INTERNATIONAL MARITIME ORGANIZATION

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SUB-COMMITTEE ON SHIP SYSTEMS AND EQUIPMENT
6th session
Agenda item 12

SSE 6/12/11
21 December 2018
Original: ENGLISH

UNIFIED INTERPRETATION OF PROVISIONS OF IMO SAFETY, SECURITY, AND ENVIRONMENT RELATED CONVENTIONS

Unified Interpretation on provisions relating to emergency conditions due to drilling operations (paragraphs 6.5.1 and 6.5.5 of the MODU Code)

Submitted by IACS

SUMMARY

Executive summary:	IACS has identified the need to clarify the provisions of paragraph 6.5.5 of the MODU Code related to equipment that is capable of operation after shutdown, as set out in paragraph 6.5.1 of the Code
Strategic direction, if applicable:	6
Output:	6.1
Action to be taken:	Paragraph 8
Related documents:	None

Introduction

1 IACS considers that certain aspects of chapter 6 of the Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009 (resolution A.1023(26), as amended, hereafter referred to as "the 2009 MODU Code"), require further clarification in order to facilitate their global and consistent implementation. In particular, IACS considers that paragraphs 6.5.1 and 6.5.5 of the Code would benefit from further explanation, as discussed in the paragraphs below.

2 Paragraphs 6.5.1 and 6.5.5 of the 2009 MODU Code state:

> "6.5.1 In view of exceptional conditions in which the explosion hazard may extend outside the above-mentioned zones, special arrangements should be provided to facilitate the selective disconnection or shutdown of:

.1 ventilation systems, except fans necessary for supplying combustion air to prime movers for the production of electrical power;

.2 main generator prime movers, including the ventilation systems for these;

.3 emergency generator prime movers."

"6.5.5 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 should be suitable for installation in zone 2 locations. Such equipment which is located in enclosed spaces should be suitable for its intended application to the satisfaction of the Administration. At least the following …"

Discussion

3 IACS has recognized that for emergency shutdown (ESD) systems arranged with multiple levels of ESD, a clarification is needed as to whether the term "after shutdown" in paragraph 6.5.5 of the 2009 MODU Code relates to any single emergency shutdown (ESD) level or to the total shutdown level of the unit.

4 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. Consequently, the need for equipment suitable for a gas release/leak by applying this provision 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.

5 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. the third and last tier. In this case, a question is whether the management of the emergency situation, i.e. before shutdown of the emergency generator, can be left to the operator. In a similar way to other fire events, the operator will first need to determine the extent and risk involved before deciding what the next course of action is. Thus, the operator will first need to decide whether it is necessary to elevate the shutdown level. A typical first level ESD is shutdown of the ventilation systems in the accommodation spaces. This is to restrict any possible gas from entering the accommodation block. The operator would only activate an ESD if gas was detected, when any unprotected equipment in exterior locations could potentially become a source of ignition.

6 Based on the above analysis, IACS has developed Unified Interpretation (UI) MODU3 on paragraphs 6.5.1 and 6.5.5 of the 2009 MODU Code. In this UI, for the ESD systems arranged with multiple levels of ESD, the provision in paragraph 6.5.5 (i.e. equipment located in spaces other than enclosed spaces and which is capable of operation after shutdown as given in paragraph 6.5.1 of the Code should be suitable for installation in zone 2 locations) applies for any ESD level related to gas release. Exceptions have been considered for equipment that could be considered as being out of operation during drilling operations, such as shore power panel, towing winches, windlass, jacking motors, etc. A copy of this IACS UI is provided in the annex to this document.

7 The Sub-Committee is invited to note that IACS Members intend to implement UI MODU3 from 1 January 2020, unless they are provided with written instructions to apply a

different interpretation by the Administration on whose behalf they are authorized to act as a recognized organization.

Action requested of the Sub-Committee

8 The Sub-Committee is invited to consider the foregoing and the IACS UI provided in the annex and take action, as appropriate.

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ANNEX

MODU 3 (Dec 2018) Selective disconnection or shutdown and equipment operable after an emergency shutdown

2009 MODU Code, Chapter 6, paragraph 6.5.1:

6.5.1 In view of exceptional conditions in which the explosion hazard may extend outside the above-mentioned zones, special arrangements should be provided to facilitate the selective disconnection or shutdown of:

.1 ventilation systems, except fans necessary for supplying combustion air to prime movers for the production of electrical power;

.2 main generator prime movers, including the ventilation systems for these;

.3 emergency generator prime movers.

2009 MODU Code, Chapter 6, paragraph 6.5.5:

6.5.5 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 should be suitable for installation in zone 2 locations. Such equipment which is located in enclosed spaces should be suitable for its intended application to the satisfaction of the Administration. At least the following facilities should be operable after an emergency shutdown:

.1 emergency lighting under paragraphs 5.4.6.1.1 to 5.4.6.1.4 for half an hour;

.2 blow-out preventer control system;

.3 general alarm system;

.4 public address system; and

.5 battery-supplied radiocommunication installations.

Interpretation

Where emergency shutdown (ESD) systems are arranged with multiple levels of ESD, the requirement in paragraph 6.5.5, that equipment located in spaces other than enclosed spaces and which is capable of operation after shutdown as given in paragraph 6.5.1 should be suitable for installation in zone 2 locations, shall apply for any ESD level related to gas release. Exceptions may be accepted for equipment that are expected to be out of operation during drilling operations (such as shore power panel, towing winches, windlass, jacking motors, etc.).

Note:

1. This UI is to be uniformly implemented by IACS Societies on units contracted for construction from 1 January 2020.

2. The "contracted for construction" date means the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. For further details regarding the date of "contract for construction", refer to IACS Procedural Requirement (PR) no. 29.