

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

4 March 2024

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

Bern, 25-28 March 2024

Item 2 of the provisional agenda:

Tanks

Report of the Working Group on Tanks

1. The Working Group on Tanks held a virtual meeting on 26 and 27 February 2024 based 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, 31 experts from 12 countries and 5 non-governmental organizations participated. They dealt with the following official and informal documents:

Documents:

- ECE/TRANS/WP.15/AC.1/170/Add.1 (report)
- ECE/TRANS/WP.15/AC.1/2024/1 (UIP)
- ECE/TRANS/WP.15/AC.1/2024/2 (Spain)
- ECE/TRANS/WP.15/AC.1/2024/5 (Russian Federation)
- ECE/TRANS/WP.15/AC.1/2024/8 (Spain and EIGA)
- ECE/TRANS/WP.15/AC.1/2024/18 (Netherlands)
- ECE/TRANS/WP.15/AC.1/2024/26 (UIC)

Informal documents:

- INF.5 (UIP)
- INF.10 (Germany)
- INF.14 (CEN)
- INF.16 (ITCO)
- INF.17 (Belgium)

Item 1: Report of the autumn 2023 session of the Joint Meeting

Document: ECE/TRANS/WP.15/AC.1/170/Add.1 Proposal 6

3. The plenary decided to keep proposal 6 in the report of the Working Group on Tanks in square brackets for further consideration. The proposal was based on discussions on document ECE/TRANS/WP.15/AC.1/2023/28. The issue discussed was that when Competent Authorities that did not approve inspection bodies but performed the inspection tasks themselves need not be accredited. However, they should comply with the listing of items under 1.8.6.3.1 that contains the main requirements of accreditation.

4. The topic was rediscussed in the Working Group on Tanks. It should be borne in mind that 1.8.6 applies only to conformity assessments, periodic inspections, intermediate inspections, exceptional inspections, entry into service verifications and surveillance of in-house inspection services. It should also be noted that there are issues associated with governmental bodies becoming accredited, for this reason the exception for accreditation is included in the last sentence in 1.8.6.2.1 with reference to 1.8.6.3 to ensure a minimum level of assurance in respect of governmental bodies.

5. During discussions it was considered that technical services within the competent authority that performed the activities of approved inspection bodies would require accreditation. It also arose

that designation of bodies to act as the competent authority may create a loop hole for inspection bodies not to become accredited. To close this gap proposal 6 of the report of the Working Group on Tanks of the autumn 2023 session for 1.8.6.2.1 is amended. The original proposal for 1.8.6.3.1, in square brackets, can remain unchanged.

Proposal 1 (for RID/ADR 2025)

Amend the last sentence of 1.8.6.2.1 to read (new wording is underlined, deleted wording stricken through):

“When the competent authority ~~does not approve or recognize or designate inspection bodies, but~~ performs these tasks itself, the competent authority shall comply with the provisions of 1.8.6.3. However, when a competent authority designates an inspection body to act as the competent authority the designated body shall be accredited according to the standard EN ISO/IEC 17020:2012 (except clause 8.1.3) type A.”

Amend the last sentence of 1.8.6.3.1 to read:

“The requirements above are deemed to be met in the case of accreditation according to the standard EN ISO/IEC 17020:2012 (except clause 8.1.3).”

Item 2: Inspection of tanks for which the specified date for the intermediate inspection has passed

Document: ECE/TRANS/WP.15/AC.1/2024/1 (UIP)

6. The document is based on earlier discussions on informal document INF.19 of the autumn 2023 session of the Joint Meeting where it was agreed that an intermediate inspection was required when the specified date for such an inspection has passed. However, depending on the time period that the inspection is overdue the owner/operator may decide to have an intermediate or periodic inspection performed. To prevent misinterpretation additional wording is proposed.

7. In the discussion the proposal has been modified as presented below. It was felt that it would be better to state that the specified date has “passed” rather than being “overdue” or “expired”. This has therefore been introduced into the proposal. The word “passed” could be used elsewhere but a check of the consequential amendments revealed that this would be complex and should be seen as future work.

Proposal 2 (for RID/ADR 2025)

Introduce a new third paragraph to 6.8.2.4.3 to read:

“If the specified date of the intermediate inspection has passed, an intermediate inspection shall be performed or alternatively a periodic inspection in accordance with 6.8.2.4.2 may be performed.”

