



**Economic and Social  
Council**

Distr.  
GENERAL

TRANS/WP.15/AC.1/100/Add.1  
21 November 2005

ENGLISH  
Original: FRENCH

---

**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

Working Party on the Transport of Dangerous Goods  
Joint Meeting of the RID Safety Committee  
and the Working Party on the Transport of  
Dangerous Goods

**REPORT OF THE SESSION\***

**held in Geneva from 13 to 23 September 2005**

**Addendum 1\***

**Annex 1**

**Report of the working group on tanks**

The secretariat has received from the Central Office for International Carriage by Rail (OCTI) the French translation of the report of the working group on tanks, prepared in German and partially in English by the representative of Germany in the course of the session (informal document INF.63).

The working group on tanks met from 13 to 15 September 2005, concurrently with the RID/ADR/ADN Joint Meeting which had entrusted it with a relevant mandate.

---

\* Circulated by the Central Office for International Carriage by Rail (OCTI) under the symbol OCTI/RID/GT-III/2005-B/Add.1.

The working group considered the following official and informal documents (see INF.63):

TRANS/WP.15/AC.1/2005/18 (UIC)	TRANS/WP.15/AC.1/2005/37 (EIGA)
TRANS/WP.15/AC.1/2005/36 (Belgium)	TRANS/WP.15/AC.1/2005/43 (Norway)
TRANS/WP.15/AC.1/2005/42 (Secretariat)	TRANS/WP.15/AC.1/2005/46
TRANS/WP.15/AC.1/2005/45 (Belgium)	(United Kingdom and Norway)
TRANS/WP.15/AC.1/2005/49 (CEN)	TRANS/WP.15/AC.1/2005/19/Rev.1
TRANS/WP.15/AC.1/2005/55 (Germany)	(United Kingdom)
TRANS/WP.15/AC.1/2005/62 (France)	TRANS/WP.15/AC.1/2005/59
TRANS/WP.15/AC.1/2005/64	(United Kingdom)
(Netherlands)	TRANS/WP.15/AC.1/2005/63 (France)
TRANS/WP.15/AC.1/2005/66 (Germany)	TRANS/WP.15/AC.1/2005/70
TRANS/WP.15/AC.1/2005/30 (Belgium)	(United Kingdom)

INF.8 (OTIF), INF.11 (UIP), INF.14 (Germany), INF.17 (UIP), INF.18 (UIP), INF.33 (United Kingdom), INF.34 (Germany), INF.42 (Netherlands), INF.45 (Poland), INF.46 (Poland), INF.47 (Poland), INF.48 (France), INF.49 (Switzerland), INF.51 (AEGPL).

The working group was made up of 19 experts from 10 countries and 4 international non-governmental organizations.

The order of discussion of the documents was determined by the presence of the experts.

**1. MAWP, design pressure and test pressure of portable tanks  
(TRANS/WP.15/AC.1/2005/18 (UIC))**

**Definitions in sub-section 6.7.2.1 (TRANS/WP.15/AC.1/2005/30 (Belgium))**

**Chapters 4.2 and 6.7 (TRANS/WP.15/AC.1/2005/66 (Germany))**

Documents TRANS/WP.15/AC.1/2005/18 and TRANS/WP.15/AC.1/2005/30 had already been submitted to the Joint Meeting at its spring session and were discussed again. The working group recognized Belgium's concern to make a better distinction between the definitions of "maximum allowable working pressure" and "maximum working pressure". The current problem, however, could not be resolved by amending the definition but only by clarifying or modifying the specification of the MAWP. The proposal contained in document TRANS/WP.15/AC.1/2005/66 therefore aimed at simplifying the calculation of partial pressures in order to determine the level of the test pressure required. The proposed simplification was adopted with a drafting change for the purpose of clarification.

