the best position to respond quickly.

ii. Recommendation No.2: Ensure that procedures are fully understood and followed:

The RMI recommends that ship managers send a letter or bulletin to all ships in their managed fleet addressing:

- a. the dangers of improperly entering an enclosed space;
- b. how to recognize an enclosed space and examples of the different types of enclosed spaces a seafarer might encounter while performing their day-to-day shipboard tasks;
- c. that all seafarers, regardless of seniority, must not enter an enclosed space without permission and then only in accordance with the ship management’s established procedure;
- d. who on-board is authorized to permit entry into an enclosed space; and?
- e. that the best way for a seafarer to assist a fellow seafarer inside an enclosed space is to immediately raise the alarm so that an organized rescue can be conducted in accordance with ship management’s established procedure.

iii. Recommendation No.3: Provide proper onboard training:

It is important that seafarers are given proper onboard training to help them recognize, evaluate and control hazards associated with entry into enclosed spaces. In addition to conducting mandatory enclosed space entry and rescue drills every two months, the RMI recommends that masters hold a special safety meeting with particular emphasis

on enforcing the responsibility that all seafarers have to prevent enclosed space entry related incidents and the need for crew members to resist their natural urge to immediately enter an enclosed space in order to assist a fellow crewmember.

4. A poster intended to provide a visual reminder to seafarers that they should not enter an enclosed space without proper authorization can be downloaded from the Marine Accident Investigators' International Forum (MAIIF) website in PDF format for printing and distribution, and in JPG format for computer desktop use. Ship managers are encouraged to use the poster and/or computer desktop image as part of their efforts to reduce the potential for future confined space incidents.
5. GARD has launched a safety awareness campaign website which contains video, a case study and additional loss prevention material addressing entry into enclosed spaces which can be accessed through following link: <http://www.gard.no/web/content/enclosed-space-entry-training>
6. Ship owners, managers and masters are advised to be guided by above.

Enclosure:

1. RMI MSA No. 23-20.
2. GARD P&I Club News dated 03/03/2021 regarding Enclosed Space Entry Procedures.

Whilst the utmost care has been taken in the compilation of the Technical Information, neither Indian Register of Shipping, its affiliates and subsidiaries if any, nor any of its directors, officers, employees or agents assume any responsibility and shall not be liable to any person for any loss, damage or expense caused in any manner whatsoever by reliance on the information in this document.

Republic of the Marshall Islands

MARITIME ADMINISTRATOR

11495 COMMERCE PARK DRIVE, RESTON, VIRGINIA 20191-1506
TELEPHONE: +1-703-620-4880 FAX: +1-703-476-8522
EMAIL: maritime@register-iri.com WEBSITE: www.register-iri.com

MARINE SAFETY ADVISORY NO. 23-20

To: Owners/Operators, Masters, Nautical Inspectors, Recognized Organizations

Subject: ENCLOSED SPACE ENTRY INCIDENTS

Date: 24 June 2020

This Marine Safety Advisory (MSA) supersedes MSA No. 21-19.

The Republic of the Marshall Islands (RMI) Maritime Administrator (the “Administrator”) reminds all managers of RMI-registered vessels the need to maintain vigilance with regards to enclosed space entry and rescue training. In 2019, two seafarers died and two were seriously injured in an enclosed space entry incident on an RMI-registered bulk carrier. The continued loss of life due to improper enclosed space entry and rescue serves as an unfortunate reminder of the dangers associated with the improper entry into shipboard enclosed spaces.

The Administrator has noted some similarities between enclosed space entry incidents, including:

- the lack of awareness by crewmembers of the potential hazards posed by the improper entry into enclosed spaces;
- senior crewmembers failing to ensure that ship management’s enclosed entry procedures are adhered to prior to directing junior crewmembers to enter an enclosed space; and
- the Master of the ship not being notified that an enclosed space was going to be entered.

Safe entry into enclosed spaces has been the focus of extensive industry discussion and crewmember training recently. However, shipboard incidents relating to the improper entry into enclosed spaces continue to occur. This highlights the need to increase the awareness of all seafarers in the recognition of enclosed spaces, the hazards posed by improper entry, and the procedures for safe enclosed space entry.

The Administrator strongly recommends that ship managers review and amend, if necessary, their enclosed space entry procedures to ensure they comply with the requirements outlined in RMI Marine Notice [7-041-1](#) and are adequate to ensure the safety of crewmembers.

This MSA expires one (1) year after its issuance, unless otherwise noted, extended, superseded, or revoked.

The Administrator also strongly recommends that ship managers send a notice or bulletin to all ships in their managed fleet addressing:

- the dangers of improperly entering an enclosed space;
- how to recognize an enclosed space and examples of the different types of enclosed spaces a seafarer might encounter while performing their day-to-day shipboard tasks;
- that all seafarers, regardless of rank, must not enter an enclosed space without permission and then, only in accordance with ship management's established procedures;
- who on-board is authorized to permit entry into an enclosed space; and
- that the best way for a seafarer to assist a fellow seafarer in trouble inside an enclosed space is to immediately raise the alarm so that an organized rescue can be conducted in accordance with ship management's established procedure.

