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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 2017 session***

held in Geneva from 19-29 September 2017

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

1. The Working Group on Tanks met from 19 to 21 September 2017 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. Kees 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 11 countries, the European Union (European Commission and European Union Agency for Railways) and 3 non-governmental organizations, dealt with the following official and informal documents:

* Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2017-B. 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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Documents: ECE/TRANS/WP.15/AC.1/2017/26 and Add1 (Secretariat)
ECE/TRANS/WP.15/AC.1/2017/31 (Russian Federation)
ECE/TRANS/WP.15/AC.1/2017/36 (Belgium)
ECE/TRANS/WP.15/AC.1/2017/38 (United Kingdom)
ECE/TRANS/WP.15/AC.1/2017/40 (Netherlands)
ECE/TRANS/WP.15/AC.1/2017/43 (Russian Federation)
ECE/TRANS/WP.15/AC.1/146, Annex II

Informal documents: INF 10. (United Kingdom) INF. 28 (Belgium)
INF. 11 (United Kingdom) INF. 29 (Belgium)
INF. 13 (Germany) INF. 30 (Secretariat)
INF. 17 (Netherlands) INF. 32 (France)
INF. 18 (Netherlands) INF. 35 (United Kingdom)
INF. 23 (Austria) INF. 36 (UIP)
INF. 24 (France) INF. 38 (EC)
INF. 25 (France) INF. 42 (France)
INF. 26 (ERA)

Item 1: ECE/TRANS/WP.15/AC.1/2017/26 (Secretariat) – Report of the Ad Hoc Working Group on the Harmonization of RID/ADR/ADN with the United Nations Recommendations on the Transport of Dangerous Goods and ECE/TRANS/WP.15/AC.1/2017/26/Add.1 (Secretariat)

3. Paragraph 32 of the report suggests including a provision corresponding to the amended portable tank special provision TP 10 in Chapter 4.3. It was found that the wording as presented for the new sentence in TP 10 could be improved.

Proposal 1: Introduce a new special provision TU xy in 4.3.5 to read:

“TU xy An empty uncleaned tank may be offered for carriage after the date of expiry of the last inspection of the lining for a period not to exceed three months beyond this date for the purposes of performing the next inspection of the lining prior to refilling (see 6.8.4 (d) TT2).”.

Proposal 2: For UN 1744 BROMINE:

Introduce special provision TU xy in column (13) of Table A of Chapter 3.2.

Proposal 3: Amend special provision TT2 to read (new wording in italics)

“TT2 The condition of the lining of shells shall be inspected every year by an expert approved by the competent authority, who shall inspect the inside of the shell (*see 4.3.5 TU xy*).”.

Item 2: ECE/TRANS/WP.15/AC.1/2017/31 (Russian Federation) – Proposal to add to the list of goods carried in tanks with a protective lining or protective coating and informal document INF.28 (Belgium)

4. To prevent the carriage of corrosive substances that react violently with aluminium alloy in tanks with a protective lining and a shell of aluminium alloy, special provision TU 42 was introduced to a selection of UN numbers that would normally be carried in tanks with a protective lining. It was recognized that pH value is not always an indicator of corrosivity and that the list of UN numbers to which the special provision was given was not exhaustive.

5. The Russian Federation proposed in its document to allocate TU 42 to an additional UN number. In INF.28, Belgium stated that it would prefer an alternative approach to developing classification criteria for corrosivity, thus preventing the use of these tanks based on this argument.

6. It was said that a special working group would be needed to deal with the development of corrosivity criteria and to check substances according to these criteria. It was proposed that Belgium with other interested parties could investigate the feasibility of such a working group. It was confirmed that the substances as mentioned in the document of the Russian Federation would react violently with aluminium alloy and that allocating TU 42 to UN 3266 would be appropriate. This was accepted as it would take a considerable amount of time to develop corrosivity criteria and check the substances.