The text of 6.7.2.1 (b) should be amended to read:

- (ii) "The partial pressure (in bar) of air or other gases in the ullage space being determined by a maximum ullage temperature of 65° C and a liquid expansion due to an increase in mean bulk temperature of  $t_r - t_f$  ( $t_f$  = filling temperature, usually 15° C;  $t_r$  = maximum mean bulk temperature, 50° C) **or 0.5 bar.**"

**2. Marking of the most recent periodic test (TRANS/WP.15/AC.1/2005/36 (Belgium))**

The proposal was discussed and considered to be necessary. Drafting changes were made to the text, worded as follows:

Replace the eighth indent of 6.8.2.5.1 by:

“– date and type of the most recent test: ‘month, year’ followed by a ‘P’ when the test is the initial test or a periodic test in accordance with 6.8.2.4.1 and 6.8.2.4.2, or ‘month, year’ followed by an ‘L’ when the test is an intermediate leakproofness test in accordance with 6.8.2.4.3;”

Add a NOTE at the end of this indent:

“NOTE: Where the periodic test includes a leakproofness test, only the letter ‘P’ shall be marked on the plate.”

Add a second paragraph to the transitional measures of 1.6.3.25 and 1.6.4.15:

“The type of test (P or L) need not be added to the tank plate prescribed in 6.8.2.5.1 before the first test performed after 1 January 2007.”

The working group was of the opinion that the wording of 6.8.2.4.2 was incomplete and should be amended by a proposal to be developed because the requirement for a leakproofness test was missing.

**3. Reference to standard EN 13317 in 6.8.2.6 (TRANS/WP.15/AC.1/2005/62 (France) and INF.14 (Germany))**

The first proposal concerning document TRANS/WP.15/AC.1/2005/62 (deletion of an example for an assembly clamped with a clamp ring) was adopted with the following text:

“(except for figure and table B.2)”.

The working group recommended that this text should be inserted opposite standard EN 13317 in column 2 of the table in 6.8.2.6.

The amendment proposed in document INF.14, namely, to take account of the requirements for RID/ADR materials and standard EN 13094, was also adopted after a discussion on the classification of the manhole cover and the test method.

It was proposed that the following text should be inserted in column 2:

“(The material shall be in accordance with EN 13094:2004, No. 5.2)”

CEN should be requested to adapt the standard accordingly.

**4. Reference to EN standards in Chapter 6.9 (TRANS/WP.15/AC.1/2005/49 (CEN))**

In the opinion of the majority of the members of the working group, where references to standards are concerned this was only an update of the earlier EN standards in Chapter 6.9 to EN/ISO standards that had been applicable for several years. Some members considered that they could not take a decision without consulting their country of origin. The Joint Meeting was therefore requested to follow the vote of the majority of the working group.

**5. Chapter 3.2/6.8.4 - Carriage of liquefied gases in tanks with recessed valve chest (TRANS/WP.15/AC.1/2005/19/Rev.1 (United Kingdom))**

A representative of the (chlorine) gas industry introduced the problem once again. The advantages and disadvantages of the proposed solution were discussed intensively. The solution should be limited to road tank vehicles since it should be possible to guarantee the arrangement for the recessing of the valve chest behind the driver's cab.

There were some advantages and, to date, no adverse experiences with this solution in the United Kingdom, Australia and New Zealand.

The inclusion of this solution in ADR would, however, considerably affect the existing philosophy of safety and systematic principles of ADR. The necessary recourse to the competent authority for approval of this solution was furthermore not compatible with the principles of the TPED Directive.

In the opinion of the working group, no reservations to the application of the solution proposed existed from the technical safety point of view. For that reason it should be possible to go on to apply this measure in the United Kingdom.

**6. Clarification of the requirements for safety devices of tanks for refrigerated liquefied gases in paragraphs 6.8.3.2.11 and 6.8.3.2.12 (TRANS/WP.15/AC.1/2005/37 (EIGA))**

The proposal was approved following a discussion and a small drafting change. At the beginning of amended paragraph 6.8.3.2.12 "The" should be changed to "These".

**7. Negative tests (TRANS/WP.15/AC.1/2005/45 (Belgium))**

Where the practical transposition of the proposal and its consequences were concerned, the discussion took account of the different transport modes. The problem was acknowledged and the form in which the objective was represented was generally approved. In the opinion of the majority of the working group, the desired effect could not, however, be achieved with the text proposed. The requirement for tank vehicles and tank wagons perhaps went beyond what was necessary, but for tank containers and portable tanks the proposal might be inadequate in many cases. In addition, the monitoring of the requirement contained in the proposal was an unresolved problem until now.

The representative of Belgium was therefore requested to prepare a new proposal on the basis of the discussion. This proposal would also have to contain a clarification of the term "expert" and the legal framework for the application of the proposal.

