

MARITIME SAFETY COMMITTEE  
104th session  
Agenda item 15

MSC 104/15/1  
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## WORK PROGRAMME

### Proposal for a new output to amend paragraph 2.4.1.4 of chapter 15 of the FSS Code

Submitted by Marshall Islands and IACS

#### SUMMARY

*Executive summary:* This document proposes a new output to develop amendments to paragraph 2.4.1.4 of chapter 15 of the FSS Code on enclosed spaces containing a nitrogen receiver or a buffer tank of nitrogen generator systems

*Strategic direction, if applicable:* 6

*Output:* Not applicable

*Action to be taken:* Paragraph 18

*Related documents:* SSE 6/12/12 and SSE 6/18 (paragraph 12.17)

#### Introduction

1 This document is submitted in accordance with the provisions of the *Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.5/Rev.2) on the submission of proposals for new outputs, and proposes a new output to revise paragraph 2.4.1.4 of chapter 15 of the FSS Code on enclosed spaces containing the nitrogen receiver or the buffer tank of nitrogen generator systems.

#### Background

2 MSC 93 adopted the amended chapter 15, "Inert gas systems", of the FSS Code (resolution MSC.367(93)); the amendments entered into force on 1 January 2016.

3 Section 2.4 of the amended chapter 15 of the FSS Code addresses nitrogen generator systems. Paragraph 2.4.1.4 thereof reads as follows:

"2.4.1.4 Where a nitrogen receiver or a buffer tank is installed, it may be installed in a dedicated compartment, in a separate compartment containing the air compressor and the generator, in the engine room, or in the cargo area. Where the nitrogen

receiver or a buffer tank is installed in an enclosed space, the access shall be arranged only from the open deck and the access door shall open outwards. Adequate, independent mechanical ventilation, of the extraction type, shall be provided for such a compartment."

4 In recent years concerns have been expressed with regard to the expression "enclosed space" in the case of a nitrogen receiver or a buffer tank installed in the engine room of a ship. A literal reading of requirements in paragraph 2.4.1.4 of chapter 15 of the FSS Code could lead to conclude that the engine room should have access from the open deck only and a separate ventilation of the extraction type, which is not the case on the vast majority of ships.

5 To address these concerns, IACS submitted document SSE 6/12/12. Annex 2 of the document contains a draft unified interpretation to clarify that the engine room does not fall in the categorization of "enclosed space" in terms of paragraph 2.4.1.4 of chapter 15 of the FSS Code. Also, where nitrogen receivers or buffer tanks are located in the engine room, the requirement for a separate ventilation system of the extraction type is not considered applicable.

6 SSE 6, having considered document SSE 6/12/12, determined that the draft interpretation of paragraph 2.4.1.4 of chapter 15 of the FSS Code went beyond the intent of the requirement, and did not take any action at that stage (SSE 6/18, paragraph 12.18). In order to progress this issue in light of the decision by SSE 6, the co-sponsors propose a new output to consider an amendment to paragraph 2.4.1.4 of chapter 15 of the FSS Code to introduce arrangements as suggested in annex 2 to document SSE 6/12/12.

### **IMO's objectives**

7 The main goal of the proposal is to remove ambiguity and ensure consistent application of the requirements of paragraph 2.4.1.4 of chapter 15 of the FSS Code. This clearly is related to strategic direction SD 6 "Ensure regulatory effectiveness".

### **Need**

8 The co-sponsors consider that the provisions of paragraph 2.4.1.4 of chapter 15 of the FSS Code, as amended by resolution MSC.367(93), require further clarification in order to facilitate their global and consistent implementation.

### **Analysis of the issue**

9 According to the provisions of the FSS Code, where a nitrogen receiver or a buffer tank is installed in an enclosed space, the access shall be arranged only from the open deck and the access door shall open outwards. Adequate, independent mechanical ventilation, of the extraction type, shall be provided for such a compartment.

10 The co-sponsors have considered the following issues:

- .1 whether the engine room is considered to be an enclosed space in terms of paragraph 2.4.1.4 of chapter 15 of the FSS Code as regards access from the open deck only;
- .2 the type of ventilation and the conditions under which nitrogen receivers or buffer tanks are located in the engine room;

- .3 the conditions under which positive pressure ventilation can be provided where nitrogen receivers or buffer tanks are located in a separate compartment also containing the nitrogen generator and associated compressors; and
- .4 access to and ventilation of an enclosed space containing nitrogen receivers or buffer tanks that are located adjacent to the engine room.

