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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)

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Geneva, 22–26 January 2024

Item 5 (c) of the provisional agenda

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

ADN 7.2.4.22: Opening of openings

Transmitted by the Government of Germany* **

Introduction

1. During its forty-second session, the Safety Committee already considered a request from Germany for a comprehensive update of the provisions relating to “opening of orifices”, subsection 7.2.4.22 (document ECE/TRANS/WP.15/AC.2/2023/47). It approved the concept and validated certain proposed changes without reservation. For certain other detailed proposals – 7.2.4.22.1, 7.2.4.22.6, 7.2.4.22.8, 7.2.4.22.10, 7.2.4.23.1.1, 7.2.4.23.2.3, 7.2.4.23.2.4 and 7.2.4.23.2.6 – Germany was invited to produce a new revision, taking into account the indications and comments made by other delegations during the meeting. Germany was happy to follow up on that request.

3. To avoid repetition, we refer you to document ECE/TRANS/WP.15/AC.2/2023/47, which sets out the reasons behind this initiative and the justification for these fundamental changes. Only the reasons for the latest revisions are given below.

4. The deletion of certain proposed amendments means that a new 7.2.4.23 can be dispensed with.

I. Proposal

5. Germany requests the Safety Committee to approve the following proposed amendments.

* Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR-ZKR/ADN/WP.15/AC.2/2024/7.

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



1.2.1 Definitions

6. In 1.2.1, in the definition of “sampling opening,” add the following sentence at the end:

“Other cargo tank openings, except cargo tank hatches, shall be deemed to be a sampling opening if they comply with the aforementioned requirements.”

7.2.3.7.1.3 Degassing of cargo tanks into the atmosphere

7. After the first sentence of 7.2.3.7.1.3, insert the following sentences:

“The gas/air mixture from cargo tanks may only be discharged into the atmosphere

- (a) Through the device for the safe depressurization of cargo tanks (see 9.3.2.22.4 (a), 9.3.2.22.4 (b), 9.3.3.22.4 (a), 9.3.3.22.4 (b)), or
- (b) Through the sampling opening (see (9.3.2.21.1 (g), 9.3.3.21.1 (g)), or
- (c) Through the open housing of the flame arrester at the connection point of the cargo tank and the venting piping (see 9.3.2.22.4 (b), 9.3.3.22.4 (d)), or
- (d) Through a suitable hose that is connected to the venting piping and equipped with a flame arrester preceding the hose (explosion group/subgroup according to column (16) of Table C of Chapter 3.2).”

7.2.4.22 Opening of openings

8. Amend 7.2.4.22 (“Opening of openings of cargo tanks”), to read as follows:

“7.2.4.22 Opening of openings of cargo tanks (general)

7.2.4.22.1 Section 7.2.4.22 applies only to type N and type C tank vessels.

By way of derogation from 7.2.3.22 and provided that this is not prohibited by other legal requirements, the opening of cargo tank openings, including when the tanks have not been unloaded, degassed or are not gas-free,

- For cleaning and replacement of flame arrester plate stacks,
- For visual inspection from the deck,
- For sampling,
- For the connection of a tank washing system,
- For gas measurement,
- For the determination of the filling quantity in a cargo tank in exceptional cases, and
- For the subsequent addition of stabilizer in exceptional cases,

is authorized in the following conditions:

7.2.4.22.2 Opening of cargo tanks is permitted only if the vessel is not connected to the shore facility or if the shut-off devices of the vessel and the shore facility are closed.

Opening of openings of cargo tanks is permitted only after the depressurization of the relevant cargo tanks by means of the device for the safe depressurization of cargo tanks prescribed in 9.3.2.22.4 (a) and 9.3.2.22.4 (b) or 9.3.3.22.4 (a) and 9.3.3.22.4 (b).

When explosion protection is required under column (17) of Table C of Chapter 3.2, the opening of cargo tank hatches shall be permitted only if the cargo tanks in question are discharged and the concentration of flammable gases in the tank is less than 10% of the lower explosive limit of the cargo/previous cargo. The results of the measurements shall be recorded in writing. Entry into these cargo tanks is not permitted for the purpose of measuring.

7.2.4.22.3 Opening of openings of cargo tanks loaded with substances for which marking with one or two blue cones or one or two blue lights is prescribed in column (19) of Table C of Chapter 3.2 shall be permitted only when loading has been interrupted for not less than 10 minutes.

7.2.4.22.4 For the replacement of flame arrester plate stacks for the purpose of cleaning or replacement with flame arrester plate stacks of the same design, the following conditions shall be met:

(a) Cleaning and replacing of the flame arrester plate stack shall be carried out only by trained and qualified personnel;

(b) Opening is permitted only when the relevant cargo tanks are discharged and the concentration of flammable gases in the cargo tank is less than 10% of the lower explosive limit of the cargo/previous cargo;

(c) The results of the measurements shall be recorded in writing.

7.2.4.22.5 For repairs on the flame arrester housing, 8.1.7.3 shall apply.

7.2.4.22.6 Visual inspection of the cargo tank from the deck, determination of the cargo tank filling level and subsequent addition of stabilizer are only permitted via the sampling outlet.

7.2.4.22.7 Sampling shall be permitted only by means of the sampling device prescribed in column (13) of Table C of Chapter 3.2 or a device ensuring a higher level of safety.

7.2.4.22.8 In the event of a proven and unexpected failure of the closed or partially closed sampling device connection (see 9.3.x.21.1 (g)), which cannot be remedied immediately, sampling shall be permitted via the open sampling outlet. The occurrence of a fault and the use of the sampling outlet must be recorded [in writing] by the master and confirmed in writing by the person appointed by the filler or unloader.

