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Working Party on the Transport of Dangerous Goods
(Geneva, 13-23 September 2005)

TANKS

Chapter 6.8

Marking of design vacuum pressure on the tank

Transmitted by the Government of the Netherlands */

Executive summary:	Mandatory marking of the design vacuum pressure on the tank
Action to be taken:	Add an indent in 6.8.2.5.1 and add a transitional measure.
Relevant documents:	Joint Meeting report TRANS/WP.15/AC.1/98 (OCTI/RID/GT-III/2005-A), sub 15, documents March 05/INF. 10 and March 05/INF. 27 (sub 3).

Introduction:

Depending on the design vacuum pressure of tanks and substance carried, a vacuum valve is mandatory, optional or prohibited.

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*/ Circulated by the Central Office for International Carriage by Rail (OCTI) under the symbol OCTI/RID/GT-III/2005/64.

Before ADR/RID 2003 the application of vacuum valves was controversial for the carriage of toxic substances.

Special provision TE 15, introduced in ADR/RID 2003, was interpreted in many countries as to indicate that the vacuum valves are present.

In the last Joint Meeting (March 2005), it was decided that the deletion of TE 15 was a step forward to solve the problems concerning carriage of substances in tanks higher in the hierarchy and the applicable tank codes and special provisions (see document March 05/INF. 10).

With the deletion of TE 15 in ADR/RID 2007 the need arises again to give a clear indication to the users of the tank and the enforcement bodies when a vacuum valve is necessary, by an inscription on the tank plate.

Making this provision mandatory for existing tanks would also improve clarity if vacuum-relief valves need to be fitted or not.

Because of the use of different values for design vacuum pressures on tanks approved before 1-7-2003 in different countries, adding this values could cause confusion to users and enforcement bodies when vacuum valves should be fitted. A more general approach for existing tanks is by adding the words “vacuum valves” on the tank plate or on the shell itself, only if vacuum valves are essential to protect the tank

Proposal

Amend the text of 6.8.2.5.1 by adding a new indent, after the existing fifth indent, with the following text:

- design vacuum pressure (see 6.8.2.1.7);

Add a new transitional measure in chapter 1.6.3:

1.6.3.x Fixed tanks (tank-vehicles) and demountable tanks constructed before 1 July 2007 in accordance with the requirements in force up to 31 December 2006, but which do not comply with the requirements of 6.8.2.5.1, with respect to the indication of the design vacuum pressure, shall be provided with the inscription “vacuum valves” on the tank plate or on the shell itself, if the application of vacuum valves is deemed necessary by the competent authority, at the next periodical inspection according to 6.8.2.4.2 and not later than 30 June 2013.

Add a new transitional measure in chapter 1.6.4:

1.6.4.x Tank-containers constructed before 1 July 2007 in accordance with the requirements in force up to 31 December 2006, but which do not comply with the requirements of 6.8.2.5.1, with respect to the indication of the design vacuum pressure, shall be provided with the inscription “vacuum valves” on the tank plate or on the shell itself, if the application of vacuum valves is deemed necessary by the competent authority, at the next periodical inspection according to 6.8.2.4.2 and not later than 30 June 2012.

Justification:

Users and enforcement bodies should be able to determine that a tank needs to be fitted with vacuum valves in order to protect the tank against failure through negative internal pressure. The information to determine this should be readily available on the tank (plate).

Because of the used values for the design vacuum pressure of tanks approved before 1 July 2003 can differ from the values introduced in ADR/RID2003, it will be better to use the wording "vacuum valves" on the tank plate if the vacuum valves are necessary to protect the tank.

If vacuum valves are necessary for a tank, this will be decided by the expert approved by the competent authority. For the periodic inspection according to 6.8.2.4.2., information will be available to make this decision.

Safety: Due to clear information the absence of a mandatory vacuum valve will be avoided.

Feasibility: No problems expected. Data is readily available for new tanks, for existing tanks the competent authority shall decide if vacuum valves are necessary based on the original calculations and used values at time of original approval.

Enforceability: No problems expected. Indication of the value of design vacuum pressure or of wording on the tank plate or on the shell itself makes the mandatory application of vacuum valves clear.

Economical aspects: Minimal. For new tanks the inscription in tank plate or shell itself will take little extra effort. For existing tanks the assessment if the wording is necessary and the inscription on the tank plate or shell itself will take minimum effort during a hydraulic pressure test when the proper data are available.
