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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

Working Party on the Transport of Dangerous Goods

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

**REPORT OF THE SESSION\***

**held in Geneva from 9 to 12 September 2002**

**Addendum 2**

**Annex 2: Report of the Working Group on Tanks**

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## Annex 2

### Report of the Working Group on Tanks

1. The Working Group on Tanks met on 9 and 10 September 2002 concurrently with the plenary session of the Joint Meeting which entrusted a mandate to it on 9 September under agenda item 5.

2. The Working Group considered the following official and informal documents:

TRANS/WP.15/AC.1/2002/22-OCTI/RID/GT-III/2002/22  
TRANS/WP.15/AC.1/2002/23-OCTI/RID/GT-III/2002/23  
TRANS/WP.15/AC.1/2002/25-OCTI/RID/GT-III/2002/25  
TRANS/WP.15/AC.1/2002/26-OCTI/RID/GT-III/2002/26  
TRANS/WP.15/AC.1/2002/30-OCTI/RID/GT-III/2002/30  
TRANS/WP.15/AC.1/2002/33-OCTI/RID/GT-III/2002/33  
TRANS/WP.15/AC.1/2002/37-OCTI/RID/GT-III/2002/37  
TRANS/WP.15/AC.1/2002/38-OCTI/RID/GT-III/2002/38  
TRANS/WP.15/AC.1/2003/1-OCTI/RID/GT- III/2003/1  
INF.11 and INF.12

3. The Working Group was composed of 19 experts from 10 countries and 3 international non-governmental organizations (NGOs).

4. Since not all the experts were present on 9 September, the Working Group began its work, at the request of France, by considering document TRANS/WP.15/AC.1/2002/37.

#### **Document TRANS/WP.15/AC.1/2002/37**

5. In this document France proposed additional marking for tanks with reference to the leakproofness test. This test was carried out after half the period required for the periodic test (hydraulic pressure test, examination of the inside, etc.), but was not indicated on the tank plate.

6. After discussion of the matter, the Working Group decided provisionally on solution 2 proposed in document TRANS/WP.15/AC.1/90/Add.1 (see amendment to 6.8.2.5.1).

7. In view of the short deadlines for the tests and the limited space available on the plate, it would not be possible to mark the TT special provision on the plate. No particular comment was necessary here, since the amended text specified clearly that a stamp was made:

- for the initial test in accordance with 6.8.2.4.1;
- for the periodic test in accordance with 6.8.2.4.2;
- for the leakproofness test and the check of satisfactory operation in accordance with 6.8.2.4.3.

8. The marking on the plate required in accordance with RID remained unchanged.
9. For tanks in use the following transitional measures were required within the meaning of the above additions (not reproduced here: see TRANS/WP.15/AC.1/90/Add.1, 1.6.3.25 and 1.6.4.15).

The Working Group requested that action should be taken on this recommendation.

**Document TRANS/WP.15/80.1/2002/33**

10. The purpose of this proposal by EIGA was to delete the requirement of the tank code on vehicles for gases of Class 2.
11. The great majority of participants supported the opinion expressed by EIGA whereby, in view of the obligation to mark the name of the gas accepted for carriage (with its proper shipping name) on the plate or on the tank itself, additional marking of the tank code on the tank would be redundant and was unnecessary.
12. For the most part, the Working Group was unable to support the arguments of a number of participants according to which this would be a breach of the principles of tank coding, and in some circumstances would also impair safety to some extent.
13. For this reason the Working Group recommended that action should be taken on the proposal by EIGA and that the first indent of 6.8.3.5.6 (a) of RID/ADR should be deleted.

**Document TRANS/WP.15/AC.1/2002/30**

14. At the last Joint Meeting, Germany had proposed the inclusion in RID/ADR of conditions for additional inspections of tanks intended for the carriage of ammonia. There was a possibility that corrosion cracks caused by stress could appear when certain materials were used for tanks intended for the carriage of UN No. 1005, anhydrous ammonia.
15. The Working Group had unanimously supported this proposal and the Joint Meeting had requested Germany to draft a text which had finally been submitted in document TRANS/WP.15/AC.1/2002/30, in the form of a new special provision TT8 for UN No. 1005, anhydrous ammonia.
16. In the course of the discussion it unfortunately emerged that the English and French versions diverged from the original German text. The Working Group thus had to agree on the new English wording for the proposal (see TRANS/WP.15/AC.1/90/Add.1, 6.8.4 (d) TT8).
17. The Working Group asked the Joint Meeting to include this wording in 6.8.4 (d). It would be necessary to add TT8 as a consequential amendment to Table A of Chapter 3.2, column (13), for 1005, anhydrous ammonia.

**Document TRANS/WP.15/AC.1/2002/22 in conjunction with TRANS/WP.15/AC.1/2002/23**

18. These proposals by Switzerland and Germany referred to tank codes for tanks with vacuum valves but without safety valves and the clarification of parts “N” and “H” of tank codes in 4.3.4.1.1.

