



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, 17-21 March 2014

Item 4 of the provisional agenda

Interpretation of RID/ADR/ADN**Understanding of terms “in special cases” and “as a general rule” in the context of pressure testing of tanks**Transmitted by the European Committee for Standardisation (CEN)^{1,2}**Introduction**

1. The test regime of RID/ADR for the initial and periodic inspection of portable and fixed tanks (MEGCs are not considered in this context) includes a pressure test. However, this provision is attributed with the terms “in special cases” and “as a general rule”.
2. More precisely,
 - (a) Subsections 6.7.2.19.3, 6.7.3.15.3 and 6.7.4.14.3 (initial inspection and test) (amongst others) include “a pressure test... which may be performed as a hydraulic test or by using another liquid or gas with the agreement of the competent authority or its authorized body.”.
 - (b) Subsections 6.7.2.19.4 and 6.7.3.15.4 (5 year periodic inspection and test) require “**as a general rule** a pressure test” (amongst others).
 - (c) Subsection 6.7.4.14.4 (5 year periodic inspection and test) includes no pressure test requirement.

¹ In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94, ECE/TRANS/2012/12, programme activity 02.7 (A1c)).

² Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2014/15.

(d) Subsection 6.8.2.4.1 (initial inspection and test) requires “a hydraulic pressure test ...” referring to footnote 10 which reads:

“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.”.

(e) Subsection 6.8.2.4.2 (periodic inspection and test) “As a general rule, a hydraulic pressure test ...” with the same footnote.

(f) Subsection 6.8.3.4.3 (initial inspection and tests) requires that “The first hydraulic pressure test shall be carried out before thermal insulation is placed in position.”.

(g) Subsection 6.8.3.4.7 allows “In the case of vacuum-insulated tanks, the hydraulic pressure test and the check of the internal condition may, with the consent of the approved expert, be replaced by a leakproofness test and measurement of the vacuum.”.

3. The following systematic table shall ease the understanding of these requirements:

Tank category	Initial test	Periodic test
Portable tanks (Chapter 6.7)		
For classes 1 and 3-9	Pressure test as a hydraulic pressure test or using another liquid or gas	Pressure test “ as a general rule ”
For non-refrigerated liquefied gases		
For refrigerated liquefied gases		No pressure test
Fixed tanks etc. (Chapter 6.8)		
For all classes	Hydraulic pressure test with footnote “ In special cases ”	Hydraulic test “ as a general rule ” with footnote “ In special cases ”
For vacuum insulated tanks		Optional replacement of hydraulic pressure test by leakproofness test

Discussion

4. Comparing Chapters 6.7 and 6.8, the use of other fluids performing the pressure test is limited to special cases for fixed tanks, however not so for portable tanks.

5. Furthermore, it is obvious that the provisions for the periodic inspection of fixed tanks are more stringent than those for portable tanks. In the first case an alternative to the pressure test (such as non-destructive testing) is possible whereas a pressure test (using water or other fluids) is indispensable.

6. The terms “as a general rule” and “in special cases”, in particular, have caused considerable confusion and disputes between inspection bodies and tank owners/carriers.

7. It was argued that no truly “special cases” have been identified and yet the clause has been used in some areas to permit the widespread testing of, for example, petroleum tanks (tanks with a working pressure less than 0,5 bar).

8. Further, such undefined alternatives are not permissible in standards where they have the effect of undermining mandatory requirements. Following these rules, any alternative test

method would have to be shown to give a comparable level of performance and sensitivity; in practice this may be extremely problematic where experience has shown that the results of a pressure test using a gas can be considerably altered by external influences, particularly uncontrollable ambient thermal effects on the tank under test.

Proposal

9. It is proposed to align the provisions for the initial and periodic inspection and test of Chapter 6.8 tanks with those for portable tanks of Chapter 6.7 and to consider

- The deletion of the term “in special cases” altogether; or
 - The inclusion of a precise description of the circumstances when testing with a gas may be permitted and the criteria to be used in order to provide a test directly comparable with that using a liquid; or
 - The inclusion of a precise description of the circumstances when no test is needed at all.
-