

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

22 March 2023

Joint Meeting of the RID Committee of Experts and the
Working Party on the Transport of Dangerous Goods

Bern, 20-24 March 2023

Item 2 of the provisional agenda:

Tanks

Report of the Working Group on Tanks

1. The Working Group on Tanks met from 20 to 22 March 2023 on a hybrid basis on the mandate from the RID/ADR/ADN Joint Meeting, under the chairmanship of Mr. Arne Bale (United Kingdom), with Mr. Kees de Putter (Netherlands) as secretary. The relevant documents were submitted to the Working Group for consideration.
2. For the Working Group on Tanks, 26 experts from 11 countries and 5 non-governmental organizations participated. They dealt with the following official and informal documents:

Documents: ECE/TRANS/WP.15/AC.1/2023/3 (OTIF)
ECE/TRANS/WP.15/AC.1/2023/16 (Poland)

Informal documents: INF.5 (OTIF)
INF.7 (OTIF)
INF.12 (Chair of the Working Group on Standards)
INF.21 (Netherlands)
INF.26 (France)
INF.33 (France)
INF 38 (United Kingdom)

Section 1: Amendments that may be approved for inclusion in RID/ADR 2025.

Item 1 —Rationalized approach for assignment of tank codes to groups of substances in 4.3.4.1.2.

Document: ECE/TRANS/WP.15/AC.1/2023/3 and INF 7 - OTIF

3. The proposed amendments in document 2023/3 to the rationalized approach of 4.3.4.1.2 were supported by consensus. Concerning the proposed amendments in INF 7 three additional UN numbers were identified (UN3405, UN 3406 and UN3408) with classification code OT1 Packing group II and III for which tank code L4BN and LGBV respectively would be appropriate.

Proposal 1 - Amend the table of 4.3.4.1.2 to read (deleted text stricken through, new entry in Italic script underlined):

LGBV	4.1	F2	II, III
	5.1	O1	III
		<u>OT1</u>	<u>III</u>
	9	M6	III
		M11	III
and groups of permitted substances for tank code LGAV			

L1.5BN	3	F1	II sure at 50 °C > 1.1 bar
		F1	III < 23 °C, viscous, sure at 50 °C > 1.1 bar boiling point > 35 °C
		D	II sure at 50 °C > 1.1 bar
and groups of permitted substances for tank codes LGAV, LGBV and LGBF			

L4BN	3	F1	I, III boiling point ≤ 35 °C
		FC	III
		D	I
	5.1	O1	I, II
		OT1	I
		OTI	II
"Rest unchanged...."			

Item 2 - Special provision TE 16 for items of equipment for tanks

Document: - INF 5 – (OTIF)

4. It was felt that the use of wood in the construction of tank wagons is very unlikely and there is no equivalent provision in ADR for tank-vehicles. There was consensus in the working group that this special provision could be deleted.

The OTIF secretariat is kindly requested to bring this to the attention of the RID standing working group.

Proposal 2 – delete TE 16 in 6.8.4 (b) of RID and delete the reference from column (13) table A of 3.2. for UN Nos. 1745, 1746, 1873, 2015 (twice) and 2495.

“TE 16 No part of the tank wagon may be of wood, unless this is protected by a suitable coating. (Deleted)”

Item 3 - Report of the Working Group on Standards

Document: - INF 12

5. Concerning the application of the new entry for EN 14129:[2023] in column 3 in the table of 6.8.2.6.1, it was decided that the reference to 6.8.2.2.1 could be deleted and then there would be consistency with the earlier entry of the standard from 2014.

Proposal 3

EN 14129: [2023]	LPG Equipment and accessories - Pressure relief valves for LPG pressure vessels.	6.8.2.1.1 6.8.2.2.1 and 6.8.3.2.9	Until further notice
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Item 4- Amendment to 6.8.2.1.23 on welding

Document: - INF 26 – (France)

6. Based on discussions in CEN/TC 296 Working Group 3, concerning the modification of EN 14025, the proposed note to 6.8.2.1.23 was felt to be necessary. For welding procedures two different systems could be used, with slightly different results possible. Introduction of the note would help ensure correct application of the impact-strength tests. The proposed wording was accepted with a slight modification.

Proposal 4- Introduce a note after the first paragraph of 6.8.1.23 to read:

"NOTE: When 6.8.5 is applicable, the impact-strength tests carried out for the qualifications of the welding process shall comply with the requirements of 6.8.5.3."

Item 5 - Requirements in RID/ADR 6.8.2.2.11 for level-gauges

Document: - INF 38 – United Kingdom

7. Based on discussions at previous sessions of the Working Group on Tanks the proposal for 6.8.2.2.11 was provided in a late informal document. Although there was agreement that the transparent parts through which you can see the substance in the shell should not be allowed in 6.8, a long discussion took place to prevent misinterpretation. It was decided not to specify when transparent parts are permitted, such as protective transparent parts of dials of level-gauges, transparent parts in the manhole cover of tanks for liquid petroleum products or in service equipment downstream of the first closure.

8. It was decided to support the amendment for approval, but keeping it in square brackets to allow for final approval at the next session of the Joint Meeting.

