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## 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-seventh session

Geneva, 24–28 August 2020

Item 3 (c) of the provisional agenda

**Implementation of the European Agreement concerning the  
International Carriage of Dangerous Goods by Inland Waterways (ADN):  
Interpretation of the Regulations annexed to ADN**

### 1.2.1 of ADN - Classification of zones

**Transmitted by the Government of Germany\*. \*\***

#### Question of interpretation

1. In February 2020, the Federal Ministry of Transport and Digital Infrastructure of Germany was informed of the following problem. This is not an isolated case, but a question of interpretation of the rules on the construction of tank vessels, which is of general importance.
2. On board type G tank vessels for the transport of LPG (propane, butane, propylene, butadiene, VCM, propylene oxide) in pressure tanks, all cargo tanks are equipped with deepwell pumps manufactured and approved in accordance with the ATEX directive for zone 1 with equipment group II, equipment category 2G, Gb equipment protection level.
3. According to the definition “Classification of zones” in 1.2.1 of ADN 2019, the inside of cargo tanks now belongs to zone 0.
4. Compared to ADN 2017, this involves a tightening up of the requirements.
5. Prior to ADN 2019, according to 1.2.1 Definitions, “**classification of zones**” clearly provided that the inside of cargo tanks for the transport of LPG came under zone 1 for explosion protection (see Directive 1999/92/EC).<sup>1</sup>

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\* Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR-ZKR/ADN/WP.15/AC.2/2020/29.

\*\* In accordance with the programme of work of the Inland Transport Committee for 2020 as outlined in the proposed programme budget for 2020 (A/74/6 (part V, sect. 20), para. 20.37).

<sup>1</sup> Journal of the European Communities No. L 23 of 28 January 2000, p. 57.



6. The “technical” definition of zones in accordance with the definition of “classification of zones” applied until 2018 should continue to prevail with respect to the required classification for equipment classes and their local locations and use rather than a general assignment as provided for in the definition of “classification of zone” in effect since 2019. In this regard, the classification societies would urgently require support.
7. There are no submerged pumps with ATEX approval for zone 0.
8. On 7 May 2020, the Danish company Global Functional Safety ApS sent a similar request by email to the heads of delegation of several contracting parties represented in the ADN Safety Committee. This email was written in English.
9. It added that the cargo tanks were rendered inert with nitrogen before the transport of LPG and LNG and that they were under pressure under the usual conditions of transport. Since, therefore, cargo tanks do not contain oxygen or explosive atmosphere, in accordance with the ATEX directive and related EN standards and by analogy with the regime applicable to land-based tanks, they were not classified as explosion protection zones before ADN 2019.
10. As a result, the classification of “Hold” as zone 0, regardless of the product being transported, is confusing. In ADN 2013, “Hold” is classified as zone 1 when flammable goods are carried.
11. It is not possible to manufacture submerged pumps for LPG and LNG suitable for Zone 0.
12. The company therefore wishes to raise with the ADN Safety Committee the question of whether the cargo tanks of tank vessels should be classified according to the definition “**Classification of explosion hazard zones**” (see **Directive 1999/92/EC3** ) or, “without arguments”, according to the definition “**Classification of zones**”.

## Proposal

13. Germany proposes to follow up the suggestion from Global Functional Safety ApS by checking whether the general assignment of the inside of cargo tanks to zone 0 for explosion protection is correct and appropriate.

## Clarifications

14. The definition of “hold” mentioned by Global Functional Safety ApS is probably as follows:

*Hold* (when anti-explosion protection is required, comparable to zone 1 – see *Classification of zones*) means a part of the vessel which, whether covered by hatchway covers or not, is bounded fore and aft by bulkheads and which is intended to carry goods in packages or in bulk. The upper boundary of the hold is the upper edge of the hatchway coaming. Cargo extending above the hatchway coaming shall be considered as loaded on deck;

15. With a view to considering this problem, Germany would like to recall the following requirements of ADN in the version applicable until 31 December 2018.

### 1.2.1 Definitions

*Cargo tank* (when anti-explosion protection is required, comparable to zone 0):

A tank which is permanently attached to the vessel and intended for the carriage of dangerous goods;

### 9.3.x.52 Type and location of electrical equipment

9.3.x.52.1 (a) Only the following equipment may be installed in cargo tanks and piping for loading and unloading (comparable to zone 0):

- measuring, regulation and alarm devices of the EEx (ia) type of protection.

16. Account should also be taken of the transitional requirement in force since 1 January 2019 contained in 1.6.7.2.2 of ADN concerning 9.3.1.53.1, 9.3.2.53.1 and 9.3.3.53.1 / Type

and location of electrical installations and equipment to be used in explosion hazardous areas, zone 0, zone 1.

“N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034

Until that date, the following requirements are applicable:

In cargo tanks and piping for loading and unloading, only measuring, regulation and alarm devices of the EEx (ia) type of protection may be installed.”

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