### **Analysis of implications**

11 No costs to the maritime industry are anticipated. The intention is to amend the pertinent requirements, to make them clearer. The administrative burden to the Organization and to the Member States is anticipated to be minimal, as set out in annex 1.

### **Benefits**

12 Clear requirements in chapter 15 of the FSS Code should lead to greater efficiency and consistency in the application of the Code.

### **Industry standards**

13 Apparently no other industry standard addresses the specific concern.

### **Output**

14 The following new output is proposed to clarify that the requirements of the paragraph for access from the open deck and for ventilation of the extraction type do not apply to nitrogen receiver and/or buffer tank installed in the ship's engine room:

"Amendments to the International Code for Fire Safety Systems (FSS Code), Chapter 15, Inert Gas Systems"

15 Parts I and II of the check/monitoring sheet, as given in annex 2 to *Guidance on drafting of amendments to the 1974 SOLAS Convention and related mandatory instruments* (MSC.1/Circ.1500/Rev.1), have been completed and are provided in annex 3.

### **Human element**

16 The completed checklist for considering human element issues contained in the *Checklist for considering human element issues by IMO bodies* (MSC-MEPC.7/Circ.1) is set out in annex 2. This proposal is not considered to have relevant implications for the human element.

### **Urgency**

17 It is proposed that the output should be included in the Committee's post biennial agenda (2022-23), with two sessions needed to complete the item by the SSE Sub-Committee.

### **Action requested of the Committee**

18 The Committee is invited to consider the proposals in paragraphs 14 and 17, and take action as appropriate.

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**ANNEX 1**

**CHECKLIST FOR IDENTIFYING ADMINISTRATIVE REQUIREMENTS**

This checklist should be used when preparing the analysis of implications required in submissions of proposals for inclusion of outputs. For the purpose of this analysis, the term "administrative requirement" is defined in accordance with resolution A.1043(27), as an obligation arising from a mandatory IMO instrument to provide or retain information or data.

**Instructions:**

- (A) If the answer to any of the questions below is **YES**, the Member State proposing an output should provide supporting details on whether the requirements are likely to involve start-up and/or ongoing costs. The Member State should also give a brief description of the requirement and, if possible, provide recommendations for further work, e.g. would it be possible to combine the activity with an existing requirement?
- (B) If the proposal for the output does not contain such an activity, answer **NR** (Not required).
- (C) For any administrative requirement, full consideration should be given to electronic means of fulfilling the requirement in order to alleviate administrative burdens.

1. Notification and reporting? Reporting certain events before or after the event has taken place, e.g. notification of voyage, statistical reporting for IMO Members	<b>NR</b>	Yes <input type="checkbox"/> Start-up <input type="checkbox"/> Ongoing
Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes)		
2. Record keeping? Keeping statutory documents up to date, e.g. records of accidents, records of cargo, records of inspections, records of education	<b>NR</b>	Yes <input type="checkbox"/> Start-up <input type="checkbox"/> Ongoing
Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes)		
3. Publication and documentation? Producing documents for third parties, e.g. warning signs, registration displays, publication of results of testing	<b>NR</b>	Yes <input type="checkbox"/> Start-up <input type="checkbox"/> Ongoing
Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes)		
4. Permits or applications? Applying for and maintaining permission to operate, e.g. certificates, classification society costs	<b>NR</b>	Yes <input type="checkbox"/> Start-up <input type="checkbox"/> Ongoing
Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes)		
5. Other identified requirements?	<b>NR</b>	Yes <input type="checkbox"/> Start-up <input type="checkbox"/> Ongoing
Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes)		