Item 3: Filling of multiple-element gas containers

Document: ECE/TRANS/WP.15/AC.1/2024/2 (Spain)

8. The proposal by Spain was to improve the provisions for filling MEGC’s in Chapter 4.3 by introducing the wording that already existed in 4.2.4.5.1 to 4.2.4.5.3. There was support in principle for alternative 2 of the proposal. However, it was felt that to be fit for Chapter 4.3, battery-wagons for RID and battery-vehicles for ADR should also be included.

Proposal 3

Introduce a new sub-paragraph 4.3.3.2.5 to read and renumber the existing 4.3.3.2.5 as 4.3.3.2.6:

“4.3.3.2.5 Prior to filling, the battery-wagons/ battery-vehicles and MEGCs shall be inspected to ensure they are authorized for the gas to be carried and that the applicable provisions of RID/ADR have been met. The elements of battery-wagons/battery-vehicles or MEGCs that are pressure receptacles shall be filled according to the working pressures, filling ratios and filling provisions specified in packing instruction P200 of 4.1.4.1 for the specific gas being filled into each element. In no case shall battery-wagons/battery-vehicles and MEGCs or group of elements be filled as a unit in excess of the lowest maximum filling pressure or load of any given element. Battery-wagons/battery-vehicles and MEGCs shall not be filled above the applicable permissible masses.”

Consequential amendments:

4.3.3.1.1 In the table, in row "2 Calculation pressure", in column "Tank Code", in the explanation of "X", replace "4.3.3.2.5" by "4.3.3.2.6".

6.8.2.4.1 In the sentence after the table, replace "4.3.3.2.5" by "4.3.3.2.6".

6.8.3.4.2 Replace "4.3.3.2.5" by "4.3.3.2.6".

Item 4: Proposal for amendments to 6.8.2.1.27 and 7.5.10

Document: ECE/TRANS/WP.15/AC.1/2024/5 (Russian Federation)

9. In the document it was proposed to include UN 3190 in addition to UN 1361 in 6.8.2.1.27 and 7.5.10. In these provisions additional requirements are given for the carriage of carbon black.

10. In the introduction of the document it was argued that the addition of UN 3190 was needed as it was related to the production of the carbon black, being of hydrocarbon gas origin.

11. As UN 3190 is for Class 4.2 classification code “S4 – inorganic, solid”, it was questioned if this classification was justified as arguably carbon is regarded as “organic”. As an alternative the modification of the description of UN 1361, also including carbon of hydrocarbon origin should be considered or otherwise “UN 3088 SELF-HEATING SOLID, ORGANIC, N.O.S.” be chosen.

12. As this is an issue of classification the Working Group felt that this should be discussed in plenary and, if necessary, at the UN Sub-Committee on the Transport of Dangerous Goods. When the classification of carbon black has been decided, the requirements of 6.8.2.1.27 and 7.5.10 can be revisited as necessary.

Item 5: New transitional measures for portable tanks in 6.7

Document: ECE/TRANS/WP.15/AC.1/2024/8 (Spain and EIGA)

13. In 6.7.4.15.1 (i) (iv) the marking on the tank plate has changed from “degree of filling” to “maximum allowable mass of gas filled”. A transitional measure has already been adopted by the UN Sub-Committee of Experts on the Transport of Dangerous Goods that allows existing portable tanks with the old marking to continue to be used. A transitional measure in RID/ADR is proposed for harmonisation purposes.

14. The proposal was supported by the experts of the Working Group on Tanks.

Proposal 4 (for RID/ADR 2025)

In 1.6.4 insert a new transitional measure to read:

“1.6.4.XX Portable tanks constructed before 1 January 2027 in accordance with the requirements in force up to 31 December 2024, but which do not, however,

conform to the requirements of 6.7.4.15.1 (i) (iv) applicable as from 1 January 2025 may continue to be used.”

Item 6: Exemption for calculating of actual holding time for tank-containers and portable tanks for road journey only

Document: ECE/TRANS/WP.15/AC.1/2024/18 (Netherlands)

15. When portable tanks and tank-containers are used on road journeys only, the transport operation is relatively short and there is a driver present to monitor the pressure of the tank. It is proposed in these cases to waive the obligation for calculating the actual holding time in the same way as it is done for tank-vehicles. The proposal is for ADR only.

16. There was general support for the proposal, but it was felt that the wording could be simplified. Besides being simplified it was felt that consequential amendments would be needed which finally resulted in an additional sentence to the simplified proposal. In addition, a consequential amendment is proposed for the transport document.