**8. UN No. 3375: Deletion of special provision TU 26 (TRANS/WP.15/AC.1/2005/46 (Norway and the United Kingdom))**

The proposal was considered and also discussed at length with reference to the consequences for safety equipment. No reservations were entered to the adoption of the proposal and therefore to harmonization with the United Nations Recommendations.

**9. Marking on tanks and indications in the certificate of approval (TRANS/WP.15/AC.1/2005/55 (Germany) and INF.48 (France))**

The problems addressed in the documents were once again discussed intensively, but no solution could be found at this meeting either. Some members of the working group referred again to problems that had occurred in practice. In the opinion of the majority of members, it would only be possible to achieve a standard procedure by clarifying the “If ... then” special provisions, since problems of interpretation still existed when these special provisions were applied. They had clearly not been drafted in a sufficiently obvious manner for the user.

The full solution proposed in the document was not considered necessary since it was not linked to any technical solution of the existing problems.

Members were invited to contribute to a solution by means of individual proposals concerning necessary changes to the special provisions and to the text of RID/ADR itself.

**10. Application of special provision TE 18 of 6.8.4 (TRANS/WP.15/AC.1/2005/63 (France))**

The need to separate the entry from the substance was not shared by all members. Since no clarification for the user could be obtained with this procedure, the proposal was approved with the following drafting change in the second entry:

Replace “... filled at a temperature lower than 190° C” by “... filled at a temperature not higher than 190° C”.

**11. Special provision TE 24 of 6.8.4. (INF.17 (UIP))**

The proposal was adopted by the working group with the justification given and without further discussion.

**12. Special provision TE 3 of 6.8.4 (INF.18 (UIP))**

This document proposed that the last paragraph of this special provision should be deleted. Since no alternative had been proposed, and since no information had been provided on the measuring procedure, it was not possible to approve the proposal. It was recognized, however, that there were problems with the existing procedure that required a solution. It was proposed that a new proposal should be submitted containing the necessary information.

**13. Applicability of standard EN 13094 (TRANS/WP.15/AC.1/2005/70 (United Kingdom))**

The working group approved the proposal to delete an unnecessary restriction to the scope of the standard. This restriction had never been sought in the standard itself.

As an exception to the proposal, the working group approved the inclusion of standard EN 12972.

**14. Use of standards for the construction of tanks (TRANS/WP.15/AC.1/2005/59 (United Kingdom))**

After an introduction of the document, the various points of view were discussed and the particular national features for the application of standards and technical codes were presented. While some members wished to apply the standards as a matter of priority, others pointed out that to proceed in this way could hinder technical progress. Attention was drawn to the fact that it was difficult to determine the same level of technical safety required in 6.8.2.7 for different technical codes. The difference in the quality level of the standards was also mentioned; at the present time, this was an obstacle to the exclusive application of a standard (variant 1). Variant 2 could currently be found in RID/ADR.

In the opinion of the majority of the working group, variants 3 and 4 of the document under discussion were a good basis for the subsequent procedure. The following text reflects the result of the discussions. The text should supplement the existing text of 6.8.2.7.

“Where an appropriate standard is referenced in 6.8.2.6 the competent authority shall withdraw, within two years, any technical code currently used for the same purpose.

This does not remove the competent authority’s right to recognize technical codes to reflect scientific and technical progress or where no standard exists.

The competent authority shall transmit to the secretariat of OTIF/UNECE a list of the technical codes that it recognizes. The list should include the following details: name (and date) of the code, purpose of the code and details of where it may be obtained.”

**15. Marking of design vacuum pressure on the tank (TRANS/WP.15/AC.1/2005/64 (Netherlands))**

The proposal followed on from a discussion at the March session of the Joint Meeting. The proposal was adopted by the working group with a drafting change. “Design vacuum pressure” should be replaced by “external design pressure” (harmonization with Chapter 6.7).

In addition, a transitional measure was considered necessary. The working group proposed the following text:

“Tanks constructed before 1 January 2007 in accordance with the requirements in force up to 31 December 2006 which do not, however, conform to the requirements applicable as from 1 January 2007 regarding the indication of the external design pressure on the tank plate, may still be used.”

**16. Definition of the capacity of the tank (INF.11 (UIP))**

The working group once again discussed the proposal, bearing in mind the special construction of tanks for which the calculation of the maximum filling rate on the basis of total capacity would mean unauthorized over-filling.

