

**Economic and Social Council**Distr.: General
22 October 2018

Original: English

Economic Commission for Europe**Inland Transport Committee****Working Party on the Transport of Dangerous Goods****Joint Meeting of the RID Committee of Experts and the
Working Party on the Transport of Dangerous Goods****Report of the Joint Meeting of the RID Committee of Experts
and the Working Party on the Transport of Dangerous
Goods on its autumn 2018 session***

held in Geneva from 17 to 21 September 2018

Addendum****Annex I****Report of the Working Group on Tanks**

1. The Working Group on Tanks met from 17 to 19 September 2018 in Geneva on the basis of the mandate from the RID/ADR/ADN Joint Meeting, under the chairmanship of Mr. Arne Bale (United Kingdom) with Mr. K. de Putter (Netherlands) as secretary. The relevant documents were submitted to the plenary session and transferred to the Working Group for consideration.

2. The Working Group on Tanks, consisting of 25 experts from 12 countries, the European Union (European Commission and European Union Agency for Railways) and 4 non-governmental organizations, dealt with the following official and informal documents:

Documents: ECE/TRANS/WP.15/AC.1/2018/27 (France)
ECE/TRANS/WP.15/AC.1/2018/29 (France)

* Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2018-A. Unless otherwise indicated, the other documents referred to in this report under the symbol ECE/TRANS/WP.15/AC.1/ followed by the year and a serial number were circulated by OTIF under the symbol OTIF/RID/RC/ followed by the year and the same serial number.

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ECE/TRANS/WP.15/AC.1/2018/31 (The Netherlands)

Informal documents: INF.3 (Netherlands)
INF.7 (ITCO)
INF.9 (United Kingdom)
INF.11 (Switzerland)
INF.17 (United Kingdom)
INF.18 (France)
INF.20 (Poland)
INF.23 (European Union)
INF.25 (Poland)

Item 1 Certificates of building materials of tank

Document: ECE/TRANS/WP.15/AC.1/2018/27 (France)

3. The proposal by France seeks to amend 6.8.2.1.8 to include a requirement for a type 3.1 certificate in accordance with standard EN 10204 for the construction material of the shell.

4. It was said that although a reference was included in the tank construction standards, the latest revision of EN 14025 no longer contains this reference. The reference is deleted based on recent CEN drafting rules. Consultation with the CEN representative confirmed the new rules and the consequential deletion of the reference in the other tank construction standards when they are revised in future. It was said that it was possible to introduce a reference to the type 3.1 certificate in EN 12972 for inspection and testing of tanks.

5. It was agreed that a reference to a type 3.1 certificate would be most appropriate in the test standard rather than including it in 6.8.2.1.8. It was suggested to the Working Group on Standards that in the meantime, a note should be added to column 2 of the table in 6.8.2.6.1 for EN 14025:2018 in the 2021 version of RID/ADR to read: "Materials of shells shall at least be attested by a type 3.1 certificate issued in accordance with standard EN 10204."

Item 2 Amendments to the standards concerning tanks

Document: ECE/TRANS/WP.15/AC.1/2018/29 (France)

6. After a discussion in plenary it was decided that it was not feasible to introduce a reference to EN 12972:2018 before the 2021 edition of RID/ADR. As the reference to the 2007 edition is no longer in line with changes in the regulations, it was suggested that guidelines be published on the UNECE and OTIF websites to urge competent authorities of the contracting states/contracting parties to approve as soon as possible the use of EN 12972:2018 according to 6.8.2.7. The Working Group on Tanks was asked to draft the guidelines.

Proposal 1

Publish new guidelines on the OTIF and UNECE websites to read:

"Guideline for the application of EN 12972 (Tanks for transport of dangerous goods - Testing, inspection and marking of metallic tanks) for compliance with RID/ADR.

In order to comply with the requirements of RID/ADR, EN 12972:2007 referenced in RID/ADR 6.8.2.6.2 needs to be applied together with the requirements of RID/ADR in accordance with 1.1.5.

