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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)****Fortieth session**

Geneva, 22–26 August 2022

Item 4 (b) of the provisional agenda

**Proposals for amendments to the Regulations annexed to ADN:
other proposals****Degassing of inland waterway tank vessels at a reception facility — spring loaded low-pressure valve****Transmitted by the governments of Germany and the Netherlands* *****Summary*

Related documents: ECE/TRANS/WP.15/AC.2/2020/36 – (Netherlands)
ECE/TRANS/WP.15/AC.2/2021/3 – (Germany)
ECE/TRANS/WP.15/AC.2/76, paras. 67-70 – Report of the thirty-seventh session

Introduction

1. Based on documents ECE/TRANS/WP.15/AC.2/2020/36 and ECE/TRANS/WP.15/AC.2/2021/3 the Safety Committee discussed at its thirty-seventh session some amendments proposed to improve the provisions on degassing of cargo vessels at degassing facilities. On the proposals for an additional valve in the opening for intake of ambient air into a cargo tank that is being degassed, the Safety Committee requested an additional document to take a decision.

2. The Safety Committee came to the following conclusions:

“69. The Safety Committee agreed that the installation of low-pressure valves or additional vacuum valves is not a mandatory requirement. The representative of

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** A/76/6 (Sect.20), para. 20.76.



Germany underlined the need to clarify the provisions on degassing of vessels at the reception facilities.

70. The Safety Committee agreed to have a final review of the proposals its next session.”

3. In bilateral talks and with the involvement of representatives of the European Barge Union (EBU) and European Skippers Organisation (ESO), Germany and the Netherlands reconsidered their previous documents and are asking the Safety Committee to discuss the following amended approach. The main justification given in paragraphs 4 and 5 of document ECE/TRANS/WP.15/AC.2/2021/3 (Germany) remains valid.

Proposals for amendments

(new text in bold and underlined, deleted text in strikethrough)

4. Amend 1.4.2.2.1, subparagraph (i), to read as follows:

“ascertain that during loading, carriage, unloading, **degassing** and any other handling of the dangerous goods in the holds or cargo tanks, special requirements are complied with;”.

5. Amend 1.4.3.8.1, subparagraph (b), to read as follows:

“Ascertain that, when prescribed in 7.2.3.7.2.3, there ~~is a~~ **are** flame arresters **in all** the piping of the reception facility which is connected to the degassing vessel, to protect the vessel against detonations and passage of flames from the side of the reception facility.”.

6. Amend 7.2.3.7.2.3 to read as follows:

“Degassing to reception facilities may be carried out by using the piping for loading and unloading or the venting piping to remove the gases and vapours from the cargo tanks while using the other piping respectively to prevent exceedance of the maximum permissible overpressure or vacuum of the cargo tanks.

Piping shall be part of a closed system or, if used to prevent exceedance of the maximum permissible vacuum in the cargo tanks, be equipped with ~~a permanently installed or portable spring loaded low pressure valve~~ **an additional permanently installed or portable vacuum valve in accordance with 9.3.2.62 or 9.3.3.62**, with a flame-arrester (Explosion group/subgroup according to column (16) of Table C of Chapter 3.2) if explosion protection is required (column (17) of Table C of Chapter 3.2). ~~This low pressure valve shall be so installed that under normal working conditions the vacuum valve is not activated.~~ A permanently installed valve or the opening to which a portable valve is connected, must remain closed with a blind flange when the vessel is not degassing to a reception facility.

All piping connected between the degassing vessel and the reception facility shall be equipped with an appropriate flame arrester if explosion protection is required in column (17) of Table C of Chapter 3.2. The requirements for piping on board shall be: Explosion group/subgroup according to column (16) of Table C of Chapter 3.2.”.

