

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

12 September 2018

Geneva, 17-21 September 2018

Item 2 of the provisional agenda

Tanks

Tanks: Clarification of protection required for fittings and accessories mounted on the upper part of vacuum-operated waste tanks

Transmitted by the Government of the United Kingdom

Introduction

1. Under item "Any other business" at the meeting of the Working Group on Tanks in March 2018, the UK asked whether vacuum-operated waste tanks in compliance with Chapter 6.10 of ADR must meet the roll-over protection requirements according to ADR 6.8.2.1.28, given that ADR 6.10.3.1 allows such equipment to be placed in the "protected area". During a brief exchange of views different opinions were expressed, but time and the absence of a document did not permit a full discussion. This paper seeks to further discuss the topic so as to arrive at a common understanding and if appropriate to develop amendments to clarify the text.

Requirements

2. ADR 6.8.2.1.28 requires: "The fittings and accessories mounted on the upper part of the tank shall be **protected against damage caused by overturning**. This protection may take the form of strengthening rings, protective canopies or transverse or longitudinal members so shaped that effective protection is given."

3. ADR 6.10.1.2.1 states that: "Vacuum-operated waste tanks shall comply with all requirements of Chapter 6.8, except where overtaken by special requirements in this Chapter. However the requirements of 6.8.2.1.19, 6.8.2.1.20, and 6.8.2.1.21 shall not apply." ADR 6.10.1.2.1 also states that: "The special requirements of 6.10.2 to 6.10.4 **complete or modify** Chapter 6.8 and are applied to vacuum-operated waste tanks".

4. ADR 6.10.3.1 requires: "The items of equipment shall be so arranged as to be **protected against the risk of being wrenched off or damaged during carriage or handling**. This requirement can be fulfilled by placing the items of equipment in a so called "protected area" (see 6.10.1.1.1)".

5. The "*protected area*" is defined in ADR 6.10.1.1.1 as:

(a) The lower part of the tank in a zone which extends over a 60° angle on either side of the lower generating line;

- (b) **The top part of the tank in a zone which extends over a 30° angle on either side of the top generating line;**
- (c) On the end front of the tank on motor vehicles;
- (d) On the rear end of the tank inside the protection volume formed by the device stipulated in 9.7.6

Issue

6. As set out above, ADR 6.10.1.2.1 requires the special requirements of paragraph 6.10.3.1 to either complete ADR 6.8.2.1.28 or modify ADR 6.8.2.1.28. However, it is unclear as to whether ADR 6.8.2.1.28 is overtaken by ADR 6.10.3.1 or is complemented by 6.10.3.1.

7. If ADR 6.10.3.1 is considered to **complete** ADR 6.8.2.1.28, it would seem that both ADR 6.8.2.1.28 and ADR 6.10.3.1 apply. This would mean that items of equipment mounted on the top part of a vacuum-operated waste tank **are required to be protected against damage that may be caused by overturning**, the protection taking, for example, the form of strengthening rings, protective canopies or transverse or longitudinal members that give effective protection.

8. However, if ADR 6.10.3.1 is considered to **modify** ADR 6.8.2.1.28, this could mean that paragraph 6.8.2.1.28 does not apply. In this case, whilst fittings and accessories located in the upper part of a vacuum-operated waste tank (in a so called “protected area”) would be protected against the risk of being wrenched off or damaged during carriage or handling, **they need not be protected against damage caused by overturning**.

9. In the brief exchange of views in the Working Group on Tanks some experts were of the opinion that no protection against damage that may be caused by overturning was needed, and thus ADR 6.8.2.1.28 was modified by ADR 6.10.3.1; whilst others expressed the opinion that the protected area only gave dispensation for measures against the risk of being wrenched off or damaged during carriage or handling, and thus ADR 6.8.2.1.28 was completed by ADR 6.10.3.1.

Consideration

10. Looking back, this issue was discussed previously in September 2011 prompted by an informal document transmitted by the Government of Belgium. The document sought to clarify the applicability of TE 19 and EN 13094:2008 for vacuum-operated waste tanks. During that discussion the majority of the experts expressed the view that the regulations are such that the applicable provisions of Chapter 6.8, namely ADR 6.8.2.1.28 and TE19, are also required for vacuum operated waste tanks. However, it would appear that no action was taken to clarify the text.

11. For ease of reference the relevant paragraphs from the report of the meeting of the Working Group on Tanks from the autumn 2011 session are reproduced below:

Item 12: Informal document INF.4 (Belgium) TE 19 – applicability for vacuum-operated waste tanks

46. Belgium introduced the interpretation question regarding the applicability of TE19 and more general protection against overturning to vacuum operated waste tanks. A detailed discussion in the Working Group followed incorporating the views of WG3 of CEN TC 296 and the AFNOR secretariat.

47. The ultimate outcome of the discussion was that for the specific case of protection against damage from overturning, which is not included in either EN 14025 paragraph 5.4 or in ADR 6.10.3.1, the majority of experts expressed that the actual regulations are such that they require the applicable provisions of chapter 6.8 (6.8.2.1.28, TE19) also for vacuum operated waste tanks.

Clarification

12. Given that the requirements still appear to be unclear, it would seem that the text of ADR should be amended to ensure a common interpretation. To help arrive at a suitable form of words a number of possibilities could be considered, depending on the nature of the items of equipment to be protected. Two possibilities at either end of the spectrum are set out below.

13. If ADR 6.10.3.1 is considered to **complete** ADR 6.8.2.1.28, this could be made clear by an amendment to ADR 6.10.3.1 as follows:

“6.10.3.1 The items of equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during carriage or handling. This requirement can be fulfilled by placing the items of equipment in a so called "protected area" (see 6.10.1.1.1). **If items of equipment are placed in the “protected area” at the top part of the tank (see 6.10.1.1.1(b)), then the requirements of 6.8.2.1.28 shall apply so as to give effective protection against damage caused by overturning.**”

14. If ADR 6.10.3.1 is considered to **modify** ADR 6.8.2.1.28, this could be made clear by an amendment to the third paragraph of ADR 6.10.1.2.1 as follows:

“6.10.1.2.1 ...

...

Vacuum-operated waste tanks shall comply with all requirements of Chapter 6.8, except where overtaken by special requirements in this Chapter. However the requirements of 6.8.2.1.19, 6.8.2.1.20, ~~and~~ 6.8.2.1.21 **and 6.8.2.1.28** shall not apply.”-----

15. With the consent of the Joint Meeting, the Working Group on Tanks is invited to consider the issue and develop wording for amendments to clarify the requirements. Depending on the outcome this may need to include transitional measures, and the need to consider RID/ADR 4.3.2.3.2 in relation to protection of vacuum-operated waste tank-containers including tank swap bodies.