In the view of the majority of the working group, the existing definition of capacity should not be modified. In the working group's opinion, however, an additional clarification was nevertheless necessary for safety reasons and should be added to the existing definition. The following text was proposed:

*“Capacity of shell or shell compartment’ for tanks means the total inner volume of the shell or shell compartment expressed in litres or cubic metres. If the maximum usable capacity is lower than the total inner capacity this reduced capacity shall be used for the determination of the degree of filling and for the marking of the shell.”*

**17. Bitumen (INF.33 (United Kingdom))**

The question of a separate entry for the substance in Table B was discussed and appeared justified. The working group on tanks was not, however, in a position to take a definitive decision, since this problem should be dealt with by experts in the substances.

**18. Tests on tanks for refrigerated liquefied gases ((6.8.3.4.6) INF.34 (Germany))**

Paragraph 6.8.3.4.6 was not clearly drafted and was not therefore applied in a standard form. It was observed that in 6.8.3.4.6 a single derogation from the deadlines for tests in 6.8.2.4 was established. The type and extent of the tests should, however, be identical. The document under discussion endeavoured to obtain a clarification of the periodic time frame and the type of tests. Consequently, the leakproofness test and the check of satisfactory operation should on each occasion be performed between two periodic tests. This principle was approved. Where the deadline for the first leakproofness test and the check of satisfactory operation following the initial test were concerned, however, there were diverging opinions.

The document would be resubmitted on the basis of the results obtained to date.

**19. Transport of methane refrigerated liquid or natural gas, refrigerated liquid (UN No. 1972) (INF.45 (Portugal))**

The document was the subject of a lengthy discussion on the different possibilities for insulation (solid substance/by vacuum) and the monitoring possibilities that depended on it. It was observed that dispensing with an inspection opening in relation to dispensing with an internal inspection was only possible in the case of vacuum-insulated tanks. As a result, it was not possible to approve the procedure for insulation by a solid substance. Portugal would submit an amended proposal on the basis of the discussion.

**20. Assignment of substances of Class 8, classification code CT1 to a tank code (TRANS/WP.15/AC.1/2005/42 (UNECE secretariat))**

The working group discussed the questions raised by the ad hoc working group on the harmonization of RID/ADR/ADN with the United Nations Recommendations on the Transport of Dangerous Goods, in paragraphs 22 and 23 of the report TRANS/WP.15/AC.1/2005/42, with reference to the relevant tank code for entry UN 3471, packing groups II and III.

The T 7 tank instruction of the United Nations Recommendations would authorize the tank code L4BN and L4BH of RID/ADR for these substances. The working group was of the opinion, however, that the tank code L4DH was more relevant, since this was an n.o.s. entry, which meant that the properties were not fully known.

**21. Use of safety valves (TRANS/WP.15/AC.1/2005/43 (Norway), INF.8 (OTIF secretariat), INF.42 (Netherlands), INF.51 (AEGPL))**

The document had already been dealt with in plenary. The working group was requested to discuss the subsequent procedure and to complete the list of arguments for and against safety valves. These arguments could be used at a later date, as could the comments in document INF.51 and the result of the research announced by the Netherlands in document INF.42. A lengthy discussion in the working group confirmed this procedure. Members were requested to hold relevant discussions in their countries and to submit pertinent documents for a justified continuation of the debate.

**22. Tank codes (INF.46 (Portugal))**

It was clarified that the design pressures given in the tank codes of Chapter 4.3 and in Table A of Chapter 3.2 should be applied. In order to determine the relevant tank code, the differing design pressures should be rounded down to the next value indicated.

**23. Inspection of welds (INF.47 (Portugal))**

The scope of the inspections referred to in 6.8.2.1.23 for weld beads was not clear where the connections were concerned. The "particular attention to connections" was better defined in standard EN 12972. The representative of Portugal announced that he would submit a relevant proposal for an amendment to RID/ADR for the next Joint Meeting.

**24. Amendment of 6.10.3.7 (a) (INF.49 (Switzerland))**

A brief discussion took place on whether the proposed construction of a suction boom complied with the requirements of RID/ADR. The delegate from Switzerland said that he would like to have comments in order to know whether the working group could accept the solution submitted and the text proposed.

**The Joint Meeting is requested to approve the amendments proposed under the various points.**

-----