The Administrator also strongly recommends that Masters:

- hold a special safety meeting to review the notice or bulletin issued by ship management and share the information provided in this MSA, with particular emphasis on enforcing the responsibility that all seafarers have to prevent enclosed space entry related incidents and the need for crewmembers to resist their natural urge to immediately enter an enclosed space in order to try to assist a fellow crewmember in trouble;
- review the ship's enclosed space entry procedures with the ship's officers and crew and then conduct enclosed space entry training; and
- conduct an enclosed space rescue drill.

Enclosed is a poster intended to provide a visual reminder to seafarers that they should not enter an enclosed space without proper authorization. This poster can be downloaded from the Marine Accident Investigators' International Forum (MAIIF) website in [PDF format](#) for printing and distribution, and in [JPG format](#) for computer desktop use. Ship managers are encouraged to use the poster and/or computer desktop image as part of their efforts to reduce the potential for future confined space incidents.

Enclosed Space Entry

STOP

You must not open or enter an ENCLOSED SPACE unless authorized by the master or the nominated responsible person and unless the appropriate safety procedures laid down for the particular ship have been followed

THINK

Before entering an ENCLOSED SPACE, you must have a Permit to Enter completed by the master or responsible person and by any persons entering the space

ASK

Have I received instructions or permission from the master or nominated responsible person to enter the enclosed space?

IF YOU DO NOT HAVE A PERMIT TO ENTER AND HAVE NOT RECEIVED INSTRUCTIONS OR PERMISSION FROM THE MASTER OR NOMINATED RESPONSIBLE PERSON, THEN **DO NOT ENTER ANY ENCLOSED SPACE**

What is an ENCLOSED SPACE?

ENCLOSED SPACE means a space which has any of the following characteristics: limited openings for entry and exit; inadequate ventilation; and is not designed for continuous worker occupancy.

Adapted from, and in support of, IMO Resolution A.1050(27) – Revised recommendations for entering enclosed spaces aboard ships.



A Marine Accident Investigators' International Forum project, sponsored by: Bahamas Maritime Administration; Republic of the Marshall Islands Maritime Administrator; Norwegian Maritime Directorate; St. Kitts & Nevis International Ship Registry; South African Maritime Safety Authority; Swedish Transport Agency; United States Coast Guard; and supported by The Nautical Institute

There is never a wrong time to revisit your enclosed space entry procedures

in [Marine Insurance P&I Club News](#) 03/03/2021



The Republic of the Marshall Island (RMI) published a Marine Safety Advisory (MSA 23-20) on 29 June 2020 warning that shipboard incidents relating to improper entry of and rescue from enclosed spaces continue to occur. According to the flag state's records, six seafarers died in four enclosed space entry incidents onboard RMI-flagged vessels during 2018-2019. Both tankers and bulk carriers have experienced such incidents and although the details of each incident differ, the RMI has noted that there are some similarities, including:

- crewmembers lacking awareness of the potential hazards posed by the improper entry into enclosed spaces;
- senior crewmembers failing to ensure that the ship management's enclosed space entry procedures are followed prior to directing junior crewmembers to enter an enclosed space; and
- masters not being notified that an enclosed space was going to be entered.

As highlighted by the RMI, these incidents serve as a stark reminder that failure to observe and understand simple enclosed space entry procedures can result in seafarers being killed or seriously injured. They are also reminders that a well-intentioned seafarer who enters an enclosed space to assist a fellow crewmember is likely to become a victim requiring assistance, as well as delay a proper rescue operation and increase the potential for additional deaths.

Dangerous enclosed spaces may not be easily identifiable

An enclosed, or confined, space is normally defined as one that:

- has limited openings for entry and exit;
- has inadequate ventilation; and
- is not designed for continuous worker occupancy.

Any enclosed space deprived of regular and constant ventilation may become a 'dangerous space'. Such spaces may have atmospheres deficient in oxygen, and/or contain flammable or toxic fumes, gases or vapours, thus presenting a major risk to health or life for anyone entering the enclosed space. However, while cargo tanks, double bottoms, fuel tanks, ballast tanks, cofferdams, void spaces, etc. are the type of spaces that immediately spring to mind when thinking about enclosed spaces onboard ships, it is important to emphasise that not all dangerous enclosed spaces are easily identifiable.