7. Amend 8.6.4, question 6.2, and add footnote *** as follows:

<p>6.2 (a) <u>Is the air inlet for equalization of pressure in the cargo tank part of a closed system or is it equipped with an additional vacuum spring-loaded low-pressure valve on board of the vessel?</u></p>	<p><u>O**</u></p>	<p><u>O**</u>, <u>***</u></p>
<p><u>6.2 (b) Is the air inlet for equalization of pressure in the cargo tank part of a closed system or is it equipped with an additional vacuum valve on shore?</u></p>		

- * *Not applicable if vacuum is used to generate air flows.*
- ** *Only applicable if vacuum is used to generate air flows.*
- *** Only applicable if air inlet is in piping of the shore-based reception facility.**

8. Delete 9.3.1.62.

9. Replace 9.3.2.62 and 9.3.3.62 with the following new text (for “x” read 2 or 3):

“9.3.x.62 Additional vacuum valve for degassing to reception facilities

An opening in the loading and unloading piping or in the venting piping, used at reception facilities to take in ambient air to prevent exceedance of the maximum permissible vacuum (see 7.2.3.7.2.3), shall be fitted with an additional portable vacuum valve or an additional permanently installed vacuum valve. When the intake of ambient air is done with a hose ending shoreside, the open end of the hose shall be equipped with such a valve in the same manner.

The trigger pressure of the additional vacuum valve shall be adjusted so that under normal working conditions the vacuum valve referred to in 9.3.x.22.4 is not activated during degassing.

If the vessel’s substance list according to 1.16.1.2.5 contains substances for which explosion protection is required in column (17) of Table C of Chapter 3.2, the valve shall be fitted with a flame arrester capable of withstanding a deflagration. When the vessel is not degassing to a reception facility, the permanently installed valve or the opening to which a portable valve is connected shall be closed with a blind flange.

NOTE: 7.2.4.22.1 applies for the opening of this opening.”

Justification

10. The proposed amendments reflect the necessity to refrain from requiring the additional vacuum valve to be “spring-loaded”, as it is not feasible in practice to have a spring-loaded low-pressure valve that is so installed that it prevents the opening of the vacuum valve under normal working conditions. Furthermore, the amendments aim to clarify that the additional vacuum valve shall be used in cases no air flow is provided from shore during degassing at the opening that is used for intake of ambient air with the purpose to prevent undesirable negative internal pressure within the cargo tank. The proposed amendments in paragraphs 6, 7 and 9 above reflect this.

11. The amendments in paragraph 4 above clarifies the responsibility of the carrier, since it is not obvious that “degassing” can be seen as part of “other handling of the cargo”.

12. The amendment in paragraph 5 above reflects the possibility that more than one piping from the reception facility can be connected to the ship during a degassing operation.

14. The first amendment in 7.2.3.7.2.3 reflects the renaming of the spring-loaded low-pressure vale into the additional vacuum valve. Secondly, it is proposed to shift the requirement for the trigger pressure and the closure of the permanently installed additional vacuum valve or the opening for the portable vacuum valve with a blind flange to Chapter 9.

15. The proposed amendments to 8.6.4 means a clarification and consequential amendment to rewording of 9.3.x.62.

16. The new wording of paragraphs 9.3.2.62 and 9.3.3.62 contents the following amendments:

- In the English text, “aperture” is replaced by “opening”, which term is usually used in the ADN;
- The text is clarified, as the opening on board the vessel is used for intake of ambient air and not for extraction of gas/vapours out of the cargo tank;
- Germany and the Netherlands are informed, that sometimes the reception facilities provide two hoses to the vessel to be connected to the cargo tank. One hose is meant for the extraction of gas/vapours out of the cargo tank, while the other hose is lead to shoreside where it is used for intake of ambient air. As the same dangers and risks appears with this procedure, it is proposed to protect the shoreside end of the hose in the same way.

17. Type G vessels do not degas using an additional vacuum valve to take in ambient air to prevent an exceedance of the maximum permissible vacuum. Therefore, the requirements for the additional vacuum valve are not necessary to be included in Chapter 9.3.1.

Feasibility

18. This proposal aims to rectify the naming of the valve that shall be used during degassing at the opening in the piping used to prevent an undesirable under pressure. The valve cannot be spring-loaded and prevent the activation of the vacuum valve at the same time; without the spring (using other techniques such as weight/gravity) allows an earlier opening than the regular vacuum valves. Therefore, this proposal increases the feasibility of the ADN. All other proposals are consequential amendments or clarifications.

Enforceability

19. By no longer naming the valve a spring-loaded valve, the enforceability of ADN is increased since the impossibility of a spring-loaded low-pressure valve that prevents the activation of the vacuum valve is removed from ADN.

Action to be taken

20. The Safety Committee is invited to consider the proposed amendments in paragraphs 4 to 9 above, and to take action as it deems appropriate.
