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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
Geneva, 11-15 September 2006

REPORT OF THE SESSION

held in Geneva from 11 to 15 September 2006

Addendum 1*

Annex 2: Report of the working group on tanks

The secretariat has received from the Intergovernmental Organization 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.37). The report is reproduced below.

* Circulated by the Intergovernmental Organization for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2006-B/Add.1.

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Report of the working group on tanks

1. The working group on tanks met from 11 to 13 September 2006, 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 documents:

ECE/TRANS/WP.15/AC.1/2006/17 (Belgium), ECE/TRANS/WP.15/AC.1/2006/22 (United Kingdom), ECE/TRANS/WP.15/AC.1/2006/27 (Germany), ECE/TRANS/WP.15/AC.1/2006/33 (France), ECE/TRANS/WP.15/AC.1/2006/34 (France), INF.5 (Germany), INF.14 (OTIF), INF.17 (France), INF.19 (Portugal), INF.20 (United Kingdom), INF.22 (Belgium), INF.24 (AEGPL).

NOTE: Document ECE/TRANS/WP.15/AC.1/2006/18 (Belgium), originally included in the list, was discussed in the plenary. Document ECE/TRANS/WP.15/AC.1/2006/20 (Belgium) was replaced by document INF.22.

3. The working group was made up of 19 experts from 8 countries and 6 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.1/2006/17 (Belgium - Inspection certificate)

5. The proposal was discussed taking into consideration the various types of tanks in correlation with tank marking requirements, and was supported in principle by all members. During the ensuing discussion, it was not considered necessary to provide for transitional measures. The proposal was adopted by the working group with the following wording:

"6.8.2.4.5 The tests, inspections and checks pursuant to 6.8.2.4.1 to 6.8.2.4.4 shall be carried out by the expert approved by the competent authority. Certificates shall be issued showing the results of these operations. These certificates shall refer to the list of the substances permitted for carriage in this tank or to the tank code <u>and the alphanumeric codes of special provisions</u>, in accordance with 6.8.2.3."

Item 2: Documents INF.22 (-/2006/20) (Belgium - Intervals between tests) and ECE/TRANS/WP.15/AC.1/2006/34 (France - Inspections and tests in 6.8.2.4)

6. Informal document INF.22, transmitted by Belgium (to replace document ECE/TRANS/WP.15/AC.1/2006/20), was discussed along with document ECE/TRANS/WP.15/AC.1/2006/34, transmitted by France, as the two proposals addressed the same subject.

The possibility suggested in INF.22 of carrying out intermediate inspections within three months before or after the inspections in question gave rise to a long discussion. It was

unanimously agreed that flexibility in terms of timing should be shown in respect of only the intermediate inspection, and not the periodic inspection. Following clarification and an addition to the requirements for exceptional checks, the proposal was adopted, with editorial changes.

The working group also clarified the wording in the first sentence of 6.8.2.4.2 for the periodic inspection:

"6.8.2.4.2 Shells and their equipment shall undergo periodic inspections **no later than every …**".

"6.8.2.4.3 **Shells and their equipment shall undergo intermediate inspections every**

four years/three years /two and a half years

after the initial inspection and each periodic inspection. These intermediate inspections may be performed within three months before or after the specified date.

However, the intermediate inspection may be performed at any time before the specified date.

If an intermediate inspection is performed more than three months before the due date, another intermediate inspection shall be performed at the latest

four years/three years /two and a half years

after this date.

These intermediate inspections shall include a leakproofness test of the shell with its equipment and a check of the satisfactory operation of all the equipment. For this purpose the tank shall be subjected to an effective internal pressure at least equal to the maximum working pressure**.** For tanks intended for the carriage of liquids or solids in the granular or powdery state, when a gas is used for the leakproofness test it shall be carried out at a pressure at least equal to 25% of the maximum working pressure. In all cases, it shall not be less than 20 kPa (0.2 bar) (gauge pressure).

