United Nations ECE/TRANS/WP.15/AC.1/118/Add.1

# Economic and Social Council

Distr.: General
20 May 2010

Original: English

## 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**

# Report of the Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods on its Spring 2010 session[1]

held in Bern from 22-26 March 2010

**Addendum**[2]

## Annex I

### Report of the Working Group on Tanks

The secretariat has received from the Intergovernmental Organisation for International Carriage by Rail (OTIF) the English 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.42). The report is reproduced below.

[1] Circulated by the Intergovernmental Organization for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2010-A. Unless otherwise indicated, the other documents referred to in this report under the symbol ECE/TRANS/WP.15/AC.1/ followed by the year and a serial number were circulated by OTIF under the symbol OTIF/RID/RC/ followed by the year and the same serial number.

[2] Circulated by the Intergovernmental Organization for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2010-A/Add.1.

# Report of the Working Group on Tanks

1. The Working Group on Tanks met from 22 to 24 March 2010 in Bern on the basis of an appropriate mandate from the RID/ADR/ADN Joint Meeting. The documents were submitted to the plenary session.

2. The Working Group on Tanks dealt with the following official and informal documents:

ECE/TRANS/WP.15/AC.1/2010/4 (UIC), ECE/TRANS/WP.15/AC.1/2010/5 (UIC), ECE/TRANS/WP.15/AC.1/2010/6 (UIC), ECE/TRANS/WP.15/AC.1/2010/13, paragraphs 8 to 10 (OTIF Secretariat), ECE/TRANS/WP.15/AC.1/2010/14 (ECFD), ECE/TRANS/WP.15/AC.1/2010/18 (Netherlands), ECE/TRANS/WP.15/AC.1/2010/20 (Belgium), ECE/TRANS/WP.15/AC.1/2010/38 (Netherlands), informal documents INF.7 (Sweden), INF.8 (Germany), INF.10 (Netherlands), INF.16 (CEFIC), INF.17 (CEN), INF.24 (Italy), INF.26 (Sweden), INF.28 (UNECE Secretariat), INF.35 (CEFIC), INF.36 (Romania) and INF.37 (Finland).

3. The Working Group on Tanks was comprised of twenty-one experts from eleven countries and five non-governmental organizations (NGOs).

4. The documents were dealt with in a sequence depending on requirements and the presence of experts.

## Item 1: Document ECE/TRANS/WP.15/AC.1/2010/4 (UIC) – Carrier's obligations with regard to checking the conformity with the test deadline

5. According to 1.4.2.2.1 (d), the carrier has to ascertain that for tanks, the date of the next test has not expired. However, in certain cases, this date may be exceeded by three months, as in the intermediate inspection in accordance with 6.7.3.15.2 or 6.8.2.4.3. For the sake of legal clarity, UIC suggested taking this into account in 1.4.2.2.1 and to explain the reason for this in a Note.

6. The Working Group discussed the proposal and also saw the need for an amendment. The following text with editorial amendments was adopted:

Amend 1.4.2.2.1 (d) to read as follows (amended text in bold):

"(d) Ascertain that the date of ~~the next test~~ **expiry of the last periodic or intermediate inspection** for tank-wagons/tank-vehicles, battery-wagons/battery-vehicles, wagons with demountable tanks/demountable tanks, portable tanks, tank-containers and MEGCs has not expired;".

As a consequential amendment, it was also proposed to amend the provision in 1.4.3.3 (b):

In 1.4.3.3 (b), replace "the next test" with "the expiry of the last periodic or intermediate inspection".

7. Because of the Working Group's decision on document ECE/TRANS/WP.15/AC.1/2010/6, the proposed amendment to the Note was not adopted.

## Item 2: Document ECE/TRANS/WP.15/AC.1/2010/6 (UIC) – Filling and carriage of tank-wagons/tank-vehicles after expiry of the deadline for periodic inspection and intermediate inspection

8. In RID/ADR 2009, 6.8.2.4.3 was amended to say that intermediate inspections on tanks may also be carried out within three months before or after the set date. In UIC's view, this was a partial alignment with the guidelines for portable tanks. For these tanks, Chapter 6.7 specifies that they may not be filled after the date of expiry of the deadlines given in 6.7.19.2 and if they were filled before the date of expiry of the deadline for the periodic inspection, they may be carried for a period not to exceed three months beyond the date of expiry of this deadline. These additional points do not appear for tanks conforming to Chapter 6.8. Therefore, in order to clarify matters, UIC suggested that an analogous provision be included in Chapter 6.8.

