

OTIF



**ORGANISATION INTERGOUVERNEMENTALE POUR
LES TRANSPORTS INTERNATIONAUX FERROVIAIRES**

**ZWISCHENSTAATLICHE ORGANISATION FÜR DEN
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**INTERGOVERNMENTAL ORGANISATION FOR INTER-
NATIONAL CARRIAGE BY RAIL**

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RID: 1st Session of the standing working group of the RID Committee of Experts
(Riga, 12 – 15 November 2012)

Subject: Continued use of tank-wagons in accordance with the transitional provisions in
1.6.3.1, 1.6.3.2 and 1.6.3.3 of RID

Discussion paper submitted by Germany

SUMMARY

Executive Summary: The continued use of gas tank-wagons built before 1 October 1978 on the basis of indefinitely applicable transitional provisions should be prohibited, or restricted, for safety reasons.

Action to be taken: Delete/amend the transitional provisions in 1.6.3.1, 1.6.3.2 and 1.6.3.3 of RID.

Related documents: Document OTIF/RID/CE/GT/2012/3 of the 13th session of the working group on tank and vehicle technology as well as report OTIF/RID/CE/GT/2012-A (see paragraphs 27 to 31), document OTIF/RID/CE/GT/2010/4 of the 11th session of the working group on tank and vehicle technology as well as the final report of the 50th session of the RID Committee of Experts (see paragraphs 76 and 81)

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Introduction

1. For the 13th session of the working group on tank and vehicle technology (Rome, 11 and 12 April 2012), Germany submitted proposal OTIF/RID/CE/GT/2012/3 on the possibilities for the continued use of tank-wagons in accordance with the transitional provisions in 1.6.3.1, 1.6.3.2 and 1.6.3.3 of RID.
2. The intention of the proposal submitted was to prohibit the continued use of gas tank-wagons built before 1 October 1978 on the basis of open-ended transitional provisions. The proposal was thus aimed at deleting or amending the transitional provisions in 1.6.3.1, 1.6.3.2 and 1.6.3.3 of RID.
3. The proposal was the result of general safety concerns regarding the continued use of gas tank-wagons built before 1 October 1978 without a time limit against the background of the railway accident that occurred in Viareggio in 2009 – even though the tank of the tank-wagon in the accident was not very old and had no defects. In this respect, the competent safety authorities in Germany have examined the level of safety in the design/calculation of tank-wagons (in particular gas tank-wagons) built before, or after, 1 October 1978. The results of this examination are set out once again in paragraphs 8 to 17 below.

Current situation

4. In accordance with 1.6.3.1 of RID, tank-wagons built before the entry into force of the requirements applicable as from 1 October 1978 may be kept in service if they meet the following requirements:
 - The equipment of these tanks meets the requirements of Chapter 6.8.
 - The thickness of the shell wall, except in the case of shells intended for the carriage of refrigerated liquefied gases of Class 2, is appropriate to a calculation pressure of not less than 0.4 MPa (4 bar) (gauge pressure) in the case of mild steel or of not less than 200 kPa (2 bar) (gauge pressure) in the case of aluminium and aluminium alloys.
5. In accordance with 1.6.3.2 of RID, tank-wagons may be kept in service under these transitional provisions only if the periodic tests are conducted in accordance with the requirements of 6.8.2.4 and 6.8.3.4 of RID and the pertinent special requirements for the various classes.
6. The provisions in 1.6.3.3 of RID stipulate that the continued use of tank-wagons under the requirements stipulated in 1.6.3.1 of RID (see paragraph 4 above) is also subject to the requirements in 1.6.3.2 of RID (see paragraph 5 above) and limited until 30 September 1998. Gas tank-wagons (Class 2), however, may continue to be used beyond this date under the same conditions.
7. It follows from paragraphs 4 to 6 that gas tank-wagons may be used without a time limit if their equipment meets the requirements of Chapter 6.8. With regard to wall thickness, 1.6.3.1 of RID only contains a provision for shells intended for the carriage of gases liquefied under pressure, which, however, is not in conformity with the requirements for wall thickness in accordance with Chapter 6.8 of RID. There are no requirements as regards the wall thickness of shells for refrigerated liquefied gases. Thus, all in all, the wall thickness of the shells of gas tank-wagons does not have to comply with the requirements stipulated in the current version of RID.