Proposal 5 (for ADR 2025)

Introduce a new paragraph at the end of 4.2.3.7.1 to read:

“The calculation of the actual holding time may be waived when the whole journey takes place by road only, without trans-shipment onto another vehicle and without intermediate temporary storage. When the calculation of the actual holding time is waived the provisions of 4.2.3.7.2, 4.2.3.7.3 and 4.2.3.8 (e) and (f) shall not apply.”

Introduce a new paragraph at the end of 4.3.3.5 right hand column to read:

“The calculation of the actual holding time may be waived when the whole journey takes place by road only, without trans-shipment onto another vehicle and without intermediate temporary storage. When the calculation of the actual holding time is waived the provisions of 4.3.3.6 (e), (f) and (g) shall not apply.”

Introduce a new paragraph at the end of 5.4.1.2.2 (d) to read:

“When the calculation of the actual holding time is waived in accordance with 4.2.3.7.1 or 4.3.3.5 this provision shall not apply.”

Item 7: Clarification of the role of the consignor in the expedition of tank-wagons, tank-containers and portable tanks for the carriage of tanks with refrigerated liquefied gases

Document: ECE/TRANS/WP.15/AC.1/2024/26 (UIC)

17. At the autumn 2023 session of the Joint Meeting a new (h) was added to 4.3.3.6 dealing with empty uncleaned tanks for refrigerated liquefied gases. The purpose is to prevent premature activation of the pressure relief devices. Also, at that session there was a discussion whether to include a new (f) to 1.4.2.1.1 to make clear the consignor’s responsibility to determine the actual holding time and for dealing with empty uncleaned tanks, on which at that time no decision was taken.

18. The question was raised if the consignor of the filled tank would also be the consignor for the empty uncleaned tank on the return journey. It was confirmed that in practice the consignor could be different parties, for example being the gas producer itself or the supplier of the tank. It was deemed necessary to clarify the responsibility of the consignor for calculating the actual holding time or, in the case of empty uncleaned tanks, ensure that the pressure is sufficiently reduced.

Proposal 6 (for RID/ADR 2025)

Add to 1.4.2.1.1 a new paragraph (f) to read:

RID

“(f) *in the case of tanks carrying refrigerated liquefied gases ensure that the actual holding time is determined or, in the case of empty, uncleaned tanks, ensure that the pressure is sufficiently reduced.*”

ADR

“(f) *in the case of tank-containers and portable tanks carrying refrigerated liquefied gases ensure that the actual holding time is determined if applicable or, in the case of empty, uncleaned tank-containers and portable tanks, ensure that the pressure is sufficiently reduced.*”

Item 8: Orange band on tank-wagons

Informal documents: INF.5 (UIP), INF.17 (Belgium)

19. The question was raised as to whether the marking with the orange band for gas tank-wagons in 5.3.5 and special provision TM6 of 6.8.4 in RID is still useful or if the provision for the orange band could be deleted. The question concerning TM6 originates from the TPED Notified Bodies Group. In that group it was decided that control of compliance of the band and the colour specifications is not their responsibility.

20. The orange band is not applicable for tank-vehicles or tank-containers, and there was no support for introducing it for them. Several experts did not agree with the deletion of the provisions and in informal document INF.17 arguments are given against the deletion of the provisions for the orange band.

21. As highlighted by the Notified Body Group it was said that the specification for the orange colour as defined in the note to 5.3.2.2.1 of RID is difficult to be measured on paints. As an alternative solution the precise specification for the orange colour should be broadened to allow for a degree of fading and chalking of the paint over time due to weathering.

Item 9: Siting of pressure-relief devices and of the inlet of safety valves - requirements in accordance with 6.7.3.11.1 and 6.8.3.2.9.4 of RID/ADR

Informal document: INF.10 (Germany)

22. The difference in the description where to place the pressure relief devices in 6.7.3.11.1 and safety valves in 6.8.3.2.9.4 in relation to shells can be explained in that portable tanks have no defined direction of travel and should be placed in the longitudinal centre of the shell, while tank-vehicles may be slightly tilted to the rear to help discharge.

23. This means that safety valves of Chapter 6.8 tanks should be positioned along the top longitudinal line but not specifically in the transversal centre of the shell. The term “top generating line” as used in 6.10.1.1.1 instead of longitudinal centre would avoid ambiguity and improve consistency in translation to the French version. It was felt that placing valves slightly off the top generating line would improve safety against striking overhead obstacles. However, placing over a 30° angle on either side of the top generating line as allowed in 6.10.1.1.1 as a protected zone was not supported. This may result in a reduced capacity of product that can be filled as the inlet should be in the vapour space allowing for the thermal expansion of the liquid phase that will occur when the contents are heated in a fire.