9. The proposal to harmonise the provisions was discussed at length. The Working Group was of the view that extending the rule that was only included for the first time in RID/ADR 2009 would not improve the situation and was not necessary for European land transport owing to the generally short transport routes. In connection with this, reference was also made to the possibility of carrying empty, uncleaned tanks once the test periods in accordance with 4.3.2.4.4 had expired.

10. The proposal was therefore not adopted. After a brief discussion, the Working Group rejected the suggestion to include the provisions in Chapter 4.2 and 4.3, as this should first be discussed by the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods.

## Item 3: Document ECE/TRANS/WP.15/AC.1/2010/5 (UIC), informal documents INF.8 (Germany), INF.16 (CEFIC) and INF.35 (CEFIC) – Obligations of the filler with regard to checking the closures of tank-wagons/tank-vehicles

11. According to 6.8.2.2.2, each bottom-filling or bottom-discharge opening in tanks must be equipped with at least two or three mutually independent closures, depending on the tank code of the substance to be carried. These closures must comprise:

(a) an external stop-valve and a closing device, or

(b) an internal stop-valve, an external stop-valve and a closing device.

12. However, in the context of his obligations, according to the wording in 1.4.3.3 (f), the filler only has to check the leakproofness of the closing device. To avoid drip leaks, UIC was of the view that this checking obligation should also be extended to include the internal and external stop-valve(s).

13. This request was discussed at length with the aid of informal documents INF.8 and INF.35 submitted by Germany and CEFIC. In the discussion, the majority of the Working Group noted that for reasons relating to occupational safety legislation and for technical reasons, it would not be possible to implement the requirements without difficulty. In particular, it was not clear which technical solutions could be used here in order to achieve the protective aim. Like the second stop-valve and the protective cap, the closing devices normally used up to now often had a screw-thread. Up to now, the operation of these devices had not been defined sufficiently and was therefore carried out in various ways.

14. Various ways of resolving this were discussed, for example a double check that the device is properly closed, special closures with a greater likelihood of leakproofness or the

introduction of working instructions at filling and discharge facilities. These working instructions were also proposed by CEFIC and supported by the Working Group.

15. As the engineering design of road and rail vehicles differed, there were also different solutions for each mode. For this reason, further discussions to find a definitive solution to the problem of drip leaks might be necessary.

16. However, the result of the discussion was that the Working Group proposed alternative wording for the time being:

Amend 1.4.3.3 (f) to read as follows (amended text in bold):

"(f) He shall, after filling the tank, **ensure that all closures are in a closed position and that there is no leakage**;".

17. In connection with this, the Working Group also discussed a possible amendment to 4.3.2.3.3, as this also contained requirements concerning the leakproofness of closing devices, and proposed the following amendment (amended text in bold):

"4.3.2.3.3 During filling and discharge of tanks, battery-wagons/battery-vehicles and MEGCs, appropriate measures shall be taken to prevent the release of dangerous quantities of gases and vapours. Tanks, battery-wagons/battery-vehicles and MEGCs shall be closed so that the contents cannot spill out uncontrolled. The openings of bottom-discharge tanks shall be closed by means of screw-threaded plugs, blank flanges or other equally effective devices. ~~The closed position and leakproofness of the closures of the tanks, and of the battery-wagons/battery-vehicles and MEGCs shall be checked by the filler after the tank is filled.~~ **After the tank is filled, the filler shall ensure that all the closures of the tanks, battery-wagons/battery-vehicles and MEGCs are in the closed position and there is no leakage.** This applies ~~in particular~~ **also** to the upper part of the dip tube.".

## Item 4: Document ECE/TRANS/WP.15/AC.1/2010/13 (OTIF Secretariat) – Pending issues from the RID Committee of Experts, informal documents INF.38 (OTIF Secretariat), INF.26 (Sweden), INF.17 (CEN) – Mandate for a standard for the requirements for flame arresters on tank-vehicles

18. The Working Group discussed the need to keep transitional provisions that have expired, as it was not always clear whether new provisions applied to older tanks carried in accordance with transitional provisions. Users had different views for example on whether tanks carried in accordance with general transitional provisions must have a subsequent marking or not. Because of such cases, the Working Group thought it was necessary to maintain the transitional provisions, but recognised a general need to revise these provisions in future. This should be carried out in relation to the specific transport modes.

