

**Economic and Social Council**

Distr.: General
4 June 2018
English
Original: French

Economic Commission for Europe**Inland Transport Committee****Working Party on the Transport of Dangerous Goods**

Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) (ADN Safety Committee)

Thirty-third session

Geneva, 27–31 August 2018

Item 4 (b) of the provisional agenda

**Proposals for amendments to the Regulations annexed to ADN:
Other proposals**

Amendments concerning explosion protection on board inland navigation tank vessels

Transmitted by the Government of Germany*,**

Summary

Executive summary:	It was noted that the amendments to ADN concerning explosion protection on board inland navigation tank vessels adopted by the Safety Committee for entry into force on 1 January 2019 required corrections.
Action to be taken:	Correction of the amendments adopted for 1.6.7.2.2.2 and 9.3.2.22.4.
Related documents:	ECE/TRANS/WP.15/AC.2/2018/11 Informal document INF.14 of the thirty-second session ECE/TRANS/WP.15/AC.2/66, paras. 61–66 ECE/TRANS/WP.15/AC.2/66/Add.1

* Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR/ZKR/ADN/WP.15/AC.2/2018/32.

** In accordance with the programme of work of the Inland Transport Committee for 2018–2019, (ECE/TRANS/2018/21/Add.1 (9.3)).



Introduction

1. At its thirty-second session in January 2018, the ADN Safety Committee considered and adopted numerous amendments to ADN concerning explosion protection on board dry cargo vessels and tank vessels.
2. The review of a summary of requests for amendments prepared by the CCNR secretariat in German and of information from the navigation sector has revealed that the amendments adopted for two paragraphs of ADN contain editorial errors that should be corrected before the entry into force on 1 January 2019.

Requests and reasons

3. In the definition of “**Device for the safe depressurization of cargo tanks**” for 1.2.1 of ADN, only international standard ISO 16852:2016 is mentioned, contrary to the earlier version of the transitional provision, which referred to international standard ISO 16852:2010 or EN ISO 16852:2010.
4. In the new or amended definitions for 1.2.1 of ADN set out below, for standards according to which evidence of compliance may be provided, the standard “IECEX System” should be added after the phrase “according to Directive 2014/34/EU” with the following footnote “(x) <http://iecex.com/rules>”:
“Toximeter”; “Flame arresters”; “High velocity vent valve”; “Sampling opening”; “Vacuum valve”; “Device for the safe depressurization of cargo tanks”.
5. This standard is applicable in the same way as for equipment and self-contained protection systems such as the “Gas detection system”, “Flammable gas detector” and “Oxygen meter” and, according to the German experts in the Working Party, had simply been forgotten when the amendment request was drafted.
6. The transitional provision adopted for ADN 2019, table 1.6.7.2.2.2 of ADN under 1.2.1, definition of “**Device for the safe depressurization of cargo tanks**”, contains a typo. This error should be corrected as follows:

1.2.1	Device for the safe depressurization of cargo tanks Deflagration safety Test according to ISO 16852:2016 EN ISO 16852:2010 / Proof of conformity with applicable provisions	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034 The deflagration safety shall be tested according to EN 12874:2001 including the manufacturer’s confirmation under Directive 94/9/EC on board vessels built or modified from 1 January 2001 or if the safe pressure-relief device for the cargo tanks has been replaced since 1 January 2001. In other cases, they shall be of a type approved by the competent authority for the use prescribed.
-------	--	--

7. The transitional provision adopted for ADN 2019, table 1.6.7.2.2.2 of ADN, under 1.2.1, definition of “**Oxygen measuring system**”, contains the word “etc.” after the reference to the standard for which the transitional provision will apply. In the definition as such, however, only EN 50104:2011 is mentioned. In the transitional provision, therefore, the reference to “etc.” should be deleted in the second column in order to avoid any misunderstanding.

1.2.1	Oxygen measuring system Test according to EN 50104:2010, etc.	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2020
-------	--	---

8. For the amendment to the definition of “**Vacuum valve**” for 1.2.1 of ADN, a transitional provision for 1.6.7.2.2.2 of ADN is necessary. As with other added or amended definitions, such as “Sampling opening” and “Device for the safe depressurization of cargo tanks”, the transitional provision must include proof of deflagration safety required for the first time in this form in ADN 2019.

9. To complement and ensure the effective implementation of the provisions, it is proposed to add to 1.6.7.2.2.2 of ADN 2019 the following additional transitional provision:

1.2.1	Vacuum valve	N.R.M. from 1 January 2019
	Deflagration safety	Renewal of certificate of approval after 31 December 2034
	Test according to standard EN ISO 16852:2016	The deflagration safety shall be tested according to EN 12874:2001 including the manufacturer’s confirmation under Directive 94/9/EC or equivalent on board vessels built or modified from 1 January 2001 or if the vacuum valve has been replaced since 1 January 2001.
	Proof of conformity with applicable requirements	In other cases, they shall be of a type approved by the competent authority for the use prescribed.

