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**ECONOMIC COMMISSION FOR EUROPE**

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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  
(Bern, 7-11 March 2005)

**TANKS**

**MAWP, design pressure and test pressure of portable tanks**

**Transmitted by the International Union of Railways (UIC) \*/**

The RID/ADR Tank Working Group and the RID/ADR/ADN Joint Meeting discussed at their September 2004 sessions informal document INF.9: Allocation of tank instructions and determination of Test pressures, transmitted by the Government of Germany.

The Tank Working Group supported, in principle, the proposals in the document from Germany (see TRANS/WP.15/AC.1/96/Add.1, para. 6). The Joint Meeting, however, did not support the proposal from Germany and the Working Group, mainly on the basis of objections from the representative of Belgium who pointed out that, in the new definition of MAWP proposed by Germany in para.2 of informal document INF.9, the component 'partial pressure of air or other gases in the ullage space' was missing.

After five years of discussions on this item in the UN Sub-Committee of Experts on the Transport of Dangerous Goods and in the RID/ADR Joint Meeting, the UIC/IUR comes to the following conclusions:

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\*/ Circulated by the Central Office for International Carriage by Rail (OCTI) under the symbol OCTI/RID/GT-III/2005/18.

- the definitions for MAWP and Design pressure in 6.7.2.1 are very difficult to apply and, therefore, the text under (b) in the definitions is in practice seldom used,
- these difficulties exist not only for fillers of tanks and for checks on the compliance with the provisions of RID/ADR, but also for the design approval of the portable tank.

For a short-term solution, the UIC/IUR proposes to discuss again document INF. 8, transmitted by the UIC/IUR to the October 2003 RID/ADR Joint Meeting, in particular the proposal to solve the second and third problems (see annex).

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## Annex

### Chapter 4.2 and 6.7, UN Portable Tanks

In document TRANS/WP.15/AC.1/2003/33 - OCTI/RID/GT-III/2003/33, the representative of UIC identified practical problems with the provisions of the new chapters 4.2 and 6.7 on portable tanks. As discussion of this paper in the plenary meeting was impossible, the document was entrusted to the Working Group on Tanks. Because the session of the Working Group on Tanks was parallel to the plenary session, the representative of the UIC could not explain the problems raised in his paper to the Working Group.

The Working Group, on the other hand, was unable to solve the problems because earlier proposals from the UIC to the UN Sub-Committee were unknown.

The Chairman of the Working Group on Tanks, after the session in March, asked the representative of the UIC to draft a paper with solutions for the problems presented in -/2003/33.

### Proposals to solve the problems presented in TRANS/WP.15/AC.1/2003/33:

**First problem:** the number of the tank instruction of the portable tank, preceded by the letter 'T' should be marked on the tank.

#### **Justification**

It would be a great help to fillers, carriers and other participants in the transport of portable tanks, if the number of the tank instruction would be clearly visible on the portable tank, as is the case with the tank code for RID/ADR-tank containers. Such a provision should be included in sub-sections 6.7.2.20, 6.7.3.16 and 6.7.4.15.

#### **Remark**

UIC could not find in chapter 4.2 any Tank Instruction for Multiple Element Gas Containers (MEGC's) according to section 6.7.5. Furthermore, UIC could not find any entry for a Tank Instruction for compressed gases in column (10) of Table A in Chapter 3.2. The same seems to be the case in column (10) of the Dangerous Goods List in the UN Model Regulations.

**Question:** because UN-MEGC's have no Tank Instruction, where are the gases to be found, permitted for transport in UN-MEGC's?

**Second and third problems:** These could be solved by adopting the proposals in documents ST/SG/AC.10/C.3/2002/21 and ST/SG/AC.10/C.3/2002/64 to the UN SC TDG for an amendment to the definition of Design Pressure in 6.7.2.1. The purpose of these proposals was to improve the user-friendliness of the definition of design pressure. The design, test and working pressures of the vast majority of the portable tanks are established on the basis of the test pressures in the table of portable tank instructions in informal document INF.8.

4.2.5.2.6. Therefore, in the definition of design pressure in 6.7.2.1, the complicated procedure under (b) should be an **alternative** to the simple reference to the values in table 4.2.5.2.6. Consequently, the definition of 'design pressure' in 6.7.2.1 should read as follows:

*Design pressure* means the pressure to be used in calculations required by a recognized pressure vessel code. The design pressure shall be not less than the highest of the following pressures:

- (a) The maximum effective gauge pressure allowed in the shell during filling or discharge;
- (b) Either:
  - (i) **(existing text)**
  - (ii) **(existing text)**
  - (iii) **(existing text)**

or:

two-thirds of the minimum test pressure specified in the applicable portable tank instruction in 4.2.5.2.6.

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