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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, 28 May – 1 June 2001)

PROPOSAL TO AMEND THE TEXT OF THE RID/ADR

Part 6 – Chapter 6.8

Special requirements applicable to class 2; leakproofness tests, item 6.8.3.4.9

Transmitted by the European Industrial Gases Association (EIGA) */

SUMMARY

<i>Executive summary:</i>	This proposal clarifies the requirements for leakproofness tests for gases in tanks and aligns the text with the existing requirements for tanks other than for class 2 and for what has been introduced for battery-vehicles/wagons and MEGC in the restructured ADR/RID.
<i>Action to be taken:</i>	Modify 6.8.3.4.3, 6.8.3.4.6 and 6.8.3.4.9 with the proposed text
<i>Relevant documents:</i>	TRANS/WP.15/AC.1/80/Add.9.

Introduction

Leakproofness tests are required during periodic inspections of tanks of class 2 in 6.8.3.4.6. Contrary to the requirements for tanks for other classes in 6.8.2.4.1 and for battery-vehicles/wagons

*/ Circulated by the Central Office for International Carriage by Rail (OCTI) under the symbol OCTI/RID/GT/III/2001/18.

and MEGC's in 6.8.4.11, there is no requirement for a leakproofness test when the various elements of the tank have been proof tested separately.

The value of the pressure to be applied during the leakproofness test is not related to the maximum working pressure of the tank but is fixed in 6.8.3.4.9 at a value between 4 and 8 bar.

It is current practice, at least during periodic inspections, to use the transported gas to demonstrate that the tank is tight for the gas during transport. For compressed, liquefied gases and gases dissolved under pressure, the working pressure varies in a wide range depending on the type of gas. Therefore the fixed pressure range (4 bar to 8 bar) for leakproofness test given in 6.8.3.4.9 is not practical; the pressure can be either too low or too high for the actual pressure of the gas in the tank.

EIGA proposes:

- 1) to introduce a requirement for a leakproofness test after the assembly of the shell with its piping and items of equipment, in line with what is required for other tanks and for battery-vehicles/wagons and MEGC's.
- 2) to relate the value of pressure of the leakproofness test to the maximum working pressure or to the test pressure of the tank depending on the type of gases. The values proposed are in line with what has been adopted at the UN for MEGCS and for tanks for refrigerated liquefied gases and in line with the requirements for portable tanks in chapter 6.7. The proposal takes into account the new definitions of gases adopted for the 12th edition of the UN Recommendations that hopefully will be adopted for the next edition of the ADR/RID requirements.

Proposal

In **6.8.3.4.3**, add a second sentence: *When the shell, its fittings, piping and items of equipment have been tested separately, the tank shall be subjected to a leakproofness test after assembly.*

In **6.8.3.4.6**, after the first paragraph of b) add: *When the shell, its fittings, piping and items of equipment have been tested separately, the tank shall be subjected to a leakproofness test after assembly.*

Modify **6.8.3.4.9** as follows: *Leakproofness tests of tanks intended for the carriage of ~~compressed, liquefied gases or gases dissolved under pressure~~ shall be performed at a pressure of not less than 0.4 MPa (4 bar) and not more than 0.8 MPa (8 bar) (gauge pressure).:*

- *For compressed gases, high pressure liquefied gases and gases dissolved under pressure:*
 - a) *the working pressure at 15°C when a leakproofness test is performed after assembly;*
 - b) *the working pressure at 15°C with a minimum of 20% of the test pressure when the tank and items of equipment are not disassembled;*
- *For low-pressure liquefied gases:*
 - a) *the maximum working pressure when a leakproofness test is performed after assembly;*
 - c) *the vapour pressure of the gas in the tank subject to a minimum of 25% of the MAWP when the tank and items of equipment are not disassembled;*
- *For refrigerated liquefied gases: 90% of the maximum working pressure.*

Justification

Safety: Safety will be increased because the tightness of the assembly is demonstrated before putting into service. Operational safety will also be improved by allowing the use of the actual gas transported for the periodic leakproofness test.

Feasibility: The proposal will align the ADR with the UN Model Regulations.

Enforceability: Enforcement will rely upon checking the leakproofness at the next inspection.