Comparison of the safety level in the design/calculation of tank-wagons

8. Before 1 October 1978, tank-wagons were built in accordance with different sets of national rules and thus differ to a greater or lesser extent from the state of safety technology required by RID.
9. This higher harmonized safety standard is mainly due to the RID-wide introduction of a minimum wall thickness requirement applicable to the entire shell as well as to the limitation of the permissible stresses in accordance with 6.8.2.1.10 and 6.8.2.1.16 of RID (see also proposal OTIF/RID/CE/GT/2013/3 submitted by Germany for the 13th session of the working group on tank and vehicle technology (Rome, 11 and 12 April 2012)).

Conclusion

10. The examination of the safety level in the design/calculation of gas tank-wagons built before 1 October 1978 shows that the tanks of these wagons differ from the current state of safety technology but may be kept in service without a time limit despite this. The continued use of these wagons should be prohibited, or at least restricted, for safety reasons.
11. UIP estimates that such a restriction would affect up to 5000 gas tank-wagons. In order to find an economically acceptable solution, the following alternative transitional provisions are put forward for discussion.

Proposal 1

12. The strictest measure to be considered is to prohibit the use of gas tank-wagons built before 1 October 1978 without a transitional period. For gas tank-wagons for refrigerated liquefied gases, a transitional period could be granted on account of the more favourable strength behaviour of their shells (see paragraph 16 above).

"1.6.3.3 With the exception of tank-wagons intended for the carriage of gases of Class 2, tank-wagons whose shells were built before the entry into force of the requirements applicable as from 1 October 1978 may be kept in service if their wall thickness and items of equipment meet the requirements of Chapter 6.8. Tank-wagons intended for the carriage of refrigerated liquefied gases of Class 2 may, however, be used until [31 December 2021] if the items of equipment of the tanks meet the requirements of Chapter 6.8."

1.6.3.1 and **1.6.3.2** are no longer required and can be deleted.

Proposal 2

13. In order to give the market players enough time to replace gas tank-wagons built before 1 October 1978, the transitional periods could perhaps be staggered. Gas tank-wagons for refrigerated liquefied gases are included in this.

"1.6.3.3 With the exception of tank-wagons intended for the carriage of gases of Class 2, tank-wagons whose shells were built before the entry into force of the requirements applicable as from 1 October 1978 may be kept in service if their wall thickness and items of equipment meet the requirements of Chapter 6.8.

1.6.3.3.1 Tank-wagons which are intended for the carriage of gases of Class 2 and whose shells were built before [1 January 1971] may be kept in service until [31 December 2021] if their items of equipment meet the requirements of Chapter

6.8.

1.6.3.3.2 Tank-wagons which are intended for the carriage of gases of Class 2 and whose shells were built [between 1 January 1971 and 31 December 1975] may be kept in service until [31 December 2025] if their items of equipment meet the requirements of Chapter 6.8.

1.6.3.3.3 Tank-wagons which are intended for the carriage of gases of Class 2 and whose shells were built [between 1 January 1976 and 30 September 1978] may be kept in service until [31 December 2029] if their items of equipment meet the requirements of Chapter 6.8."

1.6.3.1 and **1.6.3.2** are no longer required and can be deleted.

Note on the corresponding transitional periods for fixed tanks (tank-vehicles), demountable tanks and battery-vehicles

14. Germany is of the opinion that the above amendments could be adopted accordingly for fixed tanks (tank-vehicles), demountable tanks and battery-vehicles. This should, however, first be discussed in the Working Group on Tanks of the RID/ADR/ADN Joint Meeting.