EN 12972:2018 has been published and it has been decided that this standard shall be referenced in the 2021 edition of RID/ADR.

To aid compliance with and consistent application of the 2019 edition of RID/ADR, competent authorities are encouraged to approve the use of EN 12972:2018 for the purpose of testing and inspection of tanks according to RID/ADR 6.8.2.7 as soon as possible but no later than 1 January 2020.”

Item 3 Fibre reinforced plastic (FRP) tanks, tank coding

Document: ECE/TRANS/WP.15/AC.1/2018/31 (Netherlands)

7. Due to the design criteria for FRP tanks and the selection criteria for the substances permitted in such tanks, substances with a calculation pressure of up to 4 bar may be carried in FRP tanks with a lower calculation pressure. Section 6.9.6 of RID/ADR requires that demountable tanks and tank-containers bear a tank code according to 6.8.2.5.2. At the 2017 autumn session of the Working Group on Tanks it was decided that a tank code containing the calculation pressure of the substance to be carried, rather than the calculation pressure of the tank, would be the best solution to help the filler.

8. Although it was found that only a limited number of countries had experienced problems with the different calculation pressures in the tank codes the majority of the experts supported the principles of the proposals. The Working Group considered, however that proposal 2 in the document was superfluous and decided to delete it. Proposals 1 and 3 were accepted with some editorial amendments.

Proposal 2

Introduce a new third indent to 6.9.6.1 to read (new wording in *italic script*):

“6.9.6.1 The requirements of 6.8.2.5 shall apply to the marking of FRP tanks, with the following amendments:

- the tank plate may also be laminated to the shell or be made of suitable plastics materials;
- the design temperature range shall always be marked;
- *the second part of the tank code where a tank code is applicable according to 6.8.2.5.2 shall be that of the highest value of the calculation pressure for substance(s) permitted for carriage in the type approval certificate.”.*

Proposal 3

Introduce a new transitional measure in 1.6.4.yy (RID) and 1.6.3.xx (ADR) to read (new wording in *italic script*):

“1.6.4.yy/1.6.3.xx FRP tanks constructed before 1 July 2021 in accordance with the requirements in force up to 31 December 2020 but which do not meet the requirements for the marking of the tank code of 6.9.6.1 applicable as from 1 January 2021 may continue to be marked in accordance with the requirements applicable up to 31 December 2020 until the next periodic inspection after 1 July 2021.”.

Item 4 Presentation of a product to mitigate liquid surge

Informal document: INF.3 (Netherlands)

9. The presentation explained that the kinetic energy present in a liquid in a tank at speed has to be absorbed while the tank-vehicle is slowing down. During deceleration, the liquid tends to keep on moving until hitting the front (wall) of the tank or compartment, thus creating a pulse and waves running front to back and vice-versa, until the internal friction in the substances has absorbed the kinetic energy. Reducing the capacity of the tank sections and the volume of the filled substance limits the development of a pulse, and surge plates help to

absorb the kinetic energy of the substance while decelerating. Research has led to the development of a system with a pressurised bag with a gas on top of the liquid inside the tank, preventing the movement of the substance while the kinetic energy is absorbed by the vehicle brakes as an alternative to limitations in capacity of the tank sections and volume of the filled substances. Elimination of the pulse improves vehicle stability. The system is said to eliminate the pulse by the liquid and prevents sideways sloshing while cornering, lowering the risk of overturning.

10. The presentation was given by Mr. Eenkhoorn (Netherlands) who did the research and developed a system of stabilizing bags. Several issues were raised and discussed regarding for example; cleaning, filling degree, permeability and chemical resistance of the material, lifetime of the material, fire conditions, pressure release and inspections. The thesis resulting from the research containing more detailed information was made available to the participants of the working group for further consideration.

