INTERNATIONAL MARITIME ORGANIZATION

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MARITIME SAFETY COMMITTEE
104th session
Agenda item 15

MSC 104/15
4 June 2021
Original: ENGLISH
Pre-session public release: ☒

WORK PROGRAMME

Proposal for a new output to revise paragraphs 6.5.1 and 6.5.5 of the 2009 MODU Code

Submitted by Germany, Russian Federation, Vanuatu, IACS and IADC

SUMMARY

Executive summary:	This document proposes a new output to revise paragraphs 6.5.1 and 6.5.5 of the 2009 MODU Code regarding electrical equipment that is required to remain operational in abnormal situations
Strategic direction, if applicable:	1 and 6
Output:	Not applicable
Action to be taken:	Paragraph 17
Related documents:	SSE 6/12/11 and SSE 6/18

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 to revise paragraphs 6.5.1 and 6.5.5 of the 2009 MODU Code regarding electrical equipment capable of operation after shutdown.

Background

2 The twenty-sixth session of the Assembly adopted the Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009 (2009 MODU Code) (resolution A.1023(26)), which applies to mobile offshore drilling units the keels of which are laid or which are at a similar stage of construction on or after 1 January 2012. The said Assembly resolution was amended by resolutions MSC.359(92), MSC.384(94), MSC.407(96) and MSC.435(98).

3 In recent years concerns have been expressed with regard to certain aspects of paragraphs 6.5.1 and 6.5.5 of the 2009 MODU Code, recognizing that the Code does not address emergency shutdown (ESD) systems arranged with multiple levels of ESD.

4 To this end, IACS developed a unified interpretation (UI) to clarify the provisions of paragraphs 6.5.1 and 6.5.5 of the 2009 MODU Code and submitted it to SSE 6 as UI MODU3 (SSE 6/12/11).

5 SSE 6 noted that although the content of the proposal could be acceptable, it would not be appropriate to develop a unified interpretation for a non-mandatory instrument; and that additional consideration should be given to the proposal in order to evaluate the possible implications of such an interpretation. With those considerations in mind, SSE 6 did not endorse the proposed unified interpretation, and invited IACS and interested delegations to note the expressed views and take action, as appropriate (SSE 6/18, paragraphs 12.32 and 12.33).

6 Based on the above decision by SSE 6, the co-sponsors consider that an amendment to paragraphs 6.5.1 and 6.5.5 of the 2009 MODU Code would be a beneficial and necessary solution to facilitate uniform implementation of provisions of the said paragraphs, as pointed out in document SSE 6/12/11. In the meantime, IACS UI MODU3 has been withdrawn; the statement to that effect was made at A 31 and SSE 7.

IMO's objectives

7 The main goal of the proposal is to remove any ambiguity and ensure consistent application of provisions of paragraphs 6.5.1 and 6.5.5 of the 2009 MODU Code. This clearly is related to strategic directions SD 1: Improve implementation and SD 6: Ensure regulatory effectiveness.

Need

8 The co-sponsors consider that the provisions of paragraphs 6.5.1 and 6.5.5 of the 2009 MODU Code require further clarification in order to facilitate their global and consistent implementation.

Analysis of the issue

9 According to the provisions of paragraph 6.5.5 of the 2009 MODU Code, the equipment which is located in spaces other than enclosed spaces and which is capable of operation after shutdown as given in paragraph 6.5.1 of the 2009 MODU Code, should be suitable for installation in zone 2 locations.

10 In that respect, the co-sponsors have considered the following issues:

.1 It was recognized that for the ESD systems arranged with multiple levels of ESD, clarification is needed as to whether the term "after shutdown" in paragraph 6.5.5 of the 2009 MODU Code relates to any single ESD level or to the total shutdown level of the unit.

.2 One view is that upon activation of any single ESD level related to gas release, the provision in paragraph 6.5.5 of the 2009 MODU Code applies, and external electrical equipment is to be suitable for zone 2. However, the requirement for equipment to be suitable for a gas release/leak also at the first tier of ESD (i.e. detection at the ventilation system) appears to be very conservative and not practical. Normally, an anchor winch or windlass is not rated for zone 2, nor is the skidding mechanism of the cantilever, jacking system, etc.