Proposal 4: Allocate special provision TU 42 in column (13) of Table A of Chapter 3.2 to: UN 3266 CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S - PG II and UN 3266 CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S - PG III.

Item 3: ECE/TRANS/WP.15/AC.1/2017/36 (Belgium) – Holding time – Information in the transport document

7. The proposal was to extend the requirement for entering the actual holding time in the transport document to portable tanks as it is already applicable to tank-containers and tank-wagons carrying refrigerated liquefied gases. The actual holding time is already marked on the portable tank itself. Arguments for this are that dispatch personnel do not always have access to the marking on the portable tanks and that in cases of portable tanks also approved as tank-containers there may be confusion as to whether this has to be marked in the document or not.

8. Several delegations were of the opinion that this should be discussed by the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods (TDG Sub-Committee). It was thought that there might be confusion if the proposal were adopted, because 4.2.3.7.2 states that the actual holding time should be marked on the portable tanks, whereas 5.4.1.2.2 (d) requires that the holding time be entered in the transport document. The expert of Belgium was invited to submit this topic to the United Nations TDG Sub-Committee for discussion.

Item 4: ECE/TRANS/WP.15/AC.1/2017/38 (United Kingdom) – Report of the informal working group on the inspection and certification of tanks and INF 10 (United Kingdom), INF.23 (Austria), INF.26 (ERA), INF.36 (UIP) and INF.38 (European Union)

9. After an introduction to document 2017/38 by the Chair of the informal working group on the inspection and certification of tanks it was decided to deal first with the informal documents so as to obtain an overview of the remarks made before going into Annex 1 and INF.10. It was noted that the text developed to date focusses primarily on ADR, while recognizing that differences for RID would need to be taken into account subsequently.

10. In INF.23 Austria expressed concerns that only inspection bodies that are accredited to ISO 17020 are allowed to perform inspections according to the draft wording for 6.8.1.5. It was explained that it was the intention of the informal working group to allow an alternative to accreditation on an equal level approved by the competent authority of the contracting party. This would be detailed in 1.8.6 that is yet to be amended.

11. In INF.26 ERA explained that in the European Union a rail vehicle is accepted by ERA when it is used internationally. The approval of the tank is a subsystem that requires approval before a rail vehicle authorisation can be issued. In INF.26 several situations are explained and suggestions made to clarify the wording of 2017/38. As the wording is not finalized, ERA was invited to participate in the informal working group.

12. The Working Group took note of the concerns expressed by UIP in INF.36. This concerned in particular the (periodic) inspection in the country of use at the time a test is due, the introduction of an “entry into service” check and the fact that the owner of the type

approval could also be the owner of the tank wagon as well as the manufacturer. As the system works well at present in RID this should not be changed. UIP was content to see that welding provisions for maintenance or repair shops are addressed in the amendments to 6.8.2.1.23. As this is an important improvement, it should be adopted for RID/ADR 2019 even if the whole package of amendments is not ready for adoption in RID/ADR 2019. The Working Group agreed on this and proposed the following amendment.

Proposal 5: Amend the first two sentences of the first paragraph of 6.8.2.1.23 to read (new words in italics, deleted wording crossed out):

“The ability of the manufacturer, *or the maintenance or repair shop*, to perform welding operations shall be verified and confirmed by either the competent authority or by the body designated by this authority, ~~which issues the type approval~~. A weld quality assurance system shall be operated by the manufacturer *or the maintenance or repair shop*. “.

13. In INF.38 the European Commission expressed concerns over a potential conflict between RID/ADR in directive 2008/68/EC and directive 2010/35/EU. In particular modification of 1.8.7 should not restrict or impede free movement in the market and the use of pressure equipment. The role of Notified Bodies and responsibilities of the manufacturers were mentioned as areas of concern.

14. Due to time constraints it was not possible to discuss the drafts in Annex 1 to 2017/38 and INF.10 in detail. The Working Group supported the continuation of this work and all interested parties are invited to submit comments and to participate in the informal working group that is planned to reconvene from 12 to 14 December 2017 in London.