- Some enclosed spaces are dangerous only temporarily, perhaps due to the type of cargo carried or the work undertaken, e.g. a compartment during spray painting. Cargo under fumigation can also be a source of toxic gases.
- Spaces may become dangerous even if they are not enclosed on all sides. Ships' cargo holds, for example, may have open tops but the nature of the cargo carried can make the atmosphere in the lower hold dangerous. Often apparently harmless cargoes such as wood chips, wood pellets or pulp wood can be the cause of such accidents.
- Fumes and gases in paint/chemical lockers and battery rooms can make these spaces dangerous, despite being arranged with ordinary openings/doors for entry and exit. Due consideration should also be taken of the possibility of an oxygen deficient atmosphere when entering CO₂ rooms.
- If there is an unexpected reduction in, or loss of, ventilation in spaces usually ventilated by whatever

means, such spaces should be considered as dangerous.



Recommendation No.1: Review existing procedures

The RMI recommends that ship managers review their enclosed space entry procedures and, if necessary, revise them to ensure they comply with the applicable requirements.

- The IMO's recommendations for entering enclosed spaces aboard ships are outlined in Resolution A.1050(27) and its guidelines for selecting portable atmosphere testing instruments can be found in MSC.1/Circ.1477.
- For RMI-flagged ships, the requirements and safety standards that must be followed by personnel entering enclosed spaces are outlined in RMI Marine Notice 7-041-1.
- Other flag states will have similar requirements and one such example is the UK "Code of Safe Working Practices for Merchant Seamen" (COSWP) and its Chapter 15 deal with the entering of dangerous enclosed spaces.
- Section 10 of the ILO's "Code of practice for accident prevention on board ship at sea and in port" provides similar practical recommendations and guidance.

Ship managers should ensure that a risk assessment is conducted to identify all enclosed spaces on board the ship and periodically revisit the assessment to ensure its continued validity. Gard also recommends establishing an inventory of all enclosed spaces on board that seafarers may enter and where there is any likelihood that they might become dangerous. The inventory should record the particular characteristics of the space, the likely hazard involved, and the measures taken to prevent entry unless safety procedures are followed. Any difficulties inherent in a rescue from the space should also be considered, and solutions identified, so that in the event of an emergency, the crew is in the best position to respond quickly.

Recommendation No.2: Ensure that procedures are fully understood and followed

The problem with procedures is that good intentions often become paper-pushing exercises. It is therefore important to ensure that those performing tasks involving entry into enclosed spaces understand that the purpose of the procedures is to prevent accidents and not simply to satisfy the regulators or their immediate superiors.

The RMI recommends that ship managers send a letter or bulletin to all ships in their managed fleet addressing:

- the dangers of improperly entering an enclosed space;
- how to recognize an enclosed space and examples of the different types of enclosed spaces a seafarer might encounter while performing their day-to-day shipboard tasks;
- that all seafarers, regardless of seniority, must not enter an enclosed space without permission and then only in accordance with the ship management's established procedure;
- who on-board is authorized to permit entry into an enclosed space; and?
- that the best way for a seafarer to assist a fellow seafarer inside an enclosed space is to immediately raise

the alarm so that an organized rescue can be conducted in accordance with ship management's established procedure.

Recommendation No.3: Provide proper onboard training

It is important that seafarers are given proper onboard training to help them recognise, evaluate and control hazards associated with entry into enclosed spaces. In addition to conducting mandatory enclosed space entry and rescue drills every two months, the RMI recommends that masters hold a special safety meeting with particular emphasis on enforcing the responsibility that all seafarers have to prevent enclosed space entry related incidents and the need for crew members to resist their natural urge to immediately enter an enclosed space in order to assist a fellow crewmember.

Gard regularly publishes Case Studies for safety meetings focusing on the risk assessment process and identification of the chain of errors that led to an incident. One of our Case Studies addresses entry into enclosed spaces and we encourages masters to use this Case Study as part of their training – for comparison, analysis and discussion among officers and crew onboard their ships.

Gard's safety awareness campaign on enclosed space entry training

The above findings from RMI's investigations correspond well with Gard's own experience. Over the years we have handled numerous cases of death and injury resulting from enclosed space entries and in most such cases, a lack of knowledge of the hazards present and/or taking procedural shortcuts seem to be the prevalent causes.

A near fatal accident involving one of Gard's own surveyors has also served as a real-life reminder to us that any enclosed space is potentially life threatening – and that even trained professionals make mistakes. Our surveyor entered a void space onboard a barge without testing the atmosphere first and collapsed due to the lack of oxygen inside the space. The story of our surveyor has been captured in one of Gard's Loss Prevention awareness videos. By sharing an experienced surveyor's near fatal-mistake we aim to warn crews not to become complacent about the risks associated with enclosed space entries and to emphasize the importance of training and following established procedures – even for those that “have done this a thousand times” and are certain that they “know the procedure from A to Z”.

The following link will take you to the safety awareness campaign website, which contains our video, a case study and additional loss prevention material addressing entry into enclosed spaces: <http://www.gard.no/web/content/enclosed-space-entry-training>.

Remember – knowledge and training save lives!

Source: Gard <https://www.gard.no/web/updates/content/31291460/there-is-never-a-wrong-time-to-revisit-your-enclosed-space-entry-procedures>