10. The adopted amendment to the 9.3.2.11.2 (a) of ADN 2019 includes an editorial error reproduced from ADN 2017. The new wording of 9.3.2.11.2 (a) should therefore be corrected as follows:

The reference to “9.3.2.11.7” is to be replaced with “9.3.2.11.8”.

11. 9.3.2.11.7 of ADN 2017 deals with **integrated** cargo tanks, while the new wording of 9.3.2.11.2 (a) deals with **independent** cargo tanks. 9.3.2.11.8 of ADN contains a specific rule for construction for independent cargo tanks, which is not changed for ADN 2019.

12. The adopted amendment to 9.3.2.22.4 of ADN 2019 should be corrected by cancelling part of the amendments proposed in document INF.14 (reference documents: ECE/TRANS/WP.15/AC.2/2018/11, as amended by informal document INF.14).

9.3.2.22.4 is to be amended to read as follows (restoration of wording as contained in document ECE/TRANS/WP.15/AC.2/2018/11: text underlined):

“(a) Each cargo tank or group of cargo tanks connected to a common venting piping shall be fitted with:

- A connection for the safe return ashore of gases expelled during loading;
- A safe depressurization device for the cargo tanks, on which the position of the shut-off valve indicates clearly whether it is open or shut;
- Safety valves for preventing unacceptable overpressures or vacuums;

The opening pressure of the safety valves shall be marked indelibly on the valves;

The setting of the pressure relief valves shall be such that during the transport operation they do not blow off until the maximum permissible working pressure of the cargo tanks is reached;

The gases shall be discharged upwards;

The outlets of the pressure relief valves shall be located not less than 1.00 m above the deck and at a distance of not less than 6.00 m from the openings of accommodation, the wheelhouse and the service spaces outside the cargo area. No equipment shall be present in a circle of 1.00 m radius around the outlet

of the pressure relief valve outlets. This area shall be marked as a danger zone;

- (b) When the list of substances on the vessel according to 1.16.1.2.5 will contain substances for which explosion protection is required in column (17) of Table C of Chapter 3.2,
- At the connection to each cargo tank, the venting piping and the vacuum valve shall be equipped with a flame arrester capable of withstanding a detonation; and
 - The device for the safe depressurization of cargo tanks shall be deflagration safe and capable of withstanding steady burning;
- (c) If the list of substances on the vessel according to 1.16.1.2.5 is going to include substances that require explosion protection in accordance with column (17) of Table C of Chapter 3.2, or for which there is a T in column (3b) of Table C of Chapter 3.2, then the pressure relief valve shall be designed as a high velocity vent valve;
- (d) If a shut-off device is to be mounted between the venting piping and the cargo tank, it shall be placed between the cargo tank and the flame arrester, and each cargo tank shall be equipped with pressure relief valves;¹
- (e) The autonomous protection systems mentioned in (b) and (c) shall be chosen according to the explosion groups/subgroups of the substances foreseen for inclusion in the list of substances on the vessel (see column (16) of Table C of Chapter 3.2). The outlets of the high-velocity vent valves shall be located not less than 2.00 m above the deck and at a distance of not less than 6.00 m from the openings of the accommodations, the wheelhouse and the service spaces outside the cargo area. This height may be reduced to 1.00 m when there is no drive unit no equipment and no work is being carried out within a radius of 1.00 m around the pressure relief valve outlet. This area shall be marked as a danger zone;

If the high velocity vent valve, the vacuum valve, the flame arresters and the venting piping are required to be heatable, the devices concerned shall be suitable for the relevant temperature.”.

13. Improving the amendment to subparagraph (b) is necessary, although the definition *“Device for the safe depressurization of cargo tanks”* already contains a similar requirement for the deflagration safe and steady burning design when the list of substances on the vessel according to 1.16.1.2.5 must contain substances for which explosion protection is required in column (17) of Table C of subsection 3.2.3.2. If the reference to the device is not repeated in this paragraph, this could lead to the erroneous giving up of the device, since a reading limited to Part 9 of ADN would not make it possible to make the link with the definition in Part 1.

14. In informal document INF.14 of the thirty-second session, in conjunction with the amendment relating to *“Device for the safe depressurization of cargo tanks”* for the individual securing of tanks (first indent of subparagraph (b)), the intention was not to do away with the provision to make a choice on the basis of the explosion groups/subgroups according to column (16) of Table C of subsection 3.2.3.2.

Implementation

15. The proposal in paragraph 3 is purely editorial and does not imply any technical or logistical changes.

¹ Translator’s note: Please note that the term *“soupapes de sécurité”* is translated elsewhere in ECE/AND/45 as “safety valves”.

16. The proposal in paragraph 4 takes into account that the vacuum valves cannot be replaced upon the entry into force of the new definition. The transitional provision is inspired by other comparable transitional provisions that are considered appropriate.

17. The proposal contained in paragraph 6 concerning 9.3.2.22.4 (b) is purely editorial and does not constitute an additional rule for construction. The proposal for the letter (e) does not introduce a new rule for construction but ensures that the previous technical level for securing cargo tanks is maintained.
