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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 Bern from 7 to 11 March 2005

Addendum 1*

Annex 1

Report of the working group on tanks

(Report prepared by the representative of Germany)

The working group on tanks met from 7 to 8 March 2005, concurrently with the RID/ADR/ADN Joint Meeting which had entrusted it with a relevant mandate.

The working group considered the following official and informal documents:

TRANS/WP.15/AC.1/2005/2, -/2005/5, -/2005/8, -/2005/16, -/2005/18, -/2004/21, -/2004/22, -/2005/30, -/2005/34, INF.4, INF.10, INF.18, INF.19 and other matters.

* Circulated by the Central Office for International Carriage by Rail (OCTI) under the symbol OCTI/RID/GT-III/2005-A/Add.1.

The working group was made up of 16 experts from nine countries and two international non-governmental organizations.

The order of discussion of the documents was determined by the presence of the experts.

Documents TRANS/WP.15/AC.1/2004/2 (Germany) and TRANS/WP.15/AC.1/2005/19 (United Kingdom) had already been discussed in plenary.

1. Document TRANS/WP.15/AC.1/2005/2 (Belgium) (Transitional measure of 1.6.4.12)

In this document Belgium expresses the fear that existing transitional measures will enable use to be made of a tank that does not yet carry a tank code without indicating the proper shipping name of the substance carried. The working group supported this proposal and proposes that the Joint Meeting should adopt the following text:

Proposal

Add the following text to the transitional measure of 1.6.4.12: (Text adopted by the Joint Meeting, see TRANS/WP.15/AC.1/98/Add.2).

2. Document TRANS/WP.15/AC.1/2005/5 (United Kingdom) (1.2.1 Capacity of shell)

It is proposed in this document to include a definition of “capacity of shell or shell compartment”. Like the Joint Meeting, the working group also observed that it would be desirable to have standard wording for the definition. In the circumstances, however, the existing terms should be considered with the method of their introduction. The text proposed by the United Kingdom for RID/ADR tanks was considered to be both correct and useful. It was approved by the working group with some minor drafting changes.

The working group proposes the following text to the Joint Meeting for adoption:

Proposal

Add a new definition to 1.2.1 for “capacity of shell”: (Text adopted by the Joint Meeting, see TRANS/WP.15/AC.1/98/Add.2).

3. Document TRANS/WP.15/AC.1/2005/8 (UIC/IUR) (Tank codes for certain substances of Class 3)

The Joint Meeting had in 2004 adopted a proposal from UIC/IUR (document TRANS/WP.15/AC.1/2004/12) to increase the design and test pressures for certain substances of Class 3, packing group I, from 1,5 to 4 bar.

The drafting of the transitional measure had been entrusted to UIC/IUR. The majority of the working group had no problem with the transitional period proposed, since such tanks are rare and therefore do not play an important role. A large number are accepted in rail traffic as tank wagons. The majority of participants thus considered the proposed transitional period of five to eight years justifiable.

Spain and Belgium put in a plea for an extension that would double the transitional measure, i.e. 10 to 16 years, since it is probable that large numbers of tanks are circulating in their countries.

The proposed wording was redrafted and is reproduced below:

Proposal: (see annex 2, 1.6.3.x and 1.6.4.x)

The working group requested the Joint Meeting to take a decision on this issue and to give the secretariat a mandate to draft the text itself in due regulatory form.

4. Document TRANS/WP.15/AC.1/2005/16 (UIC/IUR) (4.2, 4.3 and 6.8: Hierarchy of tanks and special provisions) and document INF.19 (Belgium) (Comments on TRANS/WP.15/AC.1/2005/16)

The two documents deal with the validity of the special provisions for types of tanks which are approved for the same substances but are more effective according to the hierarchy of tanks. The working group approved the clarification and adopted the following text after a drafting change which should appear as a NOTE to Column (11), since it concerns UN tanks:

Proposal

Add the following sentence to the text of 3.2.1, Columns (11) and (13): (Text adopted by the Joint Meeting, see TRANS/WP.15/AC.1/98/Add.2).

5. Document TRANS/WP.15/AC.1/2005/18 (UIC/IUR) (MAWP, design pressure and test pressure of portable tanks)

The working group resumed the discussion which had taken place in the last few meetings on the determination of the test pressure and the allocation to tank instructions in correlation with design pressure for UN tanks. The method proposed in the document would in practice lead to failure to observe hydrostatic pressure by dynamic stresses (g values). This was not acceptable to the working group. In principle, this partial pressure cannot be left out of the calculation. Following a discussion, Germany was requested, in order to determine the partial pressure of gases in the ullage space, to submit a new proposal that would take account of this partial pressure and make it possible to calculate the test pressure.

6. Document TRANS/WP.15/AC.1//2005/21 (United Kingdom) and informal document INF.4 (Emergency pressure relief valves)

After a lengthy discussion, the working group was of the opinion that the role of this valve was rather to protect the tank against unacceptable pressures that might occur during filling (protection against overfilling) than against fire.

The working group moreover saw no possibility of protecting aluminium tanks, even when they were equipped with the emergency pressure relief valve in question. Like the Joint Meeting at its last session, the majority of the working group also doubted the leakproof function of the valves following a tank rollover.

A solution to the problem could consist in securing the valves during carriage so that they meet the requirement of 6.8.2.2.1. The United Kingdom expressed its intention of coming back to this problem.

7. Document TRANS/WP.15/AC.1/2005/22 (United Kingdom) (Requirement for external tank bands)

This document concerns a change to a protective measure to enable the minimum wall thickness of non-cylindrical tanks on tank-vehicles to be reduced. The working group was unable to approve the procedure proposed for technical safety reasons. It emerged from a discussion on the interpretation of this protective measure of 6.8.1.20 (b) of ADR, however, that reducing the wall-thickness of the front and rear ends in place of the lateral protection of the ends (bands) cannot be considered a measure of protection either. This is also in accordance with standard EN 13094 for low-pressure tanks.