19. In order to follow up the results of the last session of the Working Group on Tanks (see TRANS/WP.15/AC.1/2002/25 on INF.7 in conjunction with INF.33) which had not been discussed, for lack of time, at the Joint Meeting of March 2002, the Working Group did not at first directly discuss the proposals submitted. Initially, an attempt was rather made to clarify in what conditions safety appliances and vacuum valves might or should be used on tanks, and which tank codes might be considered relevant in such cases.

20. The Working Group went on to consider the case of tanks with a test or design pressure of less than 4 bar. The equipment of such tanks with safety devices should be in compliance with the provisions of 6.8.2.2.6 to 6.8.2.2.8. The great majority of the Working Group were of the opinion that tanks with a test pressure of less than 4 bar should in every case be fitted with a safety device.

21. It followed from this, in accordance with 6.8.2.2.3, that unless otherwise prescribed in the provisions of 6.8.4, tanks could be fitted with valves to avoid an unacceptable negative internal pressure (vacuum valves), without intervening bursting discs.

22. It was clear from 6.8.2.1.7 that measures should be taken to protect shells against the risk of deformation as a result of negative internal pressure.

23. For tanks in accordance with 6.8.2.2.7 and 6.2.2.2.8 the following provisions were also applicable in accordance with 6.8.2.1.7:

- if the tank is fitted with a vacuum valve it should be designed to resist a negative internal pressure of -0.21 bar. In this case, it is possible for the set pressure of the vacuum valve to be less than -0.21 bar (e.g. -0.17 bar);
- tanks without vacuum valves must be capable of resisting a negative internal pressure of -0.4 bar.

These tanks must therefore always carry the tank code “N”.

24. For tanks with a test pressure/design pressure equal to or greater than 4 bar, the situation was the following in the opinion of the great majority of participants:

- for substances for which Table A of Chapter 3.2 requires an L4BH code and in addition a “TE15” entry in column (13), the following applies:

TE15 Tanks fitted with vacuum valves which open at a negative pressure of not less than 0.21 bar shall be considered as being hermetically closed.

- for the other substances requiring hermetically closed tanks, the result when 6.8.2.2.3 is taken into account is produced. These tanks shall be hermetically closed, or they may be fitted with safety and/or vacuum valves with an intervening bursting disc each time. In this case the code “H” may be applied, or the code “N” only.

25. The Working Group was of the opinion, on the basis of these clarifications, that both the Swiss and the German proposals had become unnecessary and required no further discussion in the future.

26. The Working Group was also unanimously of the opinion that these clarifications should serve as a basis for improving the wording of 6.8.2.2.7 and 6.8.2.2.8. Relevant proposals were therefore required; the Working Group hoped that the Joint Meeting would entrust it with a mandate for that purpose.

27. The Working Group requested the Joint Meeting to confirm the above opinions.

28. If that were the case, transitional measures might be necessary in some cases. The RID/ADR Contracting States would therefore be invited to consider the needs of the situation in their countries.

#### **Documents TRANS/WP.15/AC.1/2002/26 and TRANS/WP.15/AC.1/2003/1**

29. In document TRANS/WP.15/AC.1/2002/26 Germany provided data on an accident involving a battery vehicle carrying hydrogen on which the technical equipment for the gases and in particular the stop valves were inadequately protected by the vehicle's rear protection against collisions. Tests were carried out in order to increase the protection of technical equipment for gases in the event of rear collisions.

30. Document TRANS/WP.15/AC.1/2003/1, which was due to be discussed at the next session of the Joint Meeting, contained a proposal which should lead to increased safety for the first external stop valve, which should be protected in the same way as the internal stop valve required for tanks for liquefied gases. It was proposed to include in 6.8.3.2.20 the equivalent wording from Chapter 6.10 concerning protection for vacuum-operated waste tanks.

31. After considering these documents, the Working Group discussed the need for the measure in question and made some initial suggestions for possible improvements of the proposal.

#### **Document TRANS/WP.15/80.1/2002/38**

32. The purpose of this proposal by France was to authorize the replacement of the internal stop valve by an external stop valve for tanks intended for the carriage of ethanol, UN No. 1170.

33. After a discussion in depth, the Working Group was unable to take action on this proposal, because of policy considerations concerning safety techniques. Various participants considered that the proposal was mainly based on economic points of view. The Working Group therefore recommended that the proposal should not be adopted.

**Informal documents INF.11 and INF.12**

34. These documents were only available in German and in addition had only been made accessible to participants at a very late stage. For that reason only a brief report was given of Germany's intentions. Detailed treatment of these documents on vacuum-operated waste tanks would be envisaged at the next session of the Joint Meeting or the next RID Committee of Experts.

**Document TRANS/WP.15/AC.1/2002/25**

35. The report of the Working Group (Bonn, March 2002) contained the results of the discussion on the need to keep special provision TE1.

36. As emerged from the report, the Working Group proposed that special provision TE1 should be deleted from section 6.8.4 and replaced by a general provision in a new paragraph 6.8.2.2.10.

37. The text was once again redrafted by the Working Group which requested the Joint Meeting to take action on this proposal (see 6.8.2.2.10 in document TRANS/WP.15/80.1/90/Add.1). The Working Group's detailed justification for this proposal can be found in document TRANS/WP.15/AC.1/2002/25.

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