



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

Sub-Committee of Experts on the Transport of Dangerous Goods

Sixty-second session

Geneva, 3-7 July 2023

Item 7 of the provisional agenda

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

International Maritime Organisation draft amendments to 5.5.4 of the International Maritime Dangerous Goods code

Transmitted by the expert from France*

Introduction

1. At its last session, the Sub-Committee discussed amendments to chapter 5.5.4 to reach a multimodal harmonisation of the requirement in this chapter based on debates held in the Carriage of Containers and Cargo (CCC) committee of the (IMO) and its Editorial and Technical (E&T) group (see paras. 61 to 63 of report ST/SG/AC.10/C.3/122).
2. The Sub-Committee agreed to resume discussion on this subject at its July 2023 session based on the outcome of discussions held at the E&T group during its spring session. France volunteered to draft an official proposal based on the outcome of the discussions at E&T, if necessary.
3. In March 2023, the E&T group agreed on a modified draft amendment to chapter 5.5.4 that in our view is suitable for all modes of transport and adds relevant safety standards to data loggers and tracking devices.
4. The main change consists in:
 - (a) A revised vocabulary for the title that doesn't fundamentally affect the way these requirements are used in real life but makes it clearer for some users.
 - (b) The addition of safety standards in particular on data loggers and similar devices. The way the amendment is currently drafted clearly separates the scope for the use of these standards from the general case. They are only relevant for data loggers.

* A/77/6 (Sect. 20), table 20.6



- (c) As drafted for the International Maritime Dangerous Goods (IMDG) code, 5.5.4.3 refers to 7.3.5 of the code but has been modified for the *Model Regulations* to include the provisions of 7.3.5 themselves.
- (d) A transition period allowing the operators to adapt to the new requirements.
5. The amendments proposed by the E&T group are reproduced in the annex to this document (extract from report E&T 38/WP.1). The proposal for amending the *Model Regulations* reproduces the new draft with some editorial amendments to align formally the text with the recommendations.
6. The provision in a note on the transition period is kept in square brackets. The Sub-Committee may decide separately on this issue and consider that it must be dealt with in the different modal bodies. However, a harmonized transition would certainly make sense and facilitate multimodal transport.
7. The Sub-Committee is invited to comment the following proposal and adopt the amendments, as appropriate

Proposal

8. Amend the text in 5.5.4 to read as follows (new text is underlined):

“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 containing dangerous goods, 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 any provisions of these Regulations other than the requirements set out in 5.5.4.1(a) to 5.5.4.4, as follows:

- (a) the device 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 these Regulations; and
- (c) the device 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 a device 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 these Regulations shall apply.”

5.5.4.3 Data loggers, sensors and cargo tracking devices, attached to packages and overpacks in a closed cargo transport unit transporting dangerous goods shall be securely installed to the cargo transport unit and shall be of a safe type for the dangerous goods that will be transported within the cargo transport unit.

5.5.4.4 Data loggers, sensors and cargo tracking devices, attached directly to the interior or exterior of cargo transport units shall comply with the following criteria, as specified in standards 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;
- (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; and

(d) For devices in a reefer controller box, the requirement of (c) is complied with when the casing of the controller box conforms to (c).

[NOTE : 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.]”

Annex

[English only]

Draft report of the sub-committee on carriage of cargoes and containers E&T 38/WP.1 - 24 March 2023

Extract

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 containing dangerous goods, 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 5.5.4.5, as follows:

- .1 the device 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 device 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 device 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.

5.5.4.3 Data loggers, sensors and cargo tracking 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 Data loggers, sensors and cargo tracking 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 5.5.4.4.3 is complied with when the casing of the controller box conforms to 5.5.4.4.3.*

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.”