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Joint Meeting of the RID Committee of Experts and the
Working Party on the Transport of Dangerous Goods
Bern, 26-30 March 2007

REPORT OF THE SESSION*

Held in Geneva from 11 to 21 September 2007

Addendum

Annex I

Report of the working group on tanks

The secretariat has received from the Intergovernmental Organisation for International Carriage by Rail (OTIF) the French translation of the report of the working group on tanks, prepared in German and partially in English by the representative of Germany in the course of the session (informal document INF.52). The report is reproduced below.

* Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2007-B/Add.1.

Report of the working group on tanks

1. The working group on tanks met from 11 to 13 September 2007, concurrently with the RID/ADR/ADN Joint Meeting, which had entrusted it with the relevant mandate.
2. The working group considered the following official and informal (INF) documents:

ECE/TRANS/WP.15/AC.1/2007/29 (Belgium), ECE/TRANS/WP.15/AC.1/2007/33 (Spain), ECE/TRANS/WP.15/AC.1/2007/36 (Belgium), ECE/TRANS/WP.15/AC.1/2007/37 (Switzerland), ECE/TRANS/WP.15/AC.1/2007/38 (Switzerland), ECE/TRANS/WP.15/AC.1/2007/53 (France), ECE/TRANS/WP.15/AC.1/2007/54 (France), ECE/TRANS/WP.15/AC.1/2007/55 (Secretariat), INF.11 (EIGA), INF.16 (Spain), INF.22 (UIP), INF.23 (Germany), INF.26 (Netherlands), INF.27 (France), INF.29 (AEGPL), INF.30 (AEGPL), INF.33 (Secretariat), INF.35 (Germany), INF.37 (Germany), INF.42 (France), INF.45 (Secretariat).

NOTE: At the request of the plenary, the working group once again examined a decision relating to 6.8.3.2.3 that had been adopted by the working group and the plenary on the basis of informal document INF.16, from Belgium, submitted to the Joint Meeting in March 2007. It would be necessary in particular to consider the need for transitional measures.

3. The working group was made up of 24 experts from 13 countries and four non-governmental organizations.
4. The order of discussion of the documents was determined by the requirements and presence of the experts.

Item 1: Document ECE/TRANS/WP.15/AC.1/2007/29 (Belgium - Degree of filling)

5. A Belgian proposal for the marking of tanks divided by partitions or surge-plates into sections with a maximum capacity of 7,500 litres had been supported in principle by the working group at its last meeting (informal document INF.15). Belgium had nonetheless been requested to submit a new proposal for the next meeting to clarify the type of marking proposed for tank separations using surge-plates. The possible solutions should, for simplicity's sake, be easily practicable, in particular for existing tanks.
6. The working group unanimously considered that the proposal should not apply to 6.8.2.5.2, but to 6.8.2.5.1, as it would thus be unnecessary to amend subsection 9.1.3.3.
7. Attention was drawn to the fact that the proposal concerned only tanks under RID/ADR chapter 6.8. As there were identical requirements in chapter 6.7 for portable tanks, a relevant proposal should be submitted to the Sub-Committee of Experts on the Transport of Dangerous Goods.

8. In the end, the proposals were adopted as follows:

6.8.2.5.1.1 “- capacity of the shell¹² - in case of multiple-compartment shells, the capacity of each compartment¹² - followed by the symbol ‘S’ when the shells or the compartments are divided by surge-plates into sections of not more than 7,500 litres capacity.”

1.6 Add the following new transitional measures:

“1.6.3.33

When the shell of a tank-wagon/ fixed tank (tank-vehicle) or demountable tank has already been divided by partitions or surge-plates into sections of not more than 7,500 litres capacity before 1 January 2009, the capacity of the shell need not be supplemented with the symbol ‘S’ in the particulars required by 6.8.2.5.1 until the next periodic inspection according to 6.8.2.4.2 is performed.”

“1.6.4.32

When the shell of a tank-container has already been divided by partitions or surge plates into sections of not more than 7 500 litres capacity before 1 January 2009, the capacity of the shell need not be supplemented with the symbol “S” in the particulars required by 6.8.2.5.1 until the next periodic inspection according to 6.8.2.4.2 is performed.”

