

## Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

16 November 2022

### Sub-Committee of Experts on the Transport of Dangerous Goods

#### Sixty-first session

Geneva, 28 November - 6 December 2022

Item 7 of the provisional agenda

#### Global harmonization of transport of dangerous goods regulations with the Model Regulations

## IMO draft amendments to 5.5.4 of the IMDG Code

### Transmitted by the expert from France

#### Introduction

1. At the eighth session of the IMO Sub-Committee on carriage of cargoes and containers (CCC 8), a Drafting Group on amendments to the IMDG Code has been established. This document is provided mainly for information of the subcommittee about some modification proposed for 5.5.4 that could have consequences in multimodal transport.
2. Among its Terms of Reference, this Drafting Group was instructed as follows:  
*“with regard to devices in use or intended for use during transport containing dangerous goods, based on document CCC 8/6/4 (submitted by United States, China, Germany, BIMCO, ICS, WSC and BIC), prepare draft amendments to provision 5.5.4 of the IMDG Code, for incorporation, as appropriate, into draft amendment 42-24”.*
3. The results of the works of the Drafting Group are included in the document CCC 8/WP.7 (see annex) and are foreseen to be forwarded to the Sub-Committee (TDG) (CCC 8/WP.7 – paragraphs 5 and 31.1). The proposed new 5.5.4 was drafted as follows:

#### ***“5.5.4 Devices containing dangerous goods, which are in use or intended for use during transport***

*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 that are attached to or placed in packages, overpacks, bulk containers, freight containers, or other types of cargo transport units, are not subject to the provisions of this Code other than the requirements set out in 5.5.4.2 to 5.5.4.7 and 7.3.5.*

*5.5.4.2 The contained dangerous goods (e.g. lithium batteries, fuel cell cartridges) shall meet the applicable construction and test requirements specified in this Code.*

*5.5.4.3 Devices shall be capable of withstanding the shocks and loadings normally encountered during transport.*

*5.5.4.4 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.*

*5.5.4.5 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 5.5.4.5.3 is complied with when the casing of the controller box conforms to 5.5.4.5.3.

5.5.4.6 *Devices subject to 5.5.4.5 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.*

5.5.4.7 *When such devices containing dangerous goods are 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.”*

## Analysis

4. The current text for 5.5.4 in the UN Model Regulations and the IMDG Code (Amendment 40-20) is aligned with the text in the model rules except for minor details allowing it to be adapted to the IMDG context. It is drafted as follows and the highlighted text in square brackets corresponds to specificities of the IMDG Code:

### **“5.5.4 Dangerous goods in equipment in use or intended for use during transport**

5.5.4.1 *Dangerous goods (e.g. lithium batteries, fuel cell cartridges) contained in equipment such as data loggers and cargo tracking devices, attached to or placed in packages, overpacks, containers or load compartments are not subject to any provisions [of this Code other than 7.3.5 and] other the following:*

- (a) *the equipment shall be in use or intended for use during transport;*
- (b) *the contained dangerous goods (e.g. lithium batteries, fuel cell cartridges) shall meet the applicable construction and test requirements specified [in this Code]; and*
- (c) *the equipment shall be capable of withstanding the shocks and loadings normally encountered during transport [and shall be safe for use in the dangerous environments to which it may be exposed].*

5.5.4.2 *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] shall apply.”*

5. When comparing the text reproduced in paragraph 4 above, and the draft text for the IMDG Code (Amendment 42-24) in paragraph 3, it can be noted that:

- The scope of the regulation is modified: in the existing text, the scope deals with “*Dangerous goods in equipment in use or intended for use during transport*”, and in the draft amendments on the IMDG Code, the amended scope would deal with “*Devices containing dangerous goods, which are in use or intended for use during transport*”;
- Subsequently, the dangerous goods which are concerned are limited to those which can be transported in “*data loggers, sensors and cargo trackers...*”, and the amended regulation would not allow to be applied to other categories of dangerous goods, as for instance goods contained in articles UN 3537 to UN 3548;

- The structure and the numbering of the amended regulation are deeply modified, and do not allow to make a clear distinction between the provisions applicable to all modes of transport, and those which only apply to the maritime mode;
- As a consequential amendment, the adoption of the amended regulation in the IMDG Code would imply to modify the wording of paragraph 1.1.1.10, which is the equivalent of “NOTE 4” in paragraph 1.1.1.2 of the UN Model Regulations.

