

**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)**

**Twenty-fifth session**

**Geneva, 25–29 August 2014**

**Item 5 of the provisional agenda**

**Reports of informal working groups**

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**Report of the first meeting of the informal working group on degassing of cargo tanks**

**Transmitted by the Government of the Netherlands**

**I. Introduction**

1. During the meeting in August 2013 the ADN Committee adopted the proposal from Belgium and the Netherlands (2013/INF.25) about the basic question of when a cargo tank should be considered “degassed”. Also the current regulations for entering the cargo tank, hold spaces etcetera shall be checked for clarity and consistency.
2. The Committee requested the Government of the Netherlands to organize an Informal Working Group to discuss these issues in more detail (ECE/TRANS/WP.15/AC.2/48).
3. This Informal Working Group held its first meeting on 12 March in Bonn, and was attended by delegates from Germany and the Netherlands, CEFIC, EBU/CBRB, BLN, CCNR (Mr. Fessmann) and an independent gas expert from Germany.

**II. Results**

4. The Group started with a broad approach and made a summary of relevant provisions within the ADN on the issues at hand. These are provisions about the handling and measurement of possible gases on board, as there is:
  - degassing of cargo tanks,
  - the entrance to enclosed spaces on board like the cargo tanks and hold spaces, and
  - hot work on board.

5. Degassing of cargo tanks

The Informal Working Group chose to start with the issue of degassing of cargo tanks and the current definitions, and concluded on several basic principles:

a. The ADN should clearly define when a cargo tank is either discharged, empty, degassed or gas free.

ADN 1.2.1 “Cargo tank (condition)” already has definitions for “Cargo-tank-discharged”, “cargo tank-empty” and “cargo tank-gas free”. The Working Group saw no need to amend these definitions. The amendments to these definitions in ADN 2015 does not change this.

b. “Degassed” of substances with EX-properties means a status between discharged and gas free. A “degassed cargo tank” is neither discharged nor gas free.

c. A cargo tank is “degassed” of EX-substances when the concentration of explosive vapors is below 10% of LEL. This is stated in the France translation of ADN 7.2.4.22:

“(…)

*Lorsqu'en vertu de la colonne (17) du tableau C du chapitre 3.2 une protection contre les explosions est exigée, l'ouverture des couvercles des citernes à cargaison ou du carter du coupe-flammes, en vue de monter ou de démonter le tamis coupe-flammes de citernes à cargaison déchargées, n'est autorisée que si les citernes à cargaison correspondantes ont été dégazées et que la concentration de gaz inflammables dans les citernes à cargaison est inférieure à 10 % de la limite inférieure d'explosivité.*”

However, in the English language version of ADN 7.2.4.22.2 the word “Gas freed” is used instead of “Degassed”:

“(…)

*When in column (17) of Table C of Chapter 3.2 anti-explosion protection is required, the opening of cargo tank covers or of the housing of the flame arrester for the purpose of mounting or removing the flame arrester plate stack in unloaded cargo tanks shall be permitted only if the cargo tanks in question have been gas-freed and the concentration of flammable gases in the tanks is less than 10% of the lower explosive limit.*”

In the German language version the word “Entgasten” (and not “Gasfreed”) is used. There is a difference to the English and French versions, as the underlined is divided into two sentences:

“(…)

*Wenn in Kapitel 3.2 Tabelle C Spalte 17 Explosionsschutz gefordert wird, ist das Öffnen der Ladetankluken oder des Gehäuses der Flammendurchschlagsicherung zum Ein- oder Ausbau der Flammensperre nur bei entladenen und entgasten Ladetanks gestattet. Die Konzentration an entzündbaren Gasen im Ladetank muss unter 10 % der unteren Explosionsgrenze liegen.*”

Also in all the provisions belonging to paragraph 7.2.3.7 only in the English version the phrase “Gas-freed” or “Gas freeing” is used instead of “degassed”.

The use of the word “Gas-freed” in the English translation could cause misinterpretation because it could imply the cargo tank to be “degassed” when it is “gas free”. For the status “gas free” the ADN has the definition: “*Cargo tank (condition): gas-free: not containing any measurable concentration of dangerous gases*”.

