



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**

Geneva, 19–23 September 2016

Item 2 of the provisional agenda

Tanks**Service equipment on tanks****Transmitted by the European Industrial Gases Association (EIGA)^{1, 2}****Introduction**

1. This paper was formerly presented to the Working group on Tanks as informal document INF.18 at the spring session of the Joint Meeting, but time did not permit its discussion then.
2. The informal working group on “Provisions on equipment for tanks and pressure receptacles” has almost completed its considerations concerning pressure receptacles and would like to turn its attention to the final element of its terms of reference which concerns tanks. Delegates may wish to be reminded of the three headings of these terms of reference as follows.
 - (i) Clarification of meaning of the term of the term “pressure receptacle” to include or exclude their closures;
 - (ii) Investigation of the completeness of requirements on the design, conformity assessment and marking of closures of pressure receptacles;
 - (iii) Investigation of the completeness of requirements on the design, conformity assessment and marking of service equipment of tanks.
3. Addressing the provisions for tanks requires the participation of tanks experts, so in order to better understand the need for, and scope, of amendments to Chapter 6.8, EIGA requests time for discussion in the Working Group on Tanks. This will also enable the setting of appropriate dates for any subsequent meetings of the informal working group to discuss tank provisions.

¹ In accordance with the programme of work of the Inland Transport Committee for 2016-2017, (ECE/TRANS/2016/28/Add.1 (9.2)).

² Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2016/21.

Areas for discussion

4. The chairman of the informal working group suggests the following that may be discussed by the Working Group on Tanks. It is not intended to limit the relevant subjects that others may want to raise.

Definitions

5. Unlike pressure receptacles, the definitions relating to tanks are mostly clear and consistent, but there is one area of doubt. Shell is defined to include closures, so it is possible to conclude that service equipment does not include closures. It is therefore suggest that for the removal of doubt, closures should be added to the definition of service equipment.

Type approvals for valves and other service equipment

6. The final paragraph of 6.8.2.3.1 states:

“The competent authority or a body designated by that authority shall at the request of the applicant carry out a separate type approval of valves and other service equipment for which a standard is listed in the table in 6.8.2.6.1, in accordance with that standard. This separate type approval shall be taken into account when issuing the certificate for the tank, if the test results are presented and the valves and other service equipment are fit for the intended use.”

The number of standards is limited and it is likely that the standards referenced in RID/ADR will never cover all the service equipment used on tanks.

Question 1 Is there a need to extend separate type approval to closures and/or other service equipment for which there are no referenced standards?

Question 2 If such type approvals were to be granted, what technical requirements including marks would need to be specified in RID/ADR?

Initial inspection of Equipment

7. The first paragraph of 6.8.2.4.1 states:

“Shells and their equipment shall **either together or separately** undergo an initial inspection before being put into service. This inspection shall include:

- a check of conformity to the approved type;
- a check of the design characteristics⁹
- an examination of the internal and external conditions;
- a hydraulic pressure test¹⁰ at the test pressure indicated on the plate prescribed in 6.8.2.5.1; and
- a leakproofness test and a check of satisfactory operation of the equipment.”

⁹ The check of the design characteristics shall also include, for shells requiring a test pressure of 1 MPa (10 bar) or higher, the taking of weld test-pieces (work samples) in accordance with 6.8.2.1.23 and the tests prescribed in 6.8.5.

¹⁰ In special cases and with the agreement of the expert approved by the competent authority, the hydraulic pressure test may be replaced by a pressure test using another liquid or gas, where such an operation does not present any danger.

Question 3 Is the phrase ‘either together or separately’ sufficiently clear to ensure that the tank must be approved as a whole and that approval shall include an assessment of the service equipment’s suitability for the tank.

Question 4 Are there sufficient requirements to ensure satisfactory separate initial inspection of service equipment for tanks?

For reference, the working group has proposed to add the following requirements to 6.2.5.1 of RID/ADR for the initial inspection of closures of pressure receptacles as follows.

“On an adequate sample of closures:

- (k) Verification of metallic and non-metallic materials;
- (l) Verification of dimensions;
- (m) Verification of cleanliness;
- (n) Inspection of completed assembly;
- (o) Verification of conformity of marks

For all closures:

- (p) Testing for leakproofness;
- (q) Verification of the presence of marks.”

Marking

8. 6.8.3.5 is restricted to marking the completed tank. At present, separate type approval is restricted to service equipment for which standards are referenced and standards usually specify the marking requirements.

Question 5 Is there a need for RID/ADR to specify the minimum marks to be applied to service equipment?

NOTE: *The specification of minimum marking requirements will be made more pressing if it is decided to allow type approval for service equipment not made in accordance with standards.*

For reference, the working group has proposed to add the following requirements to a new subsection 6.2.2.7.11 of RID/ADR for marking the closures of pressure receptacles as follows.

“6.2.2.7.11 Marking of closures for refillable UN pressure receptacles

For closures the following permanent marks shall be applied clearly and legibly, (e.g. stamped, engraved or etched):

- (a) Manufacturer’s identification mark;
- (b) Design standard or design standard designation;
- (c) Date of manufacture, (year and month or year and week):
- (d) The identity mark of the inspection body responsible for the initial inspection and test, if applicable.

The valve test pressure shall be marked when it is less than the test pressure which is indicated by the shape of the valve filling connection.”