Item 5: ECE/TRANS/WP.15/AC.1/2017/40 (Netherlands) – Cross sectional shapes of shells and informal document INF.42 (France)

15. At the March 2017 session, tanks with a cross sectional shape with a concave section were discussed. It was concluded that the regulations left room for interpretation and that there should be no barriers to alternative designs if at least the same level of safety could be provided. It was agreed that the regulations needed modification to prevent different interpretations and to allow other designs. The United Kingdom offered to develop a proposal for a preliminary exchange of views. This took place at the informal working group on inspection and certification of tanks that met in June in London. The proposal sought to establish a basic principle in 6.8.2.1 to allow the design and construction of shells to deviate from referenced standards because of scientific and technical progress, or where specific aspects are not addressed in standards, with the agreement of the competent authority. However the views expressed did not support the proposal as this was, for the most part, provided for by 6.8.2.7. After the meeting an alternative proposal was prepared by the Netherlands for consideration at the September 2017 session.

16. It was explained that 6.8.2.1.18 and its footnote 2 contained the basic requirements concerning the maximum convex curvature of the shell on which the minimum wall thicknesses were based. The Netherlands considered that this should not be modified. It was therefore decided to introduce a new paragraph in 6.8.2.1 to allow for localized deviations from convex curvature in general. As the proposal contained only basic requirements to be further detailed in standard EN 13094, France in INF.42 required more assurance for safe construction as this is not yet provided for in EN 13094. It was therefore decided to add the wording of the proposal to the existing footnote 2 to 6.8.2.1.18 and for the time being to place this in square brackets to allow EN 13094 to be amended in this respect. The brackets can be removed once EN 13094 contains sufficient details to provide for a safe construction.

Proposal 6: Add the following sentences at the end of footnote 2 to 6.8.2.1.18 to read:

[“However the cross section of shells according to 6.8.2.1.14 a) may contain recesses or protrusions such as sumps, cut-outs or recessed manhole constructions. They may be

constructed of flat or shaped (concave or convex) sheet metal. Dents and other unintended deformations shall not be regarded as recesses or protrusions.”]

Item 6: ECE/TRANS/WP.15/AC.1/2017/43 (Russian Federation)

17. The proposal to amend 6.9.3.1 and 6.8.3.2.21 was accepted as was 6.10.1.2.1 with the withdrawal of the first proposal and modification of the second proposal.

Proposal 7 Amend the third paragraph of 6.10.1.2.1 to read (new wording in italics and deleted wording crossed out):

“Vacuum-operated waste tanks shall comply with all the requirements of Chapter 6.8, *except where with exception of requirements overtaken by special requirements a special provision* in this Chapter. However the requirements of 6.8.2.1.19 and 6.8.2.1.20/6.8.2.1.19, 6.8.2.1.20 and 6.8.2.1.21 shall not apply.”.

In 6.8.3.2.21, delete the sentence after the Note that reads: “The basic requirements of this paragraph shall be deemed to have been complied with if the following standards are applied: *(Reserved)*.”.

Amend 6.9.3.1 to read as follows:

“6.9.3.1 The requirements of 6.8.2.2.1, 6.8.2.2.2, 6.8.2.2.4, 6.8.2.2.6 to 6.8.2.2.8 shall apply.”

Item 7: ECE/TRANS/WP.15/AC.1/146 – Report of the Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods on its spring 2017 session

18. Annex II of the report of the Joint Meeting’s spring 2017 session contained a number of amendments in square brackets. The provisions were revisited and the square brackets or text were removed from the following amendments:

Proposal 8: Delete square brackets from the following amendments

1.6.3.53 (twice) and 6.8.2.3.1.

Proposal 9: Delete the text in square brackets from:

1.6.3.49 and 1.6.4.51

Proposal 10: Amend 6.8.2.2.3 as follows and delete the square brackets:

Part 1: Amend the reference to the standard in the first paragraph to read (new wording in italics and deleted wording crossed out):

EN ISO 16852:~~2010~~ 2016 (*Flame arresters - Performance requirements, test methods and limits for use.*)

Part 2: In the table remove the square brackets and replace “2010” by “2016” in the reference to EN ISO 16852 (3 times).