Item 2: Informal document INF.29 (AEGPL - Amendments for tanks divided by partitions or surge-plates, intended for liquefied gases)

9. Informal document INF.29 was considered on the basis of the decision taken at the last meeting concerning the proposal by the Netherlands regarding the requirement for the separation of tanks intended for the transport of certain liquids, molten substances and gases. The requirement to separate such tanks was confirmed. However, AEGPL proposed extending the scope of the exceptions, which applied to UN Nos. 1963 and 1966, to tanks with 4 m spacing according to standard EN 12493, and to reduced-density hydrocarbon gas, as follows:

“For UN No. 1011 BUTANE, UN No. 1965 HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. and UN No. 1978 PROPANE, the limitation of 7,500 litre capacity may be replaced by a limitation of 4 metre spacing in some cases defined in the standard EN 12493 (‘LPG equipment and accessories - Welded steel tanks for liquefied petroleum gas (LPG) - Road tankers - Design and manufacture’).”

10. The proposal was discussed at length, taking into consideration the solution existing in standard EN 12493 and the substance density. Owing to the complex nature of the subject, it was decided to request AEGPL to submit a new proposal in the light of the discussion.

11. The working group decided to leave the original proposal unchanged and to delete the brackets in the decision (see 4.3.2.2.4, in document ECE/TRANS/WP.15/AC.1/106/Add.2).

Item 3: Informal document INF.11 (EIGA - Transitional requirements for fixed tanks (tank-vehicles) and tank containers divided by partitions or surge-plates, intended for liquefied gases)

12. The transitional measures proposed by EIGA in informal document INF.11 allowed for the continued use of tanks that did not meet the new requirements of 4.3.2.2.4 but that were divided by partitions or surge-plates into sections having a capacity exceeding 7,500 litres.

13. That gave rise to a heated discussion arising from the use of such tanks, in particular the fact that they were emptied partially when deliveries were made to several customers. A possible compromise consisted in limiting the length of validity of the transitional measures. Ultimately, the majority of the working group supported the proposal contained in informal document INF.11.

1.6 It was decided to add the following new transitional measures:

“1.6.3.34

Tank-wagons/fixed tanks (tank-vehicles) and demountable tanks intended for the carriage of liquefied gases or refrigerated liquefied gases, which have been built before 1 July 2009 in accordance with the requirements applicable until 31 December 2008 and which are divided by partitions or surge-plates into sections of more than 7,500 litres capacity may still be filled to more than 20% and less than 80% of their capacity.”

“1.6.4.33

Tank-containers intended for the carriage of liquefied gases or refrigerated liquefied gases, which have been built before 1 July 2009 in accordance with the requirements applicable until 31 December 2008 and which are divided by partitions or surge-plates into sections of more than 7 500 litres capacity may still be filled to more than 20% and less than 80% of their capacity.”

Item 4: Document ECE/TRANS/WP.15/AC.1/2007/33 (Spain - Modification of tank codes) and informal document INF.16 (Spain)

14. After the document was presented by the representative of Spain, the working group discussed its repercussions. Some delegates considered that when the tank code was changed from “V” to “N” it should still be possible to transport such substances in ventilated tanks. That could be done by adapting the special provision or by taking up the two tank-codes contained in table A. Others considered that there was no need for an amendment because of the assignment of the substances to a tank-code (+) and because of the requirements of 4.3.4.1.2.

15. For clarification purposes, it was ultimately decided to amend special provision TE 11 so that it would be equally acceptable to apply “N” and “V”.

6.8.4 TE 11: Add the following sentence:

“A safety valve preventing the entry of foreign matter also fulfils this provision.”

Item 5: Document ECE/TRANS/WP.15/AC.1/2007/36 (Belgium - Interpretation of 6.8.2.2.3) and informal document INF.23 (Germany)

16. With document 2007/36, Belgium proposed clarifying the requirement in 6.8.2.2.3, i.e., that the shell should be capable without leakage of withstanding an explosion resulting from the passage of a flame into the tank. The relevant paragraph read as follows:

“Vacuum valves (RID only: self-operating ventilation valves) used on tanks intended for the carriage of substances meeting the flash-point criteria of Class 3 shall prevent the immediate passage of flame into the tank, or the shell of the tank shall be capable of withstanding, without leakage, an explosion resulting from the passage of the flame.”

17. In that context, the representative of Belgium referred to standard EN 14460. The question of the applicability of that standard for transport tanks had thus far not been considered.