For tanks equipped with venting systems and a safety device to prevent the contents spilling out if the tank overturns, the pressure test shall be equal to the static pressure of the filling substance.

The leakproofness test shall be carried out separately on each compartment of compartmented shells."

"6.8.2.4.4 When the safety of the tank or of its equipment may have been impaired as a result of repairs, alterations or accident, an exceptional check shall be carried out. **If an exceptional check fulfilling the requirements of 6.8.2.4.2 has been performed then the exceptional check may be considered to be a periodic inspection. If an exceptional check fulfilling the requirements of 6.8.2.4.3 has been performed then the exceptional check may be considered to be an intermediate inspection.**"

Item 3: Documents ECE/TRANS/WP.15/AC.1/2006/22 and INF.20 (United Kingdom - Transitional measures)

7. Document ECE/TRANS/WP.15/AC.1/2006/22 dealt with transitional measures in relation to standard EN 13317, and was replaced by the United Kingdom with informal document INF.20. As a result of the decision of the Joint Meeting to restrict the application of that standard, as cited in 6.8.2.6 of ADR, in respect of the materials to be used, transitional measures were required for tanks that were already in existence and equipped, to allow for their subsequent use. Following acceptance in principle, the working group discussed the alternative proposals put forward by the United Kingdom.

Users could assume that the standards cited in RID/ADR 6.8.2.6, if necessary with existing restrictions, met the requirements of RID/ADR, provided that such restrictions were observed.

Taking into consideration the other justifications given in INF.20, the working group unanimously adopted the alternative proposal contained in paragraph 5. The proposal set out a general procedure, without naming specific standards:

"1.6.3.X Tank wagons/Fixed tanks (tank vehicles), wagons with demountable tanks/demountable tanks and battery wagons/battery vehicles designed and constructed in accordance with referenced standards applicable at the time of their construction and which are modified, revised or no longer listed in 6.8.2.6 may still be used."

"1.6.4.Y Tank-containers and MEGCs designed and constructed in accordance with referenced standards applicable at the time of their construction and which are modified, revised or no longer listed in 6.8.2.6 may still be used."

Item 4: Documents ECE/TRANS/WP.15/AC.1/2006/27 and INF.24 (Germany and AEGPL - Requirements for AEGPL discharge pipes)

8. Incidents involving defective discharge pipes on liquefied gas tanks had given rise to a proposal (document 2006/27) aimed, as a first step, at drawing the attention of manufacturers to a few relevant safety requirements for portable tanks. That could be done by incorporating a few provisions of chapter 6.7 for portable tanks and their equipment, in particular discharge pipes, into chapter 6.8, for other types of tanks.

Informal document INF.24 raised questions about some of the requirements, and thus also about their inclusion in chapter 6.8.

The need to incorporate the requirements contained in the proposal was the subject of a lengthy discussion in the working group. It was decided that the basic requirements of chapter 6.7 should be reproduced so that tank manufacturers and the relevant standards bodies would be aware of the problems.

The working group did however encounter some difficulties when it came to incorporating requirements of chapter 6.7 that could not simply be applied to fixed tanks (tank-vehicles) or to tank-wagons as they stood.

The fact that chapter 6.8 allowed for the use of non-metallic materials and that in current practice such materials were in use presented other problems.

The working group eventually decided to reproduce the following requirements in 6.8.2.2.1 (to be inserted after “meet the requirements of 6.8.2.1.1”):

> “Piping shall be designed, constructed and installed so as to avoid the risk of damage due to thermal expansion and contraction, mechanical shock and vibration.”

Germany would, if necessary, subsequently address the other aspects presented.

Item 5: Document ECE/TRANS/WP.15/AC.1/2006/33 (France - Materials for covers of shells with lining)

9. The aim of the proposal was to make it possible to use non-metallic materials to produce covers, especially for manholes in metallic tanks under chapter 6.8. According to the current definition, dome covers were part of the tanks and must be manufactured in appropriate metallic materials. Before allowing an exception to that principle, the working group considered that it was necessary to clarify a few pending technical issues that were additional to the general question, including:

- What kind of lining was being considered (“liners” and/or “layers”);
- How proof would be provided of compliance with the required design pressures;
- How issues related to stability would be resolved, for example if the tank overturned;
- Whether the parts of chapter 6.9 could be applied;
- How problems of ageing would be resolved;
- Whether other construction designs could be used, for example a blank flange instead of hinged covers.