19. As more checks need to be made it was noted that for 6.8.2.2.10, concerning the burst pressure of rupture discs, the brackets could not yet be removed.

Item 8: INF.11 (United Kingdom) – Template of a tank plate for RID/ADR tanks for the transport of dangerous goods

20. The majority of experts were in favour of having a model tank plate in 6.8.2.5.1 rather than in a standard. Several remarks were made on the contents of the example tank plate shown in the annex to INF.11.

21. The following was agreed:

- The format would be mandatory for new tanks only;
- The information required in 6.8.2.5.2 should not be included;

- The lines should be numbered and only lines applicable to a type of tank may be used;
- A table should be included to set out the meaning of the numbered line;
- A list of applicable line numbers per tank type should be included;
- The inspection must be stamped on the plate in the sequence of stamp of the expert, mmyy followed by the letter "L" or "P" as applicable;
- The tank plate may consist of two separate parts; one for tank information and one for marking the inspections; and
- The tank serial number and initial hydraulic test date must be marked behind the plate for reference in case the plate is lost.

22. The United Kingdom was invited to submit the amended proposal to a future session.

Item 9: INF.13 (Germany) – Use of austenitic-ferritic stainless steels (DUPLEX steels) in accordance with EN 10028-7:2008-02 for the construction of tanks in accordance with 6.8.5 of RID/ADR

23. The Working Group recognized that a reference to austenitic-ferritic stainless steels was missing from 6.8.5.1.2 (a) and agreed with the proposed wording for 6.8.5.1.2 (a) with an editorial amendment, and the consequential amendment to 6.8.5.2.1.

24. However it was remarked that in the case of tanks for refrigerated carbon dioxide the working temperature could be below -40 °C. As the correct temperature needs to be checked the temperature was kept between square brackets to be decided at a future session.

Proposal 11: Add the following indent to 6.8.5.1.2 (a):

"– Austenitic-ferritic stainless steels, down to a temperature of [-40 °C].".

Proposal 12: Amend the end of the second indent to 6.8.5.2.1 to read (new wording in italics, deleted wording crossed out):

" ferritic alloy steel $5 \% \leq Ni \leq 9\%$; ~~or~~ austenitic Cr - Ni steel; *or austenitic-ferritic stainless steel.*".

Item 10: INF.17 (Netherlands) – EN 14596 Emergency Pressure Relief Valve (EPRV)

25. After discussions in 2004/2005 it was decided not to reference EN 14596 in ADR. The reason was a safety issue i.e. that due to the low opening pressure and large surface area, significant leakages could occur when a tank vehicle overturns. After a periodic review and up-date of EN 14596 the standard is being considered by the Working Group on Standards and the CEN consultant has given a positive assessment.

26. The Netherlands was of the opinion that the standard should not be referenced because the opening pressure is unchanged and still presents a safety issue. It was explained that if the opening pressure were higher, such as at the test pressure, it might be acceptable.

27. Other experts were also of the opinion that the opening pressure is too low and they had had negative experiences, whilst others had positive experiences and wished to see their use continue. If EN 14596 were referenced in ADR it would be mandatory. If the standard is not referenced the EPRV can still be used optionally, even if there is limited release of contents based on 6.8.2.2.1 fourth paragraph. It was therefore decided that it would not be appropriate to reference the standard at present.

Item 11: INF.18 (Netherlands) – Fibre Reinforced Plastic (FRP) tanks - tank coding

28. It was explained that marking the tank code was mandatory for FRP tanks. The calculation pressure in the tank code based on 6.8.2.1.14 (a) or (b) would in some cases be lower than that for the substances allowed for carriage in 4.4.1. A tank code marked on the tank, lower in the hierarchy than that for the substance, may lead to confusion in use.