11. It was said that this was new, innovative technology that had the potential to improve safety during transport and could be used in areas other than the transport of dangerous goods. In addition to the possibility of improving safety, the system might also have economic and environmental advantages. It was felt that the particular issues pertaining to the carriage of dangerous goods should be considered in more detail.

Item 5 Amendment of Section 1.2.1 – Definitions

Informal document: INF.7 (ITCO)

12. Tank-containers and portable tanks are in many cases owned by investment companies that register the tank. The tanks are rented out or leased to an operator that uses the tank. The definition of tank-container/portable tank operator says that the operator is any enterprise that has registered the tank. However, most tank-containers/portable tanks are registered by the owner, not by the operator. This can cause misunderstanding with the enforcement authorities who are required to address the responsible party.

13. It was pointed out that the regulations do not place any specific obligations upon the owner and that introducing a definition of “tank-container/portable tank owner” would be of no additional value. The proposed amendment to the definition of “tank-container/portable tank operator” was agreed as follows (new wording underlined-deleted wording ~~crossed out~~):

- “Tank-container/portable tank operator” means any enterprise in whose name the tank-container/portable tank is used and operated ~~registered~~.

14. In RID, the definition also applies to operators of tank-wagons. An amendment in line with that for portable tanks/tank-containers would entail consequential amendments for tank-wagons where the term “keeper” is also used, which is defined in the Convention concerning International Carriage by Rail (COTIF).

15. ITCO was invited to submit an official document for a future session.

Item 6 Report of the eighth meeting of the informal working group on the inspection and certification of tanks

Informal documents: INF.9 (United Kingdom)
INF.23 (European Union)

16. The chair of the informal working group on the inspection and certification of tanks gave an overview of the work done at the eighth meeting in London on 2 to 4 May, and its subgroup dealing with 1.8.6 in Prague. In particular it was recalled that administrative systems were foreseen to allow for a national system for the appointment of inspection bodies

as an alternative to accreditation to EN ISO/IEC 17020. Due to time restraints consequential work on 1.8.7 and 6.8 was deferred to the next session.

17. In informal document INF.23 the European Commission raised concerns on some of the terminology used which, in its view, would be inappropriate given the legal texts of the European Union. In particular, the use of the term “mutual recognition” and “carriage” was mentioned. With regard to “mutual recognition”, the chair of the informal working group said that in UNECE vehicle regulations the term “reciprocal recognition” was used which might overcome any confusion.

18. It was pointed out that the current proposals were more appropriate for ADR than RID and that more work was needed to take into account the periodic inspection of tank wagons outside the country of registration. It was recognized that more input was required from RID experts but a decision would be made later as to how best to obtain this input. It was also recognized that the work needed to take into account the 4th railway package.

19. The next meeting of the informal working group is planned for 10 to 12 December in London and the revised 1.8.6 from the sub-group will be reviewed. The plan is to submit a definitive text for the spring 2019 session of the Joint Meeting. The working group on tanks supported continuation of the work subject to the endorsement of the Joint Meeting.

Item 7 Filling of shells having sections of more than 7500 litres capacity

Informal document: INF.11 (Switzerland)

20. According to 1.4.3.3 (e) the filler of a tank, battery-wagon/battery-vehicle or multiple element gas container (MEGC) is obliged to check that overfilling is prevented. 4.3.2.2.4 also prescribes a minimum degree of filling in cases the tank is not divided into sections of 7500 litres capacity or less in order to limit surge. The proposal was to delete the term “maximum” from the wording in 1.4.3.3 (e) in order to oblige the filler also to observe the minimum degree of filling when this is applicable.

21. It was recalled that the list of obligations is not exhaustive, which can be concluded from the wording “in particular”, and it was not essential to amend the text. However, there was general support among the experts for the proposal made in the document.

Proposal 4

Amend 1.4.3.3 (e) to read (deleted wording ~~crossed out~~):

“(e) He shall, during the filling of the tank, observe the ~~maximum~~ permissible degree of filling or the ~~maximum~~ permissible mass of contents per litre of capacity for the substance being filled;”.

