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

Executive summary: 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.

Action to be taken: Modify 6.8.3.4.3, 6.8.3.4.6 and 6.8.3.4.9 with the proposed text

Relevant documents: 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.

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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.