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**ANNEX 2**

**CHECKLIST FOR CONSIDERING HUMAN ELEMENT ISSUES BY IMO BODIES**

<b>Instructions:</b> If the answer to any of the questions below is:	
<p>(A) <b>YES</b>, the preparing body should provide supporting details and/or recommendation for further work.</p> <p>(B) <b>NO</b>, the preparing body should make proper justification as to why human element issues were not considered.</p> <p>(C) <b>NA</b> (Not Applicable) – the preparing body should make proper justification as to why human element issues were not considered applicable.</p>	
<b>Subject Being Assessed:</b> (e.g. Resolution, Instrument, Circular being considered)	
FSS Code as amended by resolution MSC.367(93)	
<b>Responsible Body:</b> (e.g. Committee, Sub-committee, Working Group, Correspondence Group, Member State)	
MSC/SSE	
1. Was the human element considered during development or amendment process related to this subject?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
2. Has input from seafarers or their proxies been solicited?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
3. Are the solutions proposed for the subject in agreement with existing instruments? (Identify instruments considered in comments section)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
4. Have human element solutions been made as an alternative and/or in conjunction with technical solutions?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
5. Has human element guidance on the application and/or implementation of the proposed solution been provided for the following:	
• Administrations?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
• Ship owners/managers?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
• Seafarers?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
• Surveyors?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
6. At some point, before final adoption, has the solution been reviewed or considered by a relevant IMO body with relevant human element expertise?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
7. Does the solution address safeguards to avoid single person errors?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
8. Does the solution address safeguards to avoid organizational errors?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
9. If the proposal is to be directed at seafarers, is the information in a form that can be presented to and is easily understood by the seafarer?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
10. Have human element experts been consulted in development of the solution?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<b>11. HUMAN ELEMENT: Has the proposal been assessed against each of the factors below?</b>	
<input type="checkbox"/> CREWING. The number of qualified personnel required and available to safely operate, maintain, support, and provide training for system.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<input type="checkbox"/> PERSONNEL. The necessary knowledge, skills, abilities, and experience levels that are needed to properly perform job tasks.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<input type="checkbox"/> TRAINING. The process and tools by which personnel acquire or improve the necessary knowledge, skills, and abilities to achieve desired job/task performance.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<input type="checkbox"/> OCCUPATIONAL HEALTH AND SAFETY. The management systems, programmes, procedures, policies, training, documentation, equipment, etc. to properly manage risks.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA

<input type="checkbox"/> WORKING ENVIRONMENT. Conditions that are necessary to sustain the safety, health, and comfort of those on working on board, such as noise, vibration, lighting, climate, and other factors that affect crew endurance, fatigue, alertness and morale.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<input type="checkbox"/> HUMAN SURVIVABILITY. System features that reduce the risk of illness, injury, or death in a catastrophic event such as fire, explosion, spill, collision, flooding, or intentional attack. The assessment should consider desired human performance in emergency situations for detection, response, evacuation, survival and rescue and the interface with emergency procedures, systems, facilities and equipment.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<input type="checkbox"/> HUMAN FACTORS ENGINEERING. Human-system interface to be consistent with the physical, cognitive, and sensory abilities of the user population.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<p><b>Comments:</b> (1) Justification if answers are NO or Not Applicable. (2) Recommendations for additional human element assessment needed. (3) Key risk management strategies employed. (4) Other comments. (5) Supporting documentation.</p> <p>Human element is not considered further as the proposal is to clarify existing requirements, not introduce new ones.</p>	

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**ANNEX 3**

**PARTS I AND II OF THE CHECK/MONITORING SHEET FOR THE PROCESS OF  
AMENDING THE CONVENTION AND RELATED MANDATORY INSTRUMENTS  
(PROPOSAL/DEVELOPMENT) (MSC.1/CIRC.1500/REV.1)**

**Part I – Submitter of proposal (refer to section 3.2.1.1)**

1	<i>Submitted by (Document Number and submitter)</i> <b>MSC 104/15/1, submitted by Marshall Islands and IACS</b>
2	<i>Meeting session</i> <b>MSC 104</b>
3	<i>Date (date of submission)</i> <b>4 June 2021</b>

**Part II – Details of proposed amendment(s) or new mandatory instrument  
(refer to sections 3.2.1.1 and 3.2.1.2)**

1	<i>Strategic Direction</i> <b>6</b>
2	<i>Title of the output</i> <b>Amendments to the International Code for Fire Safety Systems (FSS Code), Chapter 15, Inert Gas Systems</b>
3	<i>Recommended type of amendments (MSC.1/Circ.1481) (delete as appropriate)</i> <ul style="list-style-type: none"><li>• <b>Four-year cycle of entry into force</b></li><li>• <del>exceptional circumstance</del></li></ul>
4	<i>Instruments intended for amendment (SOLAS, LSA Code, etc.) or developed (new code, new version of a code, etc.)</i> <b>The FSS Code, as amended by resolution MSC.367(93)</b>
5	<i>Intended application (scope, size, type, tonnage/length restriction, service (International/non-international), activity, etc.)</i> <b>All ships to which the FSS Code, as amended by resolution MSC.367(93), applies</b>
6	<i>Application to new/existing ships</i> <b>New ships</b>
7	<i>Proposed coordinating sub-committee</i> <b>SSE Sub-Committee</b>
8	<i>Anticipated supporting sub-committees</i> <b>None</b>
9	<i>Time scale for completion</i> <b>2023</b>
10	<i>Expected date(s) for entry into force and implementation/application</i> <b>1 January 2028</b>
11	<i>Any relevant decision taken or instruction given by the Committee</i> <b>None</b>