France would consider the need for a new proposal, taking into consideration the questions pending.

Item 6: Document INF.5 (Germany - Subsections 6.8.2.6 and 6.8.2.7, chapter 6.7)

10. Standard EN 14025 was set out in RID/ADR subsection 6.8.2.6, and was considered to be a technical code for the design and construction of tanks under RID/ADR chapter 6.8. Since chapters 6.7 and 6.8 differed in respect of design and construction, the standard could not be applied to portable tanks under chapter 6.7.

Based on document INF.5, the Joint Meeting was requested to decide whether it was necessary to begin drawing up an amendment to the standard in order to ensure that it would also be applicable to portable tanks under chapter 6.7. Under the current chapter 6.7, portable tank shells must be designed and constructed in accordance with the requirements of a pressure receptacle code recognized by the competent authority. An amendment to standard EN 14025 would make it possible for the competent authorities to adapt that standard for use as a recognized code for pressure receptacles and hence also for the design and construction of portable tanks under chapter 6.7. There was no intention nor any need to change or amend the current rules of chapter 6.7; in other words, other codes for pressure receptacles could be applied, provided that they were recognized by the competent authority.

The solution was also advantageous for tank and portable tank manufacturers, as it would make it possible to apply across the board a single code for pressure receptacles/technical code for tanks under chapter 6.8 and for portable tanks under chapter 6.7. Furthermore, it would make harmonization possible at the European level by providing an alternative to the pressure receptacle code/technical code recognized by the competent authority.

Item 7: Document INF.14 (OTIF - Additional amendments to the 2007 editions of RID/ADR)

11. The document had already been discussed in the plenary. The working group had been requested to consider whether the provisions of 6.7.4.14.4 and 6.7.4.14.5 overlapped, and if so, to draw up a proposal for the Joint Meeting, with a view to submitting the matter to the United Nations Sub-Committee of Experts. After consideration of the two paragraphs, it was decided that the provisions overlapped in respect of the requirement for non-vacuum insulated tank tests.

The last sentence of 6.7.4.14.5 was:

"In addition, at the 5 year periodic inspection and test of non-vacuum insulated tanks the jacket and insulation shall be removed, but only to the extent necessary for a reliable appraisal."

The content of 6.7.4.14.4 was:

"In the case of non-vacuum insulated tanks, the jacket and insulation shall be removed during a 2.5 year and a 5 year periodic inspection but only to the extent necessary for a reliable appraisal."

In the working group's opinion, 6.7.4.14.5 should be deleted, as suggested by OTIF.

Item 8: Document INF.17 (France - Marking of tank-wagons)

12. The proposal to amend standard EN 12561:1998 could not be addressed by the working group on standards, as that group was not familiar with the standard in question. After a brief discussion, the representative of France withdrew the proposal, as the standard was currently being revised.

Item 9: Document INF.19 (Portugal - Special provisions of 6.8.4)

13. The document described the existing situation as it related to the TE and TC special provisions after restructuring of the requirements. The proposal set out possible ways of simplifying the special provisions, which should facilitate their application. Following a presentation of the document and a brief discussion, the members of the working group were invited to communicate their observations to the representative of Portugal in time for the next Joint Meeting.

Item 10: Application of materials requirements in RID/ADR, with reference to standards

14. The working group had been invited by the chairman of the working group on standards to take a position regarding the interpretation of a problem concerning the use of materials. The working group confirmed the limit values contained in RID/ADR, which must be observed when materials were chosen. When the materials cited in the standards were used, that fact must be taken into account.

The Joint Meeting is requested to approve the amendments proposed under the various points.