8. Document TRANS/WP.15/AC.1/2005/30 (Belgium) (Definitions in subsection 6.7.2.1)

This document proposes changing the definition for maximum allowable working pressure (MAWP) into a definition for maximum working pressure (MWP) and adding a provision comparing the two pressures.

The proposed solution should be considered in correlation with document TRANS/WP.15/AC.1/2005/18 and with the determination of the test pressure for UN tanks.

The working group discussed the proposal and expressed reservations given that the expression “maximum allowable working pressure” is justified in certain cases, in view of the fact that according to the instructions for carriage in tanks of Chapter 4.2 test pressures are fixed, and when safety factors are taken into account, for example the working pressure during filling and discharging, certain maximum values must not be exceeded.

It would be necessary to try to find a solution during the discussions at the next Joint Meeting.

9. Document TRANS/WP.15/AC.1/2005/34 (Belgium) (Inscriptions on the tank-containers and indications in the tank certificate according to 6.8.2.5.2 and 6.8.2.3.1) and informal document INF.10 (Germany) (Comments on -/2005/34)

Both documents deal with the subject of special provisions TE, TC and TA and how they are indicated in certificates or on the tank.

The Belgian document draws the attention of all participants to the familiar problem of the special provisions “If - then” (TE5, TE6, TE15 and TE24) and attempts, by means of an explanation and specific indications to remove these difficulties. The explanations were also transposed to all the other special provisions.

The working group discussed the advantages and disadvantages of this procedure, also bearing in mind approaches to solutions already submitted at earlier meetings. The voluminous procedure of the solution proposed and the allocation of other substances (+) meant an unnecessary exception to the system of restructuring for many members of the working group.

In weighing up existing possibilities and an informative spot check within the working group, it was observed that there were different ways of handling the problem in practice and a simple solution was sought for the future. It was also urgent to solve the problem since an indication of the special provisions applicable had been required on tanks (tank-containers, tank wagons) since 1 January 2005.

All participants considered that the system provisionally practised in Germany of putting the "If - then" special provisions in brackets was conceivably a good solution. In the opinion of all members, this system can be applied if followed by a clear description of the procedure in the requirements in the form of a NOTE. The NOTE must make it clear that certain special provisions must also be marked when the tank complies otherwise with the special provision or when the measures contained in the special provision are not relevant for the tank. In such cases the special provision must appear in brackets. Special provision TE5 is cited below as an example:

"If shells are equipped with thermal insulation, such insulation shall be made of materials which are not readily flammable. If there is no insulation, TE5 shall be indicated in brackets."

For the next meeting, Germany was requested to prepare a proposal indicating the appropriate place for the NOTE and for the relevant transitional measures.

With regard to informal document INF.10, the working group confirmed the general procedure, namely, the transposition of the content of special provision TE15 into the text of the regulation and therefore the deletion of this special provision at each point.

The proposal was redrafted and is reproduced below. Germany was requested to submit a proposal for the necessary transitional measures for the next meeting. It should also include the adaptation of the existing transitional measures of 1.6.3.19 and 1.6.4.13.

Proposal

1. Amendment of the text in 1.2.1 and 6.8.2.2.3;
(Text adopted by the Joint Meeting, see TRANS/WP.15/AC.1/98/Add.2).
2. Deletion of special provision TE15 in Chapter 3.2, Table A, Column (13) and in 6.8.4 (b).

Add proposal 1 (amendment of the definition of "hermetically closed tank") to paragraph 1.2.1 and the amendment to paragraph 6.8.2.2.3.

[(RID only:) The second existing subparagraph remains unchanged.]

During discussion of the document, the marking of the external gauge pressure on the tank plate for RID/ADR tanks was also discussed. For portable tanks, this already appeared in Chapter 6.7. The proposal was approved in principle by the working group. The Netherlands would submit a pertinent proposal for the next Joint Meeting.

10. Informal document INF.18 (United Kingdom) (Periodic inspections of tanks)

This document presents two methods which, as Non-Destructive Testing (NDT), involve a partial replacement of the hydraulic pressure test prescribed for tanks. The general applicability also for RID/ADR tanks of the different methods and their advantages and disadvantages were discussed.

The working group noted that there were problems in their application to tanks, but it left the possibility of application open. For this reason, the working group, lacking information, was unable to take a policy decision on this issue.

The United Kingdom will continue to study the problem.

Other matters

The United Kingdom submitted a further two problems in correlation with the implementation of standards.

The first problem concerns the heading of the table in 6.8.2.6 for low-pressure tanks. With this heading the implementation of the standard referred to is unnecessarily restricted. It is proposed that the restriction to Class 3 should be done away with by deleting the words "of Class 3". It will thus be possible to carry other appropriate substances, for example, UN No. 3375, with tank code LGAV (+).

The second problem is to know whether the implementation of the standards to which reference is made in 6.8.2.6 of RID/ADR is mandatory or whether equivalent alternatives are acceptable. The working group agreed that the existing text of the regulation did not exclude that alternative, although determining the same level of safety caused difficulties in practice. With regard to this problem, the experts from the United Kingdom proposed the amendment of 6.8.2.7, making it mandatory to implement existing standards. If no standard existed for the case in question, the competent authority must publish the regulation applied as an accepted alternative.

The working group acknowledged this problem and brings it to the attention of the Joint Meeting with this report. The United Kingdom will submit an official proposal for the next meeting.

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