.3 Another view is that paragraphs 6.5.1 and 6.5.5 of the 2009 MODU Code need to be considered together and that the term "shutdown" refers to the point where all electrical equipment and the emergency generator are shutdown, i.e. only at the third and last tier. In this case, the question becomes whether the management of the emergency situation before shutdown of the emergency generator can be left to the operator. In a similar way to other fire events, the operator will need to determine the extent and risk involved before deciding the next course of action. In some cases, shutdown of the ventilation systems in the accommodation spaces has been provided as the first level ESD to restrict any possible gas from entering the accommodation block, while other arrangements based upon different tripping logic have been provided in other cases. In the former cases, the operator would only activate an ESD if gas was detected, but also in this first level ESD when any unprotected equipment in exterior locations could potentially become a source of ignition.

Analysis of implications

11 There are no additional administrative requirements or burdens, and also no additional cost to the shipping industry. The complete checklist for identifying administrative requirements and burdens is set out in annex 1.

Benefits

12 It is anticipated that clearer provisions of the 2009 MODU Code will 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 revise paragraphs 6.5.1 and 6.5.5 of the 2009 MODU Code to clarify the application of requirements to electrical equipment located in spaces other than enclosed spaces and which is capable of operation after shutdown, as given in paragraph 6.5.1:

"Amendments to chapter 6 of the Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009 (2009 MODU Code)"

Human element

15 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

16 It is proposed that the output should be included in the Committee's post biennial agenda (2022-23), with the output being placed on the agenda for the SSE Sub-Committee with one session needed to complete the item.

Action requested of the Committee

17 The Committee is invited to consider the foregoing, in particular paragraphs 9 and 10, and the proposals in paragraphs 14 and 16, 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	**NR**	Yes ☐ Start-up ☐ 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	**NR**	Yes ☐ Start-up ☐ 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	**NR**	Yes ☐ Start-up ☐ 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	**NR**	Yes ☐ Start-up ☐ Ongoing
Description of administrative requirement(s) and method of fulfilling it: (if the answer is yes)		
5. Other identified requirements?	**NR**	Yes ☐ Start-up ☐ 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

Instructions: If the answer to any of the questions below is: (A) **YES**, the preparing body should provide supporting details and/or recommendation for further work. (B) **NO**, the preparing body should make proper justification as to why human element issues were not considered. (C) **NA** (Not Applicable) – the preparing body should make proper justification as to why human element issues were not considered applicable.	
Subject Being Assessed: (e.g. Resolution, Instrument, Circular being considered) Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009 (2009 MODU CODE)	
Responsible Body: (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?	❑Yes ❑No ☑NA
2. Has input from seafarers or their proxies been solicited?	❑Yes ❑No ☑NA
3. Are the solutions proposed for the subject in agreement with existing instruments? (Identify instruments considered in comments section)	❑Yes ❑No ☑NA
4. Have human element solutions been made as an alternative and/or in conjunction with technical solutions?	❑Yes ❑No ☑NA
5. Has human element guidance on the application and/or implementation of the proposed solution been provided for the following:	
• Administrations?	❑Yes ❑No ☑NA
• Ship owners/managers?	❑Yes ❑No ☑NA
• Seafarers?	❑Yes ❑No ☑NA
• Surveyors?	❑Yes ❑No ☑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?	❑Yes ❑No ☑NA
7. Does the solution address safeguards to avoid single person errors?	❑Yes ❑No ☑NA
8. Does the solution address safeguards to avoid organizational errors?	❑Yes ❑No ☑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?	❑Yes ❑No ☑NA
10. Have human element experts been consulted in development of the solution?	❑Yes ❑No ☑NA

11. **HUMAN ELEMENT**: **Has the proposal been assessed against each of the factors below?**	
❑ CREWING. The number of qualified personnel required and available to safely operate, maintain, support and provide training for system.	❑Yes ❑No ☑NA
❑ PERSONNEL. The necessary knowledge, skills, abilities and experience levels that are needed to properly perform job tasks.	❑Yes ❑No ☑NA
❑ TRAINING. The process and tools by which personnel acquire or improve the necessary knowledge, skills and abilities to achieve desired job/task performance.	❑Yes ❑No ☑NA
❑ OCCUPATIONAL HEALTH AND SAFETY. The management systems, programmes, procedures, policies, training, documentation, equipment, etc. to properly manage risks.	❑Yes ❑No ☑NA
❑ 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.	❑Yes ❑No ☑NA
❑ 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.	❑Yes ❑No ☑NA
❑ HUMAN FACTORS ENGINEERING. Human-system interface to be consistent with the physical, cognitive and sensory abilities of the user population.	❑Yes ❑No ☑NA
Comments: (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. Human element is not considered further as the proposal is to clarify existing requirements only.	