19. With regard to 1.6.3.18 in document ECE/TRANS/WP.15/AC.1/2010/13 and in informal document INF.38, the following texts were proposed for inclusion in RID/ADR 2011:

(RID:)

1.6.3.18 Amend the second and the third sub-paragraphs to read as follows:

"However, they shall be marked with the relevant tank code and if applicable the relevant alphanumeric codes of special provisions TC and TE in accordance with 6.8.4.".

(ADR:)

1.6.3.18 Add at the end:

"provided the assignment to the relevant tank code and the relevant marking have been carried out.".

(RID/ADR:)

1.6.4.12 Add a new sub-paragraph at the end:

"However, they shall be marked with the relevant tank code and if applicable the relevant alphanumeric codes of special provisions TC and TE in accordance with 6.8.4.".

20. The transitional provisions in 1.6.3.39 and 1.6.3.40 adopted at the last meeting were discussed again on the basis of informal document INF.26 submitted by Sweden. The existing text was endorsed. The Working Group's justification was that retrofitting existing tanks and fitting flame traps that meet the new requirements of RID/ADR 2011 could not be done without difficulty. In particular, for non-pressurised, ventilated tanks for petroleum products, there were a lot of different constructions in Europe where this could not be done. The first proposal in informal document INF.26 was therefore rejected.

21. The second proposal to set up a Working Group on CEN standards was discussed in conjunction with informal document INF.17 from CEN/TC 296 WG7. CEN's proposal was supported in principle, although the aim of the work was not clear (see CEN/TC 296 Resolution 139). Proposals to resolve the issue of appropriate and effective flame traps in venting devices on tanks carrying petroleum should be drafted. The Joint Meeting's Working Group on Tanks should be informed in good time of the aims of this Working Group on Standards.

## Item 5: Document ECE/TRANS/WP.15/AC.1/2010/14 (ECFD) – Additive systems on tanks for UN 1202 heating oil, light

22. The proposals set out in this document to include provisions in the regulations for additive systems were discussed separately and examined in terms of their feasibility. It was agreed that these provisions are necessary, as these systems are already widely used on transport tanks for petroleum products. However, before the issue was dealt with further, the following questions should be clarified in a revised proposal to the next Joint Meeting:

(a) What might the additives be? Which UN numbers should they be assigned to?

(b) How should storage containers for additives be constructed (material, minimum wall thickness, shape, weldability)?

(c) What is the maximum size an additive container may be (450 litres was considered too big, 100 litres in several containers was considered acceptable)?

(d) Where can the additive container be installed (in the tank, outside the tank or interchangeable) and how must it be protected?

(e) Under which conditions can the dosing device be integrated into the dispensing system?

(f) How should an additive system be assessed? Is it part of the tank equipment or "additional equipment" that needs to be assessed differently?

(g) Where should such systems be dealt with in the dangerous goods regulations (Part 6 or Part 9)?

## Item 6: Document ECE/TRANS/WP.15/AC.1/2010/18 (Netherlands) – 4.3.4.1.2: Tank codes for toxic by inhalation substances

23. This subject, already discussed by WP.15, and the tasks for the Working Group set out in paragraph 6 of document ECE/TRANS/WP.15/AC.1/2010/13 were dealt with. The proposal from the Netherlands to adapt the rationalised approach was adopted in principle. The amendments proposed by the secretariat of OTIF were also discussed and adopted with a few editorial amendments. It was considered sufficient to link the reference to the footnote to the class only, and not to the classification code.

24. The following table shows the amendments proposed (new text in bold):

| | | | |
|---|---|---|---|
| L10CH | 3 | FT1 | I |
| | | FT2 | I |
| | | FC | I |
| | | FTC | I |
| | 6.1***** | T1 | I |
| | | T2 | I |
| | | T3 | I |
| | | T4 | I |
| | | **T5** | **I** |
| | | T6 | I |
| | | T7 | I |
| | | TF1 | I |
| | | TF2 | I |
| | | TF3 | I |
| | | TS | I |
| | | TW1 | I |
| | | TO1 | I |
| | | TC1 | I |
| | | TC2 | I |
| | | TC3 | I |
| | | TC4 | I |
| | | TFC | I |
| | | **TFW** | **I** |
| | and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, and L10BH<br>*** Substances with an inhalation toxicity lower than or equal to 200 ml/m³ and saturated vapour concentration greater than or equal to 500 $LC_{50}$ shall be assigned to tank code L15CH.** | | |
| L15CH | 3 | FT1 | I |
| | 6.1****** | **T1** | **I** |
| | | **T4** | **I** |
| | | TF1 | I |
| | | **TW1** | **I** |
| | | **TO1** | **I** |
| | | **TC1** | **I** |
| | | **TC3** | **I** |
| | | **TFC** | **I** |
| | | **TFW** | **I** |
| | and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L10BH and L10CH<br>**** Substances with an inhalation toxicity lower than or equal to 200 ml/m³ and saturated vapour concentration greater than or equal to 500 $LC_{50}$ shall be assigned to this tank code.** | | |

