

Economic Commission for Europe

Inland Transport Committee

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 CLCCR

Summary

- Executive summary:** Reaction to ECE/TRANS/WP.15/2023/13 with an industry position and proposed compromise to modify the paper.
- Action to be taken:** Amend ADR 9.7.6.
- Related documents:** ECE/TRANS/WP.15/2023/13; ECE/TRANS/WP.15/2020/5 and informal document INF.16 (108th session); ECE-TRANS/WP.15/2021/7 and informal document INF.5 (109th session); ECE/TRANS/WP.15/253 paragraphs 19-22; ECE/TRANS/WP.15/AC.1/158/Add.1 (item 9); ECE/TRANS/WP.15/2023/1 and informal document INF.9 (113th session); ECE/TRANS/WP.15/262.

I. Background

1. After discussion at the 113th session of WP.15, the UK and NL delegations offered to go deeper into the subject and present now a new proposal on the RUP issue with ECE/TRANS/WP.15/2023/13.
2. That proposal contains some additional elements that the initial discussion did not cover. It gives at the same time clear definition of the distance between a rear underrun protection and a tank.
3. CLCCR highly appreciates the work and effort done by UK and NL and the clear definition of the required RUP distance to avoid interpretations!
4. With regard to the experience with accidents and repairs over many years, some of the additional items should be discussed, they would potentially lead to a wider need of construction changes. Therefore, this paper tries to give a compromise between best safety features and industry needs/possibilities.

II. Proposal 1

5. Amend the text in ADR 9.7.6 to read as follows (heading and notes 1 and 2 unchanged):

9.7.6 Rear protection of vehicles

9.7.6.1. General

The rear of the tank and the elements of battery vehicle shall be protected against impact to the rear by a protective device.

9.7.6.2 Protective device

9.7.6.2.1 The protective device shall meet the technical requirements of UN Regulation No. 58 (Rear Underrun Protection Device) as amended at least by at least revision 3 (or most recent revision) at the time of registration, or when entered service if registration is not mandatory.

9.7.6.2.2 The protective device shall be so positioned on the vehicle that the distance from the rearmost face of the device (the rear most part of the vehicle) to the rear most part of the tank shall be at least 100 mm. For tanks constructed in accordance with 6.8.2.1.14(a) [constructed of aluminium alloy] with reinforced ends (1.5 times minimum thickness) the distance shall be also at least 100 mm, in all other cases the distance shall be increased to at least 150 mm/200mm.

9.7.6.2.3 In case of tanks with double ends, empty rear compartments and tanks with thermal insulation (excluding tanks with vacuum insulation) the distance from the rear of the tank to the rearmost part of the protective device may be reduced to at least 50 mm, provided the distance to the shell respects the value given above.

9.7.6.3 Vacuum operated waste tanks and tanks for the carriage of granular or powdery substances.

9.7.6.3.1 For tanks with a filling or discharge opening at the rear of the tank, such as vacuum operated waste tanks or tilting tanks intended for powdery or granular substances, the tank may alternatively be protected by a metal profile with a section modulus of at least 20cm³ in the weakest section.

9.7.6.3.2 The metal profile shall be so positioned on the vehicle that a free space is provided of at least 100 mm in the horizontal plane between the metal profile and the most rearward part of the closing device to allow for deformation on impact. In the vertical plane the protective device shall be positioned as close as possible above the last closing device but allow for a distance for handling the connection to the closure.

9.7.6.4 Rear protection provided by vehicles bodywork

9.7.6.4.1 Tanks that are protected by bodywork, such as rear mounted cabinets, compartments used for (service) equipment or tanks fitted inside closed vehicles may be exempt from the requirement to install a protective device, provided the bodywork presents equivalent protection as the RUPD technical specifications.

9.7.6.5 Rear protection of battery vehicles

9.7.6.5.1 Battery vehicles shall be protected against rear impact by a protective device that meets the requirements of UN Regulation No. 58 (Rear Underrun Protection Device) as amended at least by at least revision 3 (or most recent revision) at the time of registration, or when entered service if registration is not mandatory.

9.7.6.5.2 The protective device shall be so positioned on the vehicle that the distance of the rearmost face of the device (the rear most part of the vehicle) to the rear most part of an element of the battery, cylinder valve or its operating mechanism is at least 100 mm.

9.7.6.6 Protection of tank against rupture by attachments

Attachments of structures, such as ladders or camera systems to the tank end (shell) shall be protected against rupture of the shell on impact, for example by mounting on doubler plates. Full, unreduced thickness shells (e.g., see 6.8.2.1.18) or equivalent thickness in a material other than mild steel, need no additional protection.

III. Conclusion

6. These modifications are based on the UK and NL proposal and take as good as possible into account the existing constructions and tank vehicle or battery vehicle type variants. They give a clear definition of the RUP distance under consideration of different current national interpretations and practical experience from different countries/manufacturers.
