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Working Party on the Transport of Dangerous Goods

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Item 5 (a) of the provisional agenda

**Proposals for amendments to annexes A and B of ADR:
construction and approval of vehicles**

Section 9.7.6 – Rear protection of vehicles

Transmitted by the Government of the United Kingdom*

Summary

Executive summary:	Proposals to clarify the requirements of ADR 9.7.6. in respect to the minimum distance of 100 mm required between the rear of a tank and the rear of the bumper to ensure a uniform interpretation.
Action to be taken:	Amend ADR 9.7.6.
Related documents:	ECE/TRANS/WP.15/2020/5 and informal document INF.16 of the 108 th session ECE/TRANS/WP.15/2021/7 and informal document INF.5 of the 109 th session ECE-TRANS/WP.15/253 paragraphs 19-22 ECE/TRANS/WP.15/AC.1/158/Add.1 (item 9)

* A/77/6 (Sect. 20), table 20.6

Background

1. Proposals submitted to the 108th and 109th sessions sought to clarify the reference points for measurement of the distance required between the rear of a tank and the rear of the bumper which is set out in ADR 9.7.6.
2. The report of the 109th session (ECE/TRANS/WP.15/253) sets out the key points to those discussions. The relevant section has been reproduced below for convenience:

“Document: ECE/TRANS/WP.15/2021/7 (France)

Informal document: INF.5 (Netherlands)

 19. The proposal contained in ECE/TRANS/WP.15/2021/7 aimed to ensure a uniform interpretation of how to measure the required 100 mm clearance between the rear wall of the tank and the rear bumper.
 20. The majority of the delegations that expressed their views came down in favour of the proposal. There were some proposals to modify the figure. It was also proposed to extend the envisaged transitional measure to tank-vehicles registered before 1 January 2025 in order to allow sufficient time for manufacturers in countries with a different interpretation to make the adjustment.
 21. The representative of France will present a revised proposal at a next session.
 22. The Working Party welcomed the comments from the Netherlands and agreed that it might be necessary to define specific requirements for the different types of tank construction and additional equipment and protections in future work.”
3. The United Kingdom believes the text of ADR 9.7.6 should be clarified to remove the existing ambiguity and has therefore submitted this document to propose revisions to the amendments previously submitted to the Working Party at the 108th and 109th sessions to address the points raised during those discussions.

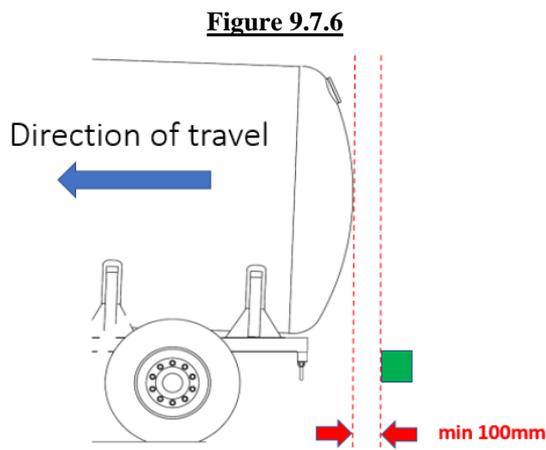
Consideration

4. A 100 mm gap between the rearmost point of the tank and the foremost face of the bumper as shown in Figure 1 below, is beneficial from a tank protection perspective. Even in the most severe impact situations, such as a rear end collision from another heavy goods vehicle, this clearance is of benefit in helping ensure the tank is protected.
5. The maximum volume of product that may be carried is not currently constrained by the maximum vehicle lengths permitted, and the following proposals should not therefore conflict with length limits in such a way that the vehicles payload is reduced.
6. The proposed amendments use the term “tank” in describing the reference point, given that this includes both the shell and any service equipment. In respect to double wall tanks, a note has been included to reflect the interpretation provided by the Working Group on Tanks of the Joint Meeting at its Autumn 2020 session; the distance to be considered for such tanks is from the outermost wall of the tank.
7. For vehicles with a tilting tank and having a rear discharge it is accepted that the clearance of 100 mm cannot be respected in all cases. To ensure the tank and the rear fittings of these vehicles are protected in the same manner as having a bumper appropriately positioned, requirements for a means of protection compatible with these types of vehicles have been included in the proposals.
8. It has been suggested that increasing numbers of heavy goods vehicles being equipped with Advanced Emergency Braking Systems may mean that any clearance to help mitigate the effects of a rear end collision may progressively become less beneficial. However, the regulations governing the technical requirements for such systems have a minimum requirement for the impacting vehicle’s speed to be reduced rather than fully stopping before a collision occurs. It is therefore anticipated that rear end collisions will continue to take place.

Proposal 1

9. In ADR 9.7.6, amend the text after the heading to read as follows, deleted text struck through and new text in bold:

“A bumper sufficiently resistant to rear impact shall be fitted over the full width of the tank at the rear of the vehicle. There shall be a clearance of at least 100 mm between the rear wall of the tank ~~and the rear of the bumper (this clearance being measured from the rearmost point of the tank wall or from projecting fittings or accessories in contact with the substance being carried).~~ **(or of its projecting fittings in contact with the substance being carried) and the foremost face of the bumper facing the rear wall of the tank. This clearance shall be measured as specified in Figure 9.7.6.**



Vehicles with a tilting shell tank for the carriage of powdery or granular substances and a vacuum-operated waste tank with a tilting shell with rear discharge ~~for which the clearance of 100mm cannot be respected shall have a protective device do not require a bumper if the rear fittings of the shell are provided with a means of protection which protects the shell tank and the rear fittings in the same way~~ **man**ner as a bumper. **This protection shall have a section modulus of at least 20 cm³ and have a minimum clearance of 100 mm between the rear of the tank and the foremost part of the additional protection in the direction of travel.**

NOTE 1: This provision does not apply to vehicles used for the carriage of dangerous goods in tank-containers, MEGCs or portable tanks.

NOTE 2: For the protection of tanks against damage by lateral impact or overturning, see 6.8.2.1.20 and 6.8.2.1.21 or, for portable tanks, 6.7.2.4.3 and 6.7.2.4.5.

NOTE 3: For double wall tanks the rear of the tank shall be taken to be the rear of the outermost wall of the tank.”

Proposal 2

10. Provide the following transitional measure in section 1.6.5:

“Vehicles registered (or entering into service if registration is not mandatory) before 1 July 2025 which do not meet the rear protection requirements of 9.7.6 applicable from 1 January 2025 may continue to be used.”

Justification

11. These amendments will ensure a uniform interpretation of the 100 mm clearance that is required between the rear wall of the tank and the rear bumper. Given that clarification is considered necessary, there is likely to have been misinterpretation, and a transitional measure is therefore proposed to enable existing vehicles to continue to be used.