## Item 7: Document ECE/TRANS/WP.15/AC.1/2010/20 (Belgium) – Special provision TT8, Reference to standards EN 473 and ISO 9712

25. The purpose of this proposal was to clarify the qualifications that people carrying out magnetic particle inspections in accordance with special provision TT8 should have.

26. The discussion in the Working Group took place against the background that inspection bodies are responsible for inspections of gas tanks marked with π; these inspection bodies must meet the requirements of special provision TT9. Some members of the Working Group were uncertain as to whether these inspections may be carried out only by persons who are certified, and hence qualified, in accordance with the standard referred to.

27. In a vote taken after the discussion, a large majority supported the adoption of the proposal, which is given below with some editorial amendments:

Amend special provision TT8 to read as follows (new text in bold):

"TT8 Tanks on which the proper shipping name required for the entry UN 1005 AMMONIA, ANHYDROUS is marked in accordance with 6.8.3.5.1 to 6.8.3.5.3 and constructed of fine-grained steel with a yield strength of more than 400 $N/mm^2$ in accordance with the material standard, shall be subjected at each periodic test according to 6.8.2.4.2, to magnetic particle inspections to detect surface cracking.

For the lower part of each shell at least 20% of the length of each circumferential and longitudinal weld shall, together with all nozzle welds and any repair or ground areas, be inspected.

If the marking of the substance on the tank or tank plate is removed, a magnetic particle inspection shall be carried out and these actions recorded in the inspection certificate attached to the tank record.

**Such magnetic particle inspections shall be carried out by a competent person qualified for this method according to EN 473 (Non-destructive testing – Qualification and certification of NDT personnel – General principles).**".

## Item 8: Document ECE/TRANS/WP.15/AC.1/2010/38 and informal document INF.10 (Netherlands) –Definition of "maximum working pressure" in 1.2.1

28. The proposal to clarify the application of the maximum working pressure, defined in 1.2.1, was discussed at length. Although there was agreement in principle to make it clearer, the majority of the Working Group was of the view that it was necessary to provide further clarification of the text being proposed and of paragraph (c) of the definition.

29. The problem was that when measuring the pressure at the highest point of the tank, the highest pressure is not measured because of the liquid column. The proposal should be revised to make matters clearer. It was postponed to the next meeting.

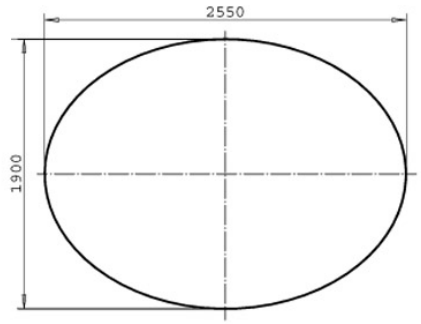
## Item 9: Informal documents INF.7 (Sweden), INF.37 (Finland) – Interpretation of the elliptical cross-section in 6.8.2.1.20 and in standard EN 13094

30. If tanks are provided with protection against lateral impact or overturning in accordance with 6.8.2.1.20, the competent authority may authorise the minimum wall

thickness to be reduced in proportion to this protection. ADR 6.8.2.1.20 (b) indicates when protection against damage is provided for liquids.

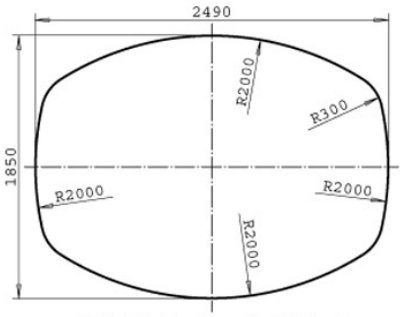
31. In informal document INF.7, Sweden requested the Joint Meeting's interpretation of the elliptical cross-section of tanks. Among other things, assignment to the various protective measures depends on this. With the aid of some photographs, the Working Group discussed assignment to the measures. In the Working Group's opinion, it was also possible to have a mixture of shapes within a tank, for example where the top half might be cylindrical and the bottom half of the shell might be elliptical. For this shape, the protective measure in 6.8.2.1.20 (b) 1. could be assigned.