Proposal 5- Replace the current 6.8.2.2.11 with the following wording:

6.8.2.2.11 [*"Level-gauges shall neither be part of, nor fitted to shells, if they incorporate transparent material which can, at any time, come into direct contact with the substance carried in the shell."*]

Proposal 6 - Introduce the following transitional measures to read:

(RID:)

[*"1.6.3.xx Tank-wagons constructed before 1 July 2025 in accordance with the requirements in force up to 31 December 2024, but which however do not conform to the requirements of 6.8.2.2.11 applicable from 1 January 2025 may continue to be used."*]

(ADR:)

[*"1.6.3.xx Fixed tanks (tank-vehicles) and demountable tanks constructed before 1 July 2025 in accordance with the requirements in force up to 31 December 2024, but which however do not conform to the requirements of 6.8.2.2.11 applicable from 1 January 2025 may continue to be used."*]

(RID and ADR:)

[*"1.6.4.xx Tank-containers constructed before 1 July 2025 in accordance with the requirements in force up to 31 December 2024, but which however do not conform to the requirements of 6.8.2.2.11 applicable from 1 January 2025 may continue to be used."*]

Section 2: Results of discussion on other documents

Item 6 - Modification of the definitions of "FRP tank" and "FRP shell" in chapter 6.9 of RID/ADR 2023.

Document: ECE/TRANS/WP.15/AC.1/2023/16 (Poland).

9. It was recalled that this topic could be discussed in the Working Group on Tanks, but that amendments to 6.9 needed to be approved by the ECOSOC Sub-Committee of Experts on the Transport of Dangerous Goods. There was general agreement that the definitions of FRP shell and FRP tank required amendment to bring them into line with the general understanding and existing definitions of "shell" and "tank" in 1.2.1, 6.7 and 6.8.

10. A "shell" is the part of a tank that contains the substance carried, consisting of a cylindrical part, ends (closing the cylinder), openings and closures (e.g. manhole covers). However, it was remarked that the definition of FRP shell may have been written in such a way to allow also for an FRP cylinder with metallic ends. In addition, it was felt that the sequence of wording was such that it allowed only openings and closures of FRP material.

11. The following definitions were suggested for Poland to propose to the Sub-Committee:

“FRP shell means the part of the portable tank which retains the substance intended for carriage, consisting of a cylindrical section made of FRP material with FRP or metallic ends, including openings and closures, but does not include service equipment and external structural equipment;”

“FRP tank means a portable tank constructed with an FRP shell fitted with service equipment and structural equipment;”

Item 7- Actual holding time of tanks for refrigerated liquefied gases.

Document – INF 21 (Netherlands)

12. In document INF 21 the Netherlands raised issues concerning the actual and reference holding times based on the findings after incidents with premature activation of safety valves and a survey by the inspectorate on aspects concerning holding time of tanks for refrigerated liquefied gases.

13. UIC mentioned that it would forward an official document on this topic for tanks that were empty uncleaned to the September 2023 session of the Joint Meeting. However this would only deal with some of the issues raised in INF 21.

14. Some experts that took the floor confirmed the issues raised by the Netherlands and welcomed further development. It was also said that it was a complicated matter in practice as the relative pressure and temperature of the product could vary significantly. Also, there are other issues as to who would be responsible and who would be in a position to calculate the actual holding time.

15. Concerning the questions it was said that there were similar experiences but on a limited scale; that there is no global harmonized procedure; that the vacuum was not always measured during tests; and that acceptable levels of vacuum would depend on information provided by the original manufacturer.

16. It was suggested that the Netherlands continue developing ways to improve the situation with the industries involved and continue the discussion in the Autumn 2023 session of the Joint Meeting in combination with the document from UIC.

Item 8 – Dual Approval of tank-containers

Document – INF 33 (France)

17. The group agreed that there are problems with dual approval under 6.7 and 6.8 in terms of approval, approval numbers, inspection, use, marking, and identification of the type of tank. It was said that in some cases chapter 6.7 tanks are not accepted for inland transport without 6.8 approval. However, it was recognized, given the nature of the existing regime, that there are advantages for users to have dual approval.

18. During discussion, three ways of dealing with this issue were identified;

- continue with dual approval under conditions;
- forbid dual approval; or
- delete tank-containers from 6.8.

19. The first two options would require actions to solve particular issues. The third option was not acceptable as there are many tank-containers of limited size and tank swap bodies in service that depend on 6.8. On balance, most experts that took the floor expressed a preference to forbid dual approval under 6.7 and 6.8.

20. France took note of the comments made in the discussion for a future document.

Item 9- Any Other Business

“SV” mark according to 6.8.3.2.9.6

21. It was mentioned that some authorities require tanks with refrigerated liquefied gases to be marked with the “SV” mark of 6.8.3.2.9.6.

22. The application of safety valves for tanks for the carriage of refrigerated liquefied gases, including flammable gases, is not regulated in 6.8.3.2.9 but in 6.8.3.2.11 and 6.8.3.2.12. In 6.8.3.2.11 and 6.8.3.2.12 no reference is made to the marking of 6.8.3.2.9.6 and therefore the “SV” mark shall not be applied on these tanks.

23. Furthermore it was said that the subdivision of Class 2 in 2.2.2.1.2 is very clear as to what liquefied gases and refrigerated liquefied gases are, so no confusion exists on the applicability of either 6.8.3.2.9 or 6.8.3.2.11.

Accident involving an LPG tank-vehicle

24 Participants were made aware of an accident involving an LPG tank-vehicle in Johannesburg South Africa on 24 December 2022. There was an explosion after the tank-vehicle got stuck under a railway bridge. The industry and inspection bodies are reminded that for ADR tank-vehicles top protection of service equipment is mandatory.
