

SUB-COMMITTEE ON CARRIAGE OF  
CARGOES AND CONTAINERS  
8th session  
Agenda item 6

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## AMENDMENTS TO THE IMDG CODE AND SUPPLEMENTS

### Proposed criteria for devices in use or intended for use during transport containing dangerous goods

Submitted by United States, China, Germany, BIMCO, ICS, WSC and BIC

#### SUMMARY

<i>Executive summary:</i>	This document contains proposed criteria for devices in use or intended for use during transport such as data loggers, sensors and cargo trackers that contain dangerous goods that are attached to or placed in packages, overpacks, containers, cargo transport units or load compartments.
<i>Strategic direction,</i> <i>if applicable:</i>	7
<i>Output:</i>	7.10
<i>Action to be taken:</i>	Paragraph 10
<i>Related documents:</i>	CCC 7/6/11, CCC 7/6/16, CCC 7/15 and CCC 8/6

#### Introduction

1 CCC 7 referred the criteria for devices containing dangerous goods in use or intended for use during transport proposed in document CCC 7/6/16 (Germany) to E&T 35 for further consideration (CCC 7/15). Germany updated the proposed criteria based on comments made at CCC 7 with a view to facilitating discussions at E&T 35.

2 A wide range of views was expressed at E&T 35 (CCC 8/6, paragraph 3.25), with no clear majority in support of the proposals under consideration by the Group. Interested parties were invited to continue work on this issue in collaboration, with a view to submitting further proposals to CCC 8. The Group agreed that the work should consider the following themes:

- .1 access to IEC standards by interested parties developing regulatory text;
- .2 the possibility of applying a goal-based approach;
- .3 transitional phase; and

- .4 differentiation of criteria depending on the type of environment (e.g. those inside a means of containment and those outside a means of containment).

## Discussion

3 Interested Member States and international organizations repeatedly convened an informal group to consider the issues raised at CCC 7 and E&T 35, with the goal of developing a proposal for CCC 8 on criteria for data loggers and cargo tracking devices to be included in the IMDG Code.

4 At the initial virtual meeting, the informal group agreed on the following:

- .1 the updated proposals by Germany to E&T 35 should be the starting point for a revised proposal;
- .2 SOLAS regulation II-2/19 is a reasonable basis for criteria;
- .3 a phase-in period will be necessary, keeping in mind the proposals in document CCC 7/6/11 (BIC et al.);
- .4 new criteria should apply to all CTUs, not just containers; and
- .5 impacts to multimodal transport should be considered, but should not dictate the outcome of work.

5 There was lengthy discussion on the appropriateness of applying the same criteria to packages as well as to containers or CTUs. A consolidation of expressed views is shown below:

- .1 Shippers are aware of specific hazards present in individual packages; therefore, they can make informed decisions regarding the specifications for data loggers and cargo tracking devices attached to the packages.
- .2 Individuals placing data loggers and cargo tracking devices on CTUs have no way of knowing the environment in which the CTUs will be placed during transportation (e.g. they have no way of knowing the contents of other CTUs around their CTU).
- .3 An observation was made that there are specific areas on ships that are intentionally built for higher risk cargoes. The design criteria and standards for these areas could be considered.
- .4 Consideration could be given to different criteria for data loggers and cargo tracking devices installed on the interior vs. exterior of the CTUs; however, this may not appropriately account for the unknown transportation environment. Further, it remains unknown whether the environment on the interior of a CTU is significantly different from the exterior environment.

6 There was general agreement that criteria were needed for data loggers and cargo tracking devices placed on packages; however, the informal group agreed to prioritize finalizing the recommendations for the criteria for data loggers and cargo tracking devices installed on CTUs. There was broad agreement that delays in developing package-level criteria should be minimized to the extent possible (i.e. consider development of package-level criteria as soon as possible after the CTU criteria were agreed upon).

7 The informal group considered the adequacy of the existing provisions within the IMDG Code, and there was agreement that the existing 5.5.4 of the Code was intentionally broad. An observation was made that the intent was always to include more prescriptive text once IMO had additional time to consider the issue and to seek guidance from ISO. It was observed that there was precedence within the Code for requiring specific compliance with exact IEC standards, and that the proposal by Germany at E&T 35 was in line with existing SOLAS requirements for all goods, with the exception of hydrogen. A requirement that hydrogen be stowed "on deck only" might be necessary.

8 A presentation was provided to the informal group, explaining the details of the proposed IEC criteria and IEC standards referenced in the proposals under consideration. The detailed explanation resolved many of the concerns regarding the technical aspects of the proposed criteria; however, concerns over broad access to the IEC standards remained. In order to address these concerns, it was generally agreed that descriptive text should be included in addition to the specific IEC criteria.

### **Proposal**

9 Taking into consideration the guidance from E&T 35 and the discussions of the informal group, a draft proposal on criteria for devices in use or intended for use during transport that contain dangerous goods that are attached to or placed in packages, overpacks, containers, cargo transport units or load compartments was developed. The draft criteria are provided in the annex to this document and are proposed to be included in the next amendment to the IMDG Code.

### **Action requested of the Sub-Committee**

10 The Sub-Committee is invited to consider the information provided and the proposal in paragraph 9, and take action, as appropriate.

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## ANNEX

### PROPOSED DRAFT CRITERIA FOR DEVICES IN USE OR INTENDED FOR USE DURING TRANSPORT CONTAINING DANGEROUS GOODS

#### 5.5.4 Devices in use or intended for use during transport containing dangerous goods

5.5.4.1 Devices in use or intended for use during transport such as data loggers, sensors and cargo trackers that contain dangerous goods (e.g. lithium batteries, fuel cell cartridges) and are attached to or placed in packages, overpacks, containers, cargo transport units or load compartments are not subject to the provisions of this Code other than the requirements set out in 7.3.5 and in this paragraph:

- .1 the contained dangerous goods (e.g. lithium batteries, fuel cell cartridges) shall meet the applicable construction and test requirements specified in this Code; and
- .2 the device shall be capable of withstanding the shocks and loadings normally encountered during transport.

5.5.4.2 Devices attached to packages and overpacks in a closed cargo transport unit are subject to 7.3.5 when dangerous goods are transported in that cargo transport unit.

5.5.4.3 Devices attached directly to the interior or exterior of cargo transport units shall comply with the following criteria, as found in IEC 60079-0:2017 and IEC 60529:2013:

- .1 Temperature Class T4: the device maximum surface temperature attained in service under the most adverse conditions is  $\leq 135^{\circ}\text{C}$ ;
- .2 Equipment Group IIB: the device is intended for use in places with an explosive gas atmosphere other than mines susceptible to firedamp and in explosive gas atmospheres other than those containing hydrogen; and
- .3 Degree of Protection IP65: the device enclosure protects internal equipment against ingress of dust and protects against harmful effects due to water jets against the enclosure from any direction.

**Note:** For devices in a reefer controller box, the requirement in 5.5.4.3.3 is complied with when the casing of the controller box conforms to 5.5.4.3.3.

5.5.4.4 Devices subject to 5.5.4.3 shall comply with the requirements from 1 January 2028, with the exception for fixed devices on or in reefer containers, which shall comply with these requirements as soon as possible, but not later than 1 January 2032.

5.5.4.5. When such equipment containing dangerous goods is transported as a consignment, the relevant entry of the Dangerous Goods List in chapter 3.2 shall be used and all applicable provisions of this Code apply.