## Proposal

6. In order to ensure a consistency for all modes of transport, it would be possible to find a solution which preserves the current wording of the IMDG Code and the UN Model Regulations, and adds the specificities which apply to the maritime transport (text below in bold, underlined and highlighted), for instance as follows:

### ***“5.5.4 Dangerous goods in equipment in use or intended for use during transport***

***5.5.4.1 Dangerous goods (e.g. lithium batteries, fuel cell cartridges) contained in equipment such as data loggers, sensors and cargo tracking devices, attached to or placed in packages, overpacks, bulk containers, freight containers or other types of cargo transport units, are not subject to the provisions of this Code other than the requirements set out in 5.5.4.1.1 to 5.5.4.6:***

- .1 the equipment shall be in use or intended for use during transport;***
- .2 the contained dangerous goods (e.g. lithium batteries, fuel cell cartridges) shall meet the applicable construction and test requirements specified in this Code; and***
- .3 the equipment shall be capable of withstanding the shocks and loadings normally encountered during transport and shall be safe for use in the dangerous environments to which it may be exposed.***

***5.5.4.2 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 shall apply.***

***For the purpose of maritime consignments, the additional requirements are to be complied with:***

***5.5.4.3 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.***

***5.5.4.4 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:***

- (a) temperature class T4: the device maximum surface temperature attained in service under the most adverse conditions is < 135°C;***
- (b) 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***
- (c) 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 5.5.4.4.3 is complied with when***

***5.5.4.5 Devices subject to 5.5.4.4 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.***

**5.5.4.6** *When such devices containing dangerous goods are 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.”*

## **Action to be taken**

7. The Sub-Committee is invited to consider the analysis developed in paragraphs 4 to 6 above and provide advice on the best way forward. It must be noted that the next meeting of the Editorial and Technical (E&T) Group is foreseen in spring 2023, and it would certainly be helpful to forward some advice to that group on the best way to proceed to avoid problems and modal disharmony.

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

CCC 8/WP.7  
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**DISCLAIMER**

As at its date of issue, this document, in whole or in part, is subject to consideration by the IMO organ to which it has been submitted. Accordingly, its contents are subject to approval and amendment of a substantive and drafting nature, which may be agreed after that date.

**AMENDMENTS TO THE IMDG CODE AND SUPPLEMENTS****Report of the Drafting Group on Amendments to the IMDG Code****GENERAL**

1 The Drafting Group on Amendments to the IMDG Code, chaired by Mr. S. Webb (United States), met from 14 to 21 September 2022.

**TERMS OF REFERENCE**

3 Taking into account the comments made and decisions taken in plenary, the Drafting Group on Amendments to the IMDG Code was instructed to:

***with regard to devices in use or intended for use during transport containing dangerous goods:***

- .1 based on document CCC 8/6/4, prepare draft amendments to provision 5.5.4 of the IMDG Code, for incorporation, as appropriate, into draft amendment 42-24;

**DEVICES IN USE OR INTENDED FOR USE DURING TRANSPORT CONTAINING DANGEROUS GOODS**

4 As instructed, the Group prepared draft amendments to provision 5.5.4 of the IMDG Code. In so doing, the Group made some editorial modifications to the text proposed in the annex to document CCC 8/6/4, including:

- .1 the heading of 5.5.4 was modified to read "Devices containing dangerous goods, which are in use or intended for use during transport";
- .2 the terms "bulk containers" and "freight containers" were added to 5.5.4.1; and
- .3 references and numbering were modified in order to make the application of requirements in 5.5.4 more clear;

5 After consideration, the Group agreed to the draft amendments to provision 5.5.4 of the IMDG Code, as set out in annex 1, with a view to incorporation, as appropriate, into draft amendment 42-24 to the IMDG Code.

The Group also agreed to invite the Sub-Committee to instruct the Secretariat to inform UNTDG on the draft amendments.

**ACTION REQUESTED OF THE SUB-COMMITTEE**

31 The Sub-Committee is invited to:

- .1 agree to the draft amendments to provision 5.5.4 of the IMDG Code, with a view to incorporation, as appropriate, into draft amendment 42-24 to the IMDG Code and instruct the Secretariat to inform UNTDG on the draft amendments (paragraphs 4 to 5 and annex 1);

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## ANNEX 1

DRAFT AMENDMENTS TO 5.5.4 OF THE INTERNATIONAL MARITIME  
DANGEROUS GOODS (IMDG) CODEPART 5  
CONSIGNMENT PROCEDURESChapter 5.5  
Special provisions**5.5.4 Dangerous goods in equipment in use or intended for use during transport**

Replace the text in paragraph to read as follows:

**"5.5.4 Devices containing dangerous goods, which are in use or intended for use during transport**

- 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 that are attached to or placed in packages, overpacks, bulk containers, freight containers, or other types of cargo transport units, are not subject to the provisions of this Code other than the requirements set out in 5.5.4.2 to 5.5.4.7 and 7.3.5.
- 5.5.4.2 The contained dangerous goods (e.g. lithium batteries, fuel cell cartridges) shall meet the applicable construction and test requirements specified in this Code.
- 5.5.4.3 Devices shall be capable of withstanding the shocks and loadings normally encountered during transport.
- 5.5.4.4 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.
- 5.5.4.5 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 5.5.4.5.3 is complied with when the casing of the controller box conforms to 5.5.4.5.3.
- 5.5.4.6 Devices subject to 5.5.4.5 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.
- 5.5.4.7 When such devices containing dangerous goods are 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.