

**Economic and Social Council**Distr.: General
12 June 2024

Original: English

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)****Forty-fourth session**

Geneva, 26-30 August 2024

Item 4 (b) of the provisional agenda

**Proposals for amendment to the Regulations annexed to ADN:
other proposals****Proposal for amendments to 9.3.2.21.7 and 9.3.3.21.7 of ADN regarding pressure alarm on type C- and type N-vessels****Transmitted by European Barge Union and European Skippers Organisation (EBU/ESO)* *****Summary***Related documents:** ECE/TRANS/WP.15/AC.2/2024/7
ECE/TRANS/WP.15/AC.2/88 (Paragraph 59)**Introduction**

1. EBU/ESO proposes an amendment for the settings and use of the over pressure alarm on board of ADN type C- and ADN type N-vessels, to increase safety of the crew during the transport of toxic substances.
2. With this proposal, the crew would be warned before the pressure in the cargo tanks is reaching the setting of the high velocity vent valve and prevents crew members being exposed to vapours of toxic substances at the moment that the high velocity vent valve opens and blows off. This would be of great improvement of safety.

* Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR-ZKR/ADN/WP.15/AC.2/2024/60.

** A/78/6 (Sect. 20), table 20.5



I. Problem

3. In relation to the current text of 9.3.x.21.7 of ADN it means in practise, that if the pressure in the cargo tanks reaches the opening settings of the high velocity vent valve, the overpressure will first be released and the crew could be exposed to toxic vapours, before the pressure alarm is activated.
4. Safety measures already exist to prevent overflowing of cargo tanks and to prevent damage to cargo tanks, but these measures do not exist to prevent a pressure relief valve to open in the event of excessive pressure in the cargo tanks. From a safety point of view the blowing off of the high velocity vent valve is an undesirable situation, especially for products with toxic or CMR properties¹.
5. Although 7.2.4.28.2 of ADN requires a visible and audible alarm in the wheelhouse when the overpressure in a cargo tank exceeds 40 kPa (0.4 bar), this alarm only has to be switched on during the voyage. Not such obligation is required during loading operations (see 9.3.x.21.7 of ADN).
6. However, this is a technical requirement in the vessels substance list, and not an operational requirement which should be handled in Chapter 7 of the ADN.

II. Proposal

7. EBU/ESO proposes to amend 9.3.2.21.7 and 9.3.3.21.7 of ADN as follows:

Add a new subparagraph (b) to read:

(b) An overpressure of 0.80 times the opening pressure of the pressure relief valves/high velocity vent valves in case of transport of substances of Class 6.1 or other classes for which the letter "T" is included in column (3b) of Table C of Chapter 3.2 or substances with CMR properties mentioned in column (5) of Table C of Chapter 3.2;

Renumber existing subparagraph (b) as (c).

8. And, to add in 1.6.7.2.2.2 Table of general transitional provisions: Tank vessels, the following new transitional provision:

9.3.2.21.7 9.3.3.21.7	An overpressure of 0.80 times the opening pressure of the high velocity vent valve in case of transport of substances of Class 6.1 or other classes for which the letter "T" is included in column (3b) of Table C of Chapter 3.2 or substances with CMR properties mentioned in Column (5) of Table C of Chapter 3.2.	N.R.M. from 1 January 2027. Renewal of the certificate of approval after 31 December 2029
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III. Justification

9. The existing type of alarms on board, initially intended to protect the cargo tanks against damage due to excessive pressure, can also be used as an additional alarm to protect the safety and health of the crew and the environment.
10. The sole barrier currently existing to prevent the uncontrolled release of toxic vapours is the vessel's crew. By changing the setting of the pressure alarm, this alarm shall give a visual and audible alarm on board and at the same time actuate an electrical contact which, in the form of a binary signal, shall interrupt the electric current loop provided and fed by the shore facility, thus initiating measures at the shore facility against overflowing during loading and unloading operations. The loading or unloading will stop automatically.
11. At present, for a large group of vessels where these measuring instruments are installed, it is quite simple to manually change this setting (on deck). For a smaller group of vessels, this setting can be adjusted in the control unit, which is (usually) installed in the

¹ Products with CMR properties means substances classified as carcinogenic, mutagenic, or toxic for reproduction.

wheelhouse and can be changed via software. Such systems are sometimes, but not always, protected by passwords and require an operating manual to carry out this task. This manual is generally available on the vessels. For a very small group of ships, it is not possible for the crew to change these settings. In those cases, a specialist must adjust the settings.

12. With regard to the transitional provisions, this proposal concerns a group of products because, in addition to the requested substances for which the letter “T” is included in column (3b) of Table C of Chapter 3.2, this measure is also requested for CMR substances, and it is expected that in the future many more substances will be classified with CMR properties than are currently classified. This proposal will be a major change for the industry as a whole, and on the one hand, we would like crews to be as protected as possible as quickly as possible, but we also realize that for some of the vessels, a hardware adjustment in the measuring instruments will be necessary, or even the replacement of the measuring instruments will be required. Therefore, we request a transition period as short as possible, but realistically achievable.

13. For shore installations, this measure has no different impact than what would happen with the signal given in the event of an overfill (emergency stop). These measures work very well in practice everywhere, and EBU/ESO do not foresee any specific problems with them.

IV. Sustainable development goals (SDGs)

14. If the mentioned proposal is amended the following SDG is fulfilled:

Goal 3 – *Good health and well-being; Reducing health risks of hazardous materials.*