In the German version the word “Entgasen” is used, in the French version the word “Dégazage”. So only the English version talks about “Gas freeing”.

d. Most members of the Informal Working Group expressed the wish to include a definition for the operation “Degassing”. A definition will be composed in the next meeting of the Group.

6. The entrance to enclosed spaces on board like the cargo tanks and hold spaces

The Informal Working Group at first mainly considered the provisions relevant for dry cargo vessels (ADN 7.1.3).

It concluded that in provisions where the words “dangerous substances” was mentioned (ADN 7.1.3.1.5, 7.1.3.1.6, 7.1.3.1.7) this should be made more explicit by writing “flammable or toxic gases”. There was also agreement on the basic principle that when entering the cargo hold (or other spaces where flammable or toxic gases could be present) without a self contained breathing protection, a measurement should be undertaken not only for EX or TOX as is obliged in the current ADN, but also for oxygen. This should be added in ADN 7.1.3.1.5 and ADN 7.1.3.1.7.

The current provisions in ADN 7.1.3 on entering the cargo holds are not always logically ordered. The Informal Working Group agreed to reorder the provisions for a more easy understanding. A proposal to change this (including the merger of the current 7.1.3.1.6. and ADN 7.1.3.1.7 will be discussed during the next meeting of the Group. For the provisions on entering cargo tanks (ADN 7.2.3) the same conclusion was drawn.

A lively discussion was carried out about the required amount of oxygen and when “there is no lack of oxygen”. The German delegate pointed out, that there is a clear regulation within the framework of national and presumably European workers protection law. In conformity to this, German persons - approved by the competent authority to certify the status “gas free” - demand an amount of 20.9 or 21 vol.-% oxygen. Other participants were of the opinion, that this should be evaluated case by case.

7. Hot work on board

To a lesser extent, ADN 8.3.5. involving hot work on board was discussed. In ADN 8.3.5. it is allowed only to do hot work on board when there is a certificate that the vessel is totally gas free. For the time being, no changes were found necessary to the current ADN 8.3.5.

### **III. Request for interpretation**

8. The working group would like the ADN Committee to confirm that their interpretation of ADN 7.2.4.22.2 is correct i.e. for the operation of opening the cargo tank covers or the housing of flame arresters a cargo tank is to be considered “degassed” of EX-substances when the percentage LEL is below 10%.

#### IV. Proposed changes to the English language version

9. Corresponding the remarks under 5.c. of the document the Informal Working Group proposes to amend the current second sentence of ADN 7.2.4.22.2 and the section 7.3.7 only in the English language version. In ADN 7.2.4.22.2 the text in the second paragraph is:

“(…)

*When in column (17) of Table C of Chapter 3.2 anti-explosion protection is required, the opening of cargo tank covers or of the housing of the flame arrester for the purpose of mounting or removing the flame arrester plate stack in unloaded cargo tanks shall be permitted only if the cargo tanks in question have been gas-freed and the concentration of flammable gases in the tanks is less than 10% of the lower explosive limit.* “

The proposal is to change this into:

“(…)

*When in column (17) of Table C of Chapter 3.2 anti-explosion protection is required, the opening of cargo tank covers or of the housing of the flame arrester for the purpose of mounting or removing the flame arrester plate stack in unloaded cargo tanks shall be permitted only if the cargo tanks in question have been ~~gas-freed~~ degassed and the concentration of flammable gases in the tanks is less than 10% of the lower explosive limit.”*

The Informal Working Group further proposes to change in all the provisions belonging to paragraph 7.2.3.7 of the English translation of the ADN the words “Gas-freed” into “Degassed” and “gas-freeing” into “degassing”.

#### III. Further process

10. The second meeting of the informal working group on degassing of cargo tanks is scheduled on the 10<sup>th</sup> and 11<sup>th</sup> of September at the Bundesministerium für Verkehr und Digitale Infrastruktur in Bonn, Germany.
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