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Economic Commission for Europe**Inland Transport Committee****Working Party on the Transport of Dangerous Goods****Joint Meeting of the RID Committee of Experts and the
Working Party on the Transport of Dangerous Goods**

Bern, 19-23 March 2012

Item 2 of the provisional agenda

Tanks**Premature activation of safety valves in the carriage of
refrigerated liquefied gases in RID/ADR tanks; taking over
the provisions for portable tanks with respect to holding
times and reference holding times for RID/ADR tanks****Transmitted by the International Union of Railways (UIC)^{1, 2}**

1. UIC submitted an informal document to the Joint Meeting (Berne, 21 – 25 March 2011) setting out the problems surrounding the premature activation of safety valves. Under item 9 of the report of the tank working group (ECE/TRANS/WP.15/AC.1/122/Add.1 – OTIF/RID/RC/2011-A/Add.1), it was noted that provisions for the holding time of tanks were necessary. The tank working group also asked UIC to submit a new proposal.

Proposal

4.3.3 Insert the following new sub-section:

"4.3.3.5 General provisions for the use of RID/ADR tanks for the carriage of refrigerated liquefied gases

4.3.3.5.1 Actual holding time

¹ In accordance with the programme of work of the Inland Transport Committee for 2010-2014 (ECE/TRANS/208, para.106, ECE/TRANS/2010/8, programme activity 02.7(c)).

² Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2012/1.

4.3.3.5.1.1 The actual holding time shall be calculated for each journey in accordance with a procedure recognized by the competent authority, on the basis of the following:

- (a) The reference holding time for the refrigerated liquefied gas to be carried (see 6.8.3.1.7.2) (as indicated on the plate referred to in 6.8.3.5.4);
- (b) The actual filling density;
- (c) The actual filling pressure;
- (d) The lowest set pressure of the pressure limiting device(s).

4.3.3.5.1.2 The actual holding time shall be marked either on the tank itself or on a metal plate firmly secured to the tank, in accordance with 6.8.3.5.6.

4.3.3.5.1.3 Tanks shall not be offered for carriage:

- (a) Unless the actual holding time for the refrigerated liquefied gas being carried has been determined in accordance with 4.3.3.5.1.1 and the tank is marked in accordance with 6.8.3.5.6; and
- (b) Unless the duration of carriage, after taking into consideration any delays which might be encountered, does not exceed the actual holding time."

6.8.3.1 Insert the following new paragraphs:

"6.8.3.1.7 General provisions for the design and construction of tanks intended for the carriage of refrigerated liquefied gases

6.8.3.1.7.1 A reference holding time shall be determined for each refrigerated liquefied gas intended for carriage in a tank.

6.8.3.1.7.2 The reference holding time shall be determined by a method recognized by the competent authority on the basis of the following:

- (a) The effectiveness of the insulation system, determined in accordance with 6.8.3.1.7.3;
- (b) The lowest set pressure of the pressure limiting device(s);
- (c) The initial filling conditions;
- (d) An assumed ambient temperature of 30 °C;
- (e) The physical properties of the individual refrigerated liquefied gas intended to be carried.

6.8.3.1.7.3 The effectiveness of the insulation system (heat influx in watts) shall be determined by type testing the tank in accordance with a procedure recognized by the competent authority. This test shall consist of either:

- (a) A constant gas pressure test (for example at atmospheric pressure), when the loss of refrigerated liquefied gas is measured over a period of time; or
- (b) A closed system test when the rise in pressure in the shell is measured over a period of time.

When performing the constant pressure test, variations in atmospheric pressure shall be taken into account. When performing either test, corrections shall be made for any variation of the ambient temperature from the assumed ambient temperature reference value of 30 °C.

NOTE: For the determination of the actual holding time before each journey, refer to 4.3.3.5.1.1."

6.8.3.5.4 Insert the following indent at the end:

- “• Reference holding time (in days or hours).”

6.8.3.5.6 Insert the following paragraph at the end:

"(e) For tanks for refrigerated liquefied gases:

- Actual holding time for gas being carried _____ days (or hours)."

Consequential amendments

- Inclusion of transitional provisions in Chapter 1.6;
- Deletion of the text in RID 5.4.1.2.2 (d).

Justification

2. The amendments proposed would minimise the problems that have frequently arisen in the past and would improve safety during carriage. In addition the consignor has mandatory principles concerning the holding time and the associated maximum duration of carriage.
