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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

Bern, 8-11 September 2009 and
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Item 5 of the provisional agenda

TANKS

Flame arrester requirements

Transmitted by the Government of Germany^{1,2}

SUMMARY

Executive summary:	With this proposal, flame arrester requirements in the form of protection targets are to be included in the regulations.
Decision to be taken:	Amendment of paragraph 6.8.2.2.3 RID/ADR
Related documents:	OTIF/RID/RC/2008-B/Add.1 or ECE/TRANS/WP.15/AC.1/112/Add.1 (report by the Working Group on Tanks)

¹ In accordance with the programme of work of the Inland Transport Committee for 2006-2010 (ECE/TRANS/166/Add.1, programme activity 02.7 (c)).

² Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2009/10.

Introduction

1. At the last session of the Joint Meeting in September 2008, the Working Group on Tanks discussed document OTIF/RID/RC/2008/20 (ECE/TRANS/WP.15/AC.1/2008/20) (Sweden) concerning flame arrester requirements. It was determined that neither Chapter 4.3 nor Chapter 6.8 of RID/ADR currently defined flame arresters in terms of technical or operational requirements. Therefore, the existing different requirements established by each country should be harmonised. Besides the technical requirements for flame arresters which remain to be defined, the Working Group on Tanks has defined protection targets concerning the positioning of flame arresters. In this document, it is proposed to include the protection targets on flame arresters adopted by the