24. Given that 6.8.3.2.9.4 could be open to misinterpretation, to clarify the existing text the following amendments are proposed:

Proposal 7 (for RID/ADR 2025)

Amend the first sentence in 6.8.3.2.9.4 of RID/ADR to read (new wording underlined, deleted wording stricken through):

“Each safety valve inlet shall be situated on top of the shell ~~in a position as near to the transverse centre of the shell~~ as close as reasonably practicable to the top generating line.”

Item 10: Report of the Working Group on Standards

Informal document: INF.14 (CEN)

25. A reference to EN ISO 9712:2012 *Non-destructive testing – Qualification and certification of NDT personnel – General principles* is included in special provisions TT8 and TT11 of 6.8.4. This standard is revised in a 2022 version.

26. It was expressed that just changing from the 2012 version to the 2022 version of EN ISO 9712 may result in problems for inspection bodies. Bodies issuing such certificates have not yet all adopted the new version and certificates issued for compliance with the standards have a validity of 5 years.

27. An alternative approach was taken to resolve the issue. The contents and application of TT8 and TT11 is different that have resulted in different solutions for each special provision.

Proposal 8 (for RID/ADR 2025)

Amend the last paragraph of TT8 of 6.8.4 to read (new wording bold underlined, deleted wording stricken through):

*“Such magnetic particle inspections shall be- ~~carried out by a competent person qualified for this method according to EN ISO 9712 :2012 – Nondestructive Testing- Qualification and certification of NDT personnel General principles~~ **performed according to EN 12972 :2018.**”*

(ADR)

Amend the reference to standard EN ISO 17638 in TT11 to read (new wording bold underlined):

- *“EN ISO 17638:2016 – non-destructive testing of welds – Magnetic particle testing, with acceptance of indications in accordance with **level 2X of** EN ISO 23278:2015 – Non-destructive testing of welds - Magnetic particle testing - Acceptance levels;”.*

(ADR)

In TT11, replace the paragraph:

“Personnel involved in NDT shall be qualified, certified and have the appropriate theoretical and practical knowledge of the non-destructive tests they perform, specify, supervise, monitor or evaluate in accordance with:

- *EN ISO 9712:2012 – Non-destructive testing – Qualification and certification of NDT personnel.”*

by the following:

“Non-destructive checks shall be performed by personnel according to EN 12972:2018 or EN 14334:2014.”

Item 11: Dual approved intermodal tank-containers according to RID/ADR Chapter 6.8 and UN portable tanks

Informal document: INF.16 (ITCO)

28. ITCO provided feedback to the Working Group on Tanks on the outcome of the intersessional meetings held on 7 November 2023 and 12 December 2023. Both sessions were held virtually and well attended with approximately 50 participants joining each meeting. At the first session discussions centred around the reasons for eliminating dual approval, the second session looked at the consequences of the possible elimination.

29. It was remarked that the request made during the autumn 2023 session of the Joint Meeting and Working Group on Tanks was to identify problems that would arise if dual approval should no longer be permitted. It was agreed that additional intersessional meetings should take place and focus on the identification of all the issues and consequences that may arise from such a complex change. It was suggested that these meetings should develop a list of issues that need to be addressed in order to enable a smooth transition for industry if dual approval should no longer be permitted.

30. It was stated that in due course any problems with certification would be reduced. However, it was thought that the costs for removing the marking on the tank-plates in accordance with Chapter 6.8 would be considerable, given the sheer number of portable tanks in operation throughout the world. Lastly, it was noted during discussions that in cases where portable tanks are approved to Chapter 6.7 of the IMDG code but not in an RID Contracting State/ADR Contracting Party, this can lead to a refusal of the tank being accepted for carriage or filling. To address this issue, the Working Group developed the following proposal:

Proposal 9 (for RID/ADR 2025)

Amend the note 2 after the heading of Chapter 4.2 to read (new wording underlined):

“NOTE 2: Portable tanks and UN MEGCs marked in accordance with the requirements/the applicable provisions of Chapter 6.7 but which were approved in a State which is not an RID Contracting State / Contracting Party to ADR or approved according to Chapter 6.7 of the IMDG Code may nevertheless be used for carriage under RID/ADR.”