7.2.4.22.9 The operations for the opening of openings shall be carried out using only appropriate low-sparking hand tools.

[In the English and French versions, the expression "hand tools"/"outils à main" are to be retained.] On board vessels covered by the classification of zones as defined in section 1.2.1, all electrical and non-electrical appliances and devices used for activities on open cargo tanks shall meet the requirements for use in zone 0.

7.2.4.22.10 The duration of opening shall be strictly limited to the time necessary for the activities listed in 7.2.4.22.1. Opening the cargo tanks immediately before and after a thunderstorm shall be prohibited.

7.2.4.22.11 The working instructions concerning explosion protection in accordance with 1.3.2.5 shall be available and applied on board.

7.2.4.22.12 Persons who open openings or who are in the immediate vicinity of an opening shall use the equipment prescribed in column (18) of Table C of Chapter 3.2.

7.2.4.22.13 The requirements of 7.2.4.16.8 apply by analogy to visual inspection, filling level determination, gas measurement or stabilizer addition operations after loading.

7.2.4.22.14 If the quantity of the cargo measured by the filler differs from the quantity determined on board by means of measuring instruments, the filling quantity in the cargo tank may be determined manually via the sampling opening using a measuring tape and a thermometer.

The measuring instruments used for determining the filling quantity in cargo tanks shall consist of electrostatically conductive material and shall be electrically connected to the vessel's hull during measuring. The measuring instrument shall be suitable for use in zone 0.

7.2.4.22.15 If an unforeseen extension of the navigation time requires the addition of extra stabilizer to one or more cargo tanks during transport, this is only permitted through the sampling opening. Electrostatic charges shall be prevented.

7.2.4.22.16 The requirements in accordance with 7.2.3.1.4 shall apply additionally for gas measurement.”

7.2.4.22.17 The sampling receptacles including all accessories such as ropes, etc., shall consist of electrostatically conductive material and shall be electrically connected to the vessel’s hull.

7.2.4.22.18 When closing the sampling opening or the flame arrester housing, the flame arrester should be checked for damage, soiling and correct installation and be repaired, where necessary, before the journey is continued.

7.2.4.22.19 The requirements of 7.2.4.22.1 to 7.2.4.22.11 and of 7.2.4.23 shall not apply to oil separator or supply vessels.

7.2.4.22.20 To wash cargo tanks, only the special connection opening for tank washing systems provided for this purpose on the cargo tank may be used.”

8.6.4 Checklist degassing to reception facilities

9. In 8.6.4 (Checklist degassing to reception facilities), amend question No. 10, as follows:

“Are all cargo tank hatches and other cargo tanks openings closed or, if appropriate, protected by flame arresters in good condition?”

II. Justification

7.2.3.7.1.3

10. As agreed at the forty-second session, the square brackets have been removed from the previous proposal.

7.2.4.22.1

11. The text has been reworded to make a clear distinction in all language versions between the “objectives of opening” and the “conditions” that follow.

12. In addition, for clarification purposes, it has been added that opening for the above-mentioned purposes must also be possible in the case of cargo tanks which are not yet unloaded, are not empty and have not been degassed.

7.2.4.22.6 and 7.2.4.22.7

13. As there are two separate paragraphs for sampling via the open sampling outlet, it was possible to delete it at the beginning of the list in 7.2.4.22.6. Section 7.2.4.22.7 is identical to 7.2.4.23.2.2 of the previous proposal.

7.2.4.22.8

14. This paragraph takes account of certain concerns expressed by other delegations according to which this possibility could be the subject of excessive and abusive use. It is specified that it applies only in the event of failure of the connection elements of the sampling devices permanently fixed to the cargo tanks. Repairs cannot be carried out on them when the cargo tanks are full. On the other hand, in the event of failure of the mobile sampling device (which is either brought on board the vessel by the carrier or by the person appointed by the filler to take samples), it may be required that it should be replaced by a device in working order before sampling can proceed.

7.2.4.22.10

15. In response to concerns expressed by some delegations about ports remaining open unnecessarily, even when cargo tanks have not yet been unloaded, the wording of this paragraph has been slightly modified: the duration of opening should be “strictly limited to the time necessary”.

16. Compared with the original German-language version of the proposal contained in ECE/TRANS/WP.15/AC.2/2023/47, the French, English and Russian translations contained a typing error; “column (16)” should be replaced with “column (18)”.

7.2.4.22.15

17. The manufacturer, shipper or filler shall be responsible for adding stabilizers to the cargo. (See, for example, note 33 (n) in column (20) of Table C). However, it can happen that, for example, if the duration of navigation is longer than expected (closed lock, etc.), the effect diminishes, making it necessary to add more stabilizer. Tank vessels do not carry reserves of stabilizer, as they have no additional tank suitable for this purpose and they have no piping system for introducing stabilizer into filled tanks.

18. In this case, the master or carrier must inform the manufacturer, shipper or filler of the need to bring additional stabilizer on board. The addition of this stabilizer to the tank contents is then only possible via the sampling port (or an equivalent port).

Safety:

19. The improvements made to the requests for amendments, as described above, either have no impact on safety or provide minor improvements to the safety measures.

Feasibility:

20. No unreasonable or impractical measures are required.

Sustainability:

21. Please refer to the details given in the original request, contained in document ECE/TRANS/WP.15/AC.2/2023/47.
