

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

109th session

Geneva, 03 - 07 May 2021

23 April 2021

Item 5 (a) of the provisional agenda

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

Interim report of the informal working group on 9.7.5

**Transmitted by the European Chemical Industry Council (CEFIC) on
behalf of the informal working group**

Summary

Executive summary:	Interim report of the working group set up to discuss possible amendments to ADR 9.7.5.1 and 9.7.5.2.
Related documents:	ECE-TRANS-WP15-108-GE-INF.5 ECE-TRANS-WP15-108-GE-INF.25 TRANS/WP.15/153
Action to be taken:	None.

Introduction

Concerns from the industry on how ADR defines the requirement for the stability of tank-vehicles carrying liquids have been reported during the 108th session of the Working Party on the Transport of Dangerous Goods (WP.15), through INF.5, submitted by CEFIC.

An informal working group has been convened to consider whether it might be appropriate to amend the vehicle stability requirements set out in ADR 9.7.5. Initial thoughts on the options available were: to amend 9.7.5.1 or for this paragraph to be deleted and for all vehicles to be required to comply with UN Regulation No. 111.

The working group, which comprises members of industry, vehicle and tank builder associations, as well as country delegates, has met twice in 2021. An overview of the discussion of the group is reported below.

Summary of discussion

1. The mandate for the working group is to:
 - (a) Analyze if the application of UN Regulation No. 111 only to tank-vehicles with fixed tanks with a capacity of more than 3 m³ intended for the carriage of dangerous goods in the liquid or molten state tested with a pressure of less than 4 bar, is appropriate.
 - (b) Analyze the correctness of the calculation of the maximum height of the center of gravity of tanks, as stated in 9.7.5.1.
 - (c) Verify if the reference to UN Regulation No. 111 contained in 9.7.5.2 is sufficient to set the minimum requirements for the stability of road tanks.

(d) Verify the impact the possible amendment of ADR 9.7.5 deriving from points 1, 2 and 3 above would have.

2. UN Regulation No.111 was developed by WP.29 around 1998 and first referenced in ADR 2001 (see TRANS/WP.15/153). It has also been noted that electronic stability control (ESC) has been introduced, through UN Regulation No. 13 (Uniform provisions concerning the approval of vehicles of categories M, N and O with regard to braking) which is mandatory in ADR 9.2.3.1.1.

3. The report (TRANS/WP.15/153 R111) only proposed applying UN Regulation No.111 to tanks < 4 bar because it was considered that high pressure tanks are more resistant, but this should be further discussed, according to the report. This however has not been followed up by WP.15.

4. It is recognized that the application of ESC has improved dramatically the situation by decreasing the number of vehicle rollovers in Europe. On the other hand ESC is not mandatory or available everywhere in the world where ADR is applied or referred to, so it is the understanding of the working group that the stability section ADR 9.7.5 is necessary and must be retained. Also, it is emphasized that the stability provided by ESC cannot be a substitute for the inherent stability provided by a low CoG (i.e. ESC provides stability benefits during direction changes at speed, but its effectiveness may be limited in the case of a relatively low speed turning of a high CoG truck at a roundabout for example.)

5. The Working Group discussed 9.7.5.2 and considered whether the application of UN Regulation No. 111 only to tank-vehicles with fixed tanks with a capacity of more than 3 m³ intended for the carriage of dangerous goods in the liquid or molten state tested with a pressure of less than 4 bar, remains appropriate. From information provided to the group it has been confirmed that applying 9.7.5.2 to all tankers would not be practicable and it was agreed that the group should concentrate on the possibility of amending 9.7.5.1 rather than extend the applicability of 9.7.5.2 to high pressure tankers.

6. It has been noted that one of the advantages of 9.7.5.1 is its simplicity, but on the other hand the requirements could be more precise to avoid different interpretations being taken (i.e. "distance between the outer points of contact with the ground of the light-hand tyre and the left-hand tyre of the same axle" does this mean the front and/or the rear?).

7. The agreed way forward is:

- a. To conduct a survey of the height of the center of gravity in relation to the characteristics of the tanker, as specified by 9.7.5.1 for a significant number of tankers operating in Europe.
- b. The data obtained will then be analyzed and consideration given to whether ADR 9.7.5.1 could be amended to reduce the maximum permitted CoG height.

8. A limited set of data in one European country already shows CoG of tankers transporting liquids ADR being < 90% distance of the wheels, which is a stricter requirement than what indicated in ADR 9.7.5.1.