Item 8 Tanks: Clarification of protection required for fittings and accessories mounted on the upper part of vacuum-operated waste tanks⁴

Informal document: INF.17 (United Kingdom)

22. At the Spring session of the Joint Meeting the question was raised in the Working Group on Tanks as to whether 6.8.2.1.28, concerning the protection of equipment on top of the tank against damage by overturning, was completed or modified by the requirements of Chapter 6.10. During a brief exchange of views it was clear that opinions varied between experts. As the question raised was not based on a written document the United Kingdom submitted informal document INF.17 to facilitate further discussion.

23. It was explained that the regulations deal with two scenarios. The first in 6.8.2.1.28 requires the fittings and accessories on top of the tank to be protected against damage caused by overturning and the second in 6.8.2.2.1 requires items of equipment to be protected against

the risk of being wrenched off or damaged during carriage or handling. In the second case, the requirement can be met by 6.10.3.1 which allows the items of equipment to be placed in a so called “protected area”. However, the regulations might be misunderstood. In an earlier discussion in the Working Group on Tanks during the autumn 2011 session the majority of experts were of the opinion that 6.8.2.1.28 and TE19 applied to vacuum-operated waste tanks.

24. Some experts said it was common practice in their countries not to fit roll-over protection as protection was provided by placing the equipment within “protected areas”, while other experts said the contrary. It was said that in some cases roll-over bars restricted the movement of suction arms, equipment was felt to be protected by suction arms or the inherent design of the tank-vehicle, the abundance of equipment on top of the tank prevented the fitting of suitable protection, and the stability of the tank-vehicle in operation was considered to be less sensitive to overturning. However other types of vacuum operated waste tanks, such as demountable tanks and tank-containers may lack such protection by the vehicle or are more sensitive to damage by overturning.

25. Taking into account the different views, it was decided that further discussion on this topic would benefit from an official document which the United Kingdom agreed to submit for a future session.

Item 9 Inspections and tests of battery-wagons/battery-vehicles and MEGCs

Informal documents: INF.18 (France)
INF.25 (Poland)

26. Battery-wagons/vehicles and MEGCs consisting of tanks must be periodically inspected. With regard to the periodicity, references are contained in 6.8.3.4.12 to 6.8.3.4.6. However, 6.8.3.4.6 prescribes the particular periodicity of inspections for cryogenic tanks. Because refrigerated liquefied gases are not permitted in battery wagons/vehicles and MEGCs, the normal periodicity in 6.8.2.4 would apply. The proposed correction, including the addition proposed in informal document INF.25, to include a reference to 6.8.2.4.3, was accepted.

Proposal 5

Amend the penultimate sentence of 6.8.3.4.12 to read (new wording underlined, and deleted wording ~~crossed out~~):

“Battery wagons/vehicles and MEGCs the elements of which are tanks shall be inspected according to ~~6.8.3.4.6~~ 6.8.2.4.2 and 6.8.2.4.3”.

Item 10 Carriage of tanks, battery wagons/battery-vehicles and MEGCs after the date of expiry of the last intermediate inspections

Informal document: INF.20 (Poland)

27. Paragraph 4.3.2.3.7 stipulates that tanks, battery-wagons/vehicles and MEGCs filled before the date of expiry of the last periodic inspection may be carried for a period not to exceed one month. Paragraph 6.8.2.4.3 allows the intermediate inspection to be performed up to three months after the specified date and may therefore be used. However, this is not reflected in 4.3.2.3.7.

28. It was recalled that the three months rule for the intermediate inspection was introduced to ensure a reasonably timed intermediate inspection between the periodic inspections while allowing some flexibility for the performance of the intermediate inspection. Several experts were of the opinion that this inconsistency should be resolved. Poland was invited to submit an official document on this issue for a future session.