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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-third session

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Item 5 (b) of the provisional agenda

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

Proposal of amendment to 9.3.2.21.7 and 9.3.3.21.7 pressure alarm on type C- and type N-vessels

Transmitted by European Barge Union (EBU) and European Skippers Organisation (ESO)*, **

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. By 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.

I. Problem

3. In relation to the current text of 9.3.2.21.7 of ADN this means in practice, in the case of pressure in the cargo tanks which reaches the opening settings of the high velocity vent valve, that first the overpressure is released and the crew could be exposed to toxic vapours, before the pressure alarm is activated.

* Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR-ZKR/ADN/WP.15/AC.2/2024/27

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



4. Safety measures already exist for the prevention of overfilling of cargo tanks, and preventing damage to the cargo tanks, but these measures do not exist to prevent a pressure relief valve to open in the case of too high pressure in the cargo tanks. From a safety point of view the blowing off of the high velocity vent valve is a non-desirable situation, especially for Class 6.1 products.

II. Proposal

5. EBU/ESO proposes to amend 9.3.2.21.7 and 9.3.3.21.7 of ADN as follows, (amendments are indicated in bold, italic and underlined):

“When the pressure or temperature exceeds a set value, instruments for measuring the vacuum or overpressure of the gaseous phase in the cargo tank or the temperature of the cargo shall activate a visual and audible alarm in the wheelhouse and on deck. The alarm must be relayed to the accommodation automatically if it has not been switched off.

When the pressure exceeds the set value during loading and unloading, the instrument for measuring the pressure shall, by means of the plug referred to in 9.3.2.21.5/9.3.3.21.5 above, immediately initiate an electrical contact which shall put into effect measures to interrupt the loading or unloading operation. When the vessel’s own discharge pump is used, it shall be switched off automatically. The instrument for measuring the overpressure or vacuum shall activate the alarm at latest when:

(a) An overpressure equal to 1.15 times the opening pressure of the pressure relief valves/high velocity vent valves is reached; ~~or~~

(b) *An overpressure of 80% of the value of the opening pressure of the high velocity vent valve in case of transport of substances of Class 6.1 or other classes which include the letter “T” in column 3b of Table C of Chapter 3.2; or*

— ~~(b)(c)~~ The lower threshold of the design pressure of the vacuum valves, but not exceeding a vacuum of 5 kPa (0.05 bar), is reached.

(...)”

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

<p><u>9.3.2.21.7</u> <u>9.3.3.21.7</u></p>	<p><u><i>An overpressure of 80% of the value of the opening pressure of the high velocity vent valve in case of transport of substances of Class 6.1 or other classes which include the letter “T” in column 3b of Table C of Chapter 3.2.</i></u></p>	<p><u><i>N.R.M. from 1 January 2025. Renewal of the certificate of approval after 31 December 2034</i></u></p>
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III. Justification

7. The existing type of alarms on board, initially intended to protect the cargo tanks against damage due to too high pressure, can also be used as an additional alarm to protect the safety and health of the crew and the environment.

8. The sole currently existing barrier for the uncontrolled release of toxic vapours is the vessel’s crew itself. By amending 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 binary signal 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.

IV. Sustainable Development Goals (SDGs)

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

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