18. A solution proposed in informal document INF.23 had for years been in practice in Germany for so-called chemical tanks and, in the view of Germany, it provided an alternative safety technique with which to control flame passage in such tanks.

19. The chair suggested studying the existing recommendations and standards and discussing them in detail at the next meeting. He undertook to submit a relevant paper on the solution put forward in the informal document.

Item 6: Document ECE/TRANS/WP.15/AC.1/2007/37 (Switzerland - Refusal of certification following a negative inspection result)

20. The issue had already been raised at the previous meeting (informal document INF.37). At the time, the intention behind the proposal had been supported by the majority. With document ECE/TRANS/WP.15/AC.1/2007/37, the proposal had been reformulated and had once again been discussed.

21. Alternatives to the Swiss proposal were presented, along with the difficulties arising in implementation. One possibility might consist in having the expert affix a relevant mark on the tank itself or on the tank plate in the event of a negative inspection result. Another would be for the expert to draw up a certificate in every case, i.e., in the event of a negative result as well, which would be included by the operator or the owner in the tank record. The latter was approved and adopted unanimously as the outcome.

6.8.2.4.5 The second sentence should read as follows:

“Certificates shall be issued showing the results of these operations, even in the case of negative results.”

6.8.3.4.6 The second sentence should read as follows:

“Certificates shall be issued showing the results of these operations, even in the case of negative results.”

Item 7: Document ECE/TRANS/WP.15/AC.1/2007/38 (Switzerland - Contents of the tank record)

22. The proposal discussed at the previous meeting on the basis of informal document INF.10 had been amended by Switzerland and was discussed.

23. For most participants, the proposals were too detailed. After the definition of “tank record” in section 1.2.1 and the new text in subsection 1.8.7.7 (Documents) were checked, the basic principles had to be discussed once again. During the discussion, the working group was unable to arrive at a majority opinion, and Switzerland was therefore requested to present a proposal amended in the light of the new considerations.

Item 8: Document ECE/TRANS/WP.15/AC.1/2007/53 (France - Application of the requirements of 6.8.2.1.7 to tanks intended for the carriage of refrigerated liquefied gases)

24. The application of the requirements of 6.8.2.1.7 for vacuum-insulated tanks had already been discussed at the March 2007 meeting. The proposal was adopted with slight modifications:

6.8.3.2.11 Add the following sentence at the end:

“The provisions of 6.8.2.1.7 shall not apply to vacuum-insulated tanks.”

Item 9: Document ECE/TRANS/WP.15/AC.1/2007/54 (France - Heat treatment) and informal document INF.30 (AEGPL) and INF.37 (Germany)

25. The French proposal was discussed, with the two informal documents submitted by AEGPL and Germany.

26. It was argued that it was not always advantageous to carry out a heat treatment of tanks constructed of fine-grained steels and that the rules and standards for pressure vessels required a heat treatment only for tanks with greater wall thicknesses (30-35 mm). That was why an alternative was contained in RID, and it was reproduced in informal document INF.37.

27. A discussion was held on whether harmonization should be sought with RID, and whether it was necessary to extend the requirements to all gases.

28. Some of the details of the proposals could not be clarified during the meeting. France was therefore requested to take up the subject in the light of the text in RID and the German proposal.

Item 10: Document ECE/TRANS/WP.15/AC.1/2007/55 (Secretariat - Transitional provisions for tanks constructed/not constructed according to standards)

29. The document was considered useful and was adopted in principle. The footnotes in columns 2 and 5 gave rise to a lengthy discussion.

30. The possibility was raised of deferring the application of the standards from January to July, but it was decided to leave the secretariat’s proposal unchanged.

31. It was in that context that document 2007/52 concerning the application of standards listed under 6.2.4 was discussed. The introductory sentence before the table (“Depending on the date of the construction of the tank ...”) was supplemented with the sentence “The requirements of chapter 6.8 shall prevail in all cases.”

32. The secretariat’s proposal for subsection 6.8.2.6 should apply also to the table in subsection 6.8.3.6.

33. The working group approved the deletion of texts referring to standards EN 12972 and EN 13317. The note under the table could thus be deleted.

34. As for the general comment in column 4, the working group discussed amending it, as it was not applicable to all standards. Reference should be made only to the standards concerned, i.e., those with several entries.