32. Informal document INF.37 from Finland, which was also discussed, illustrated tank shapes which the Working Group classified. According to this classification, only the shape shown in the first illustration (mathematical pure ellipse shape) can be assigned to this protective measure. This included tolerances resulting from manufacture. All other shapes must be assigned to the protective measure in 6.8.2.1.20 (b) 4. or to the corresponding "other" shapes in standard EN 13094. The representative of Germany doubted that the descriptions under the illustrations accorded with the diagrams themselves.



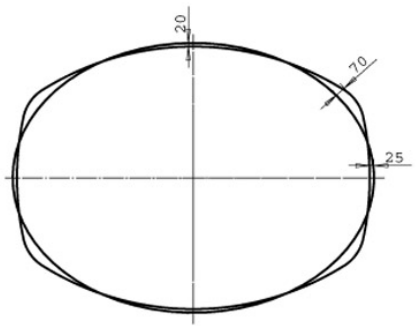

Mathematical pure ellipse shape

3770 L/m

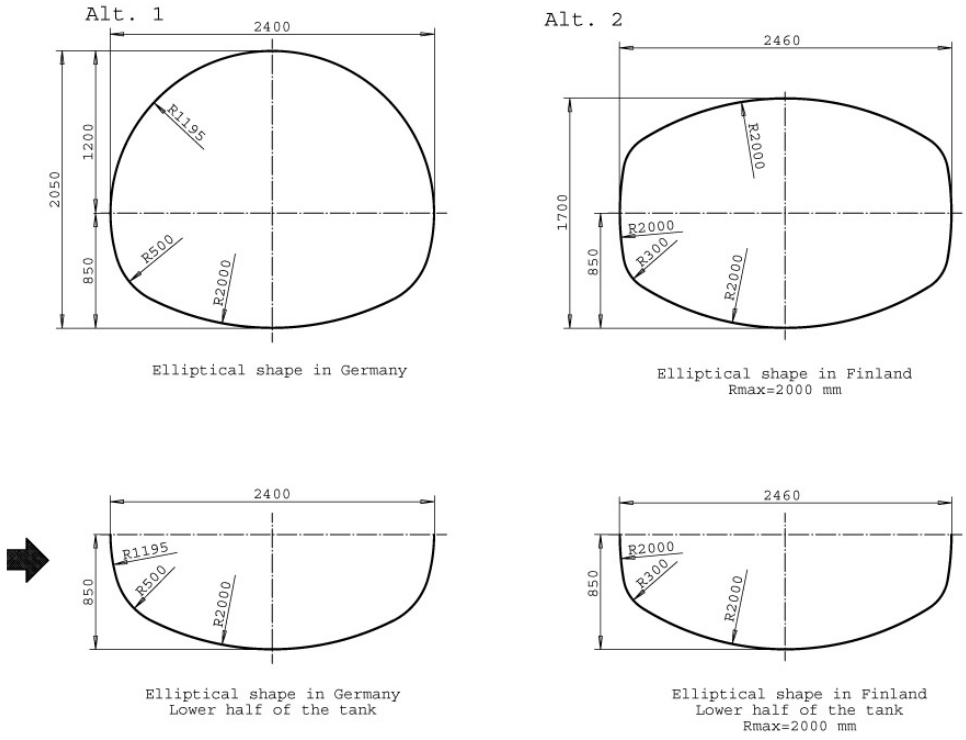



Elliptical shape in Finland
Rmax=2000 mm

3830 L/m




Differance




## Item 10: Informal document INF.24 (Italy) – Transport of tetrafluoroethylene, stabilized (UN 1081)

33. The Italian proposal pointed out that substance UN 1081 is permitted for carriage in UN MEGCs. Owing to the fact that the new TPED Directive does not apply to UN MEGCs, Italy wished also to permit the carriage of this substance in MEGCs in accordance with Chapter 6.8. To do this, it was proposed to include the entry "(M)" in column (12) of Table A in Chapter 3.2.

34. The Working Group could not agree to this proposal because:

- There are differences between MEGCs in accordance with Chapter 6.7 and Chapter 6.8 (no welded elements and no tanks in UN MEGCs), and

- The material background for the absence of the entry in Chapter 3.2, Table A, column (12) for tanks and MEGCs was not sufficiently known.

35. Italy was asked to clarify these questions in an official proposal.