29. A majority of experts were in favour of an “equivalent” tank code that would be based on the substances allowed for carriage rather than having no tank code. It was recognized that the regulations should be modified to express this marking. The Netherlands was invited to develop a proposal for an “equivalent” tank code.

Item 12: INF.24 (France) – Definition of capacity of shell or shell compartment for tanks

30. France asked for clarification on which capacity was intended by the reduced capacity in the definition of “Capacity of shell or shell compartment” for tanks that cannot be completely filled due to the construction (for example, recessed manhole constructions). It was confirmed that reduced capacity meant the actual capacity that could be filled in the tank without pressure. The purpose of reducing the capacity for the marking is to prevent overflow during filling by using the unreduced capacity.

Item 13: INF.25 (France) – Application of 4.3.2.3.4

31. 4.3.2.3.4 says that the closure nearest to the substances being carried should be closed first. In particular tanks used for the carriage of fuel, loaded from the bottom of the tank, the second closure is closed first and in these cases, it was not possible to empty the piping system.

32. France was invited to return to this topic in the future to clarify the situation for such cases.

Item 14: INF.29 (Belgium) – Transitional measures for the use of tanks with a shell constructed of aluminium with a protective lining for substances with a pH value less than 5.0 and more than 8.0

33. With the introduction of special provision TU 42 transitional measures were included for the carriage of substances for which TU 42 was introduced with a protective lining and a shell of aluminium alloy. The end date of the transitional measures was based on the date the last tanks were assumed to be constructed and the normal service life for the lining.

34. A new date of 31 December 2033 was proposed. However some delegations were reluctant to prolong the carriage of substances in these tanks. After discussion a new date of 31 December 2026 was agreed.

Proposal 13: Amend the year at the end of 1.6.3.48 and 1.6.4.50, from “2022” to “2026”

Item 15: INF.30 (Secretariat) – Amendments to transitional measures

35. The deletion of the transitional measures 1.6.3.17 (ADR only), 1.6.3.42, 1.6.4.15, 1.6.4.38, 1.6.4.44, 1.6.4.45 and the amendment of 1.6.3.44 (ADR only), proposed by the secretariat was confirmed. The Working Group also suggested deleting 1.6.3.15 (RID only) which had already been deleted from ADR.

36. It was proposed not to delete transitional measures 1.6.3.16 and 1.6.4.18 so as to provide clarity on why the tank record of tanks constructed before 1 January 2007 may not be complete.

Item 16: INF.32 (France) – Marking of the date of the most recent test according to 6.8.2.5.1

37. Experience with marking the date of the initial inspection was required from the experts of the working group. There was consensus that the date of the hydraulic pressure test would be the start of the life of a tank that was used to determine which version of the regulations applied. However the date of the initial leakproofness test, which could be some time later, was preferable in order to determine the date of the periodic and intermediate inspections.

38. This should be considered in the future and in conjunction with the work on the tank plate.

Item 17: INF.35 (United Kingdom) – Tanks: Testing pressure relief valves on LPG road tankers at intermediate inspections

39. The intermediate tank inspection requires a check of the satisfactory operation of all equipment in 6.8.2.4.3. Safety valves therefore need to be checked for the correct opening pressure. However EN 14334 (LPG equipment and accessories –inspection and testing of LPG road tankers) permits, as an alternative, checking the safety valves by inspecting the opening pressure marked on the valve. In order to ensure safety the United Kingdom has asked inspection bodies and the industry to undertake a test programme to build up sufficient evidence by collecting data from tests of safety valves of LPG tanks. The United Kingdom intends to share the results of the test programme when they become available. In the meantime this issue should be brought to the attention of the standards working group.

Item 18: Any other business

40. France asked the group if any problems had been experienced with accepting electronic documents and signatures in relation to inspections. The tanks working group saw no objection to the reports of tanks being signed and transmitted electronically and suggested that this subject should be raised at plenary level as it applies to all kinds of documents.