Item 11: Informal document INF.16 of the March 2007 Joint Meeting (Belgium - 6.8.3.2.3: Internal safety device)

35. The decision taken during the March meeting was again discussed and was confirmed. No transitional measure was required. The solution contained in standard EN 12252 was not in conformity with RID/ADR.

Item 12: Informal document INF.22 (UIP - Amendment of the definition of “mild steel”)

36. The representative of UIP presented the problem arising from the reduction of values for the tensile strength of S355J2G3 mild steel in standard EN 10025. Tanks made of steels superior to the mild steel defined in RID/ADR now had to be constructed with greater wall thicknesses, since tanks made of mild steel with a tensile strength exceeding 440 N/mm^2 were subject to a calculation using the formula in 6.8.2.1.18.

37. It would not be so easy to decide to extend the definition, which was also contained in the UN Recommendations with identical values. The proposal to tolerate steels that under the EN standards were considered as mild steels was rejected.

38. It was suggested that UIP or Germany should submit to the Sub-Committee of Experts a proposal to extend the values in the definition of “mild steel”. Another possibility would be to amend the definition for RID/ADR only. That would, however, require an official proposal.

Item 13: Informal document INF.26 (Netherlands - Vacuum-operated waste tanks)

39. In the informal document, the Netherlands proposed a clarification of the use of vacuum-operated tanks for waste and pure substances, and the deletion of the term “primarily” from the definition of such tanks.

40. The issues were discussed from the safety point of view, for example to determine whether pure substances could be carried in tanks fitted with two instead of three stop-valves.

41. The majority of the working group considered that carriage in vacuum-operated tanks posed no problem. The situation would arise only in exceptional cases because of the way such tanks were built. For economic reasons, they would not be used for regular transport.

Item 14: Informal documents INF.27 (France) and INF.33 (Secretariat)

42. Discussions were held on the issues raised in informal document INF.27 and on the amendments made by the Sub-Committee of Experts.

43. The compatibility of UN No. 3475 with the new substance “E85” required clarification. In the Safety Data Sheet, the storage of that substance in aluminum tanks was prohibited. Delegations were requested to consider the situation on the basis of the French document. The working group would take the issue up at its next meeting.

44. The issues that remained pending in informal document INF.33 were discussed briefly. The tank codes in square brackets for the substances contained in table A were confirmed.

45. The following position was taken on the questions raised under 2 (a)-(f) of informal document INF.33:

The working group was not in a position to take a definitive decision, but it was of the opinion that it would be necessary to address those questions in time for the 2009 edition of RID and ADR. The representative of the United Kingdom would undertake that work, submitting a proposal on the basis of informal document INF.33 for the next session of WP.15 and the RID Committee of Experts.

46. The working group approved that way forward, and requested the support of the Joint Meeting.

Item 15: Informal document INF.45 (Secretariat - 1.4.2.2.1 (d))

47. The working group considered the document and proposed the following amendment of the text adopted during the Joint Meeting of September 2006 (see ECE/TRANS/WP.15/AC.1/104, annex 1):

1.4.2.2.1 (d) Add the following note at the end:

“**NOTE:** Tanks, battery-wagons/battery-vehicles and MEGCs may however be carried after the expiry of this date under the conditions of 4.1.6.10, 4.2.4.4, 4.3.2.4.4, 6.7.2.19.6, 6.7.3.15.6 or 6.7.4.14.6.”

Item 16: Informal document INF.35 (Germany - 6.8.2.1.19: Duplex steel tanks)

48. The assignment of the minimum wall thicknesses in the table in 6.8.2.1.19 to stainless ferritic-austenitic steels, known as Duplex steels, posed a problem for several States, and in the view of the working group had to be clarified. The possibility of including a separate entry for such steels was discussed, taking into account their elongation at rupture.

49. No solution could be found at the meeting. Until a solution could be found, such steels must therefore be assigned to “other steels”.

Item 17: Informal document INF.42 (France - Interpretation on dual certification)

50. A heated discussion was held on the subject, as ways of proceeding differed from State to State. The representative of France noted that it was problematic to establish a single certification for the tanks in chapters 6.7 and 6.8 and that, because of the divergent requirements in the two chapters, errors could result. Examples were cited.

51. France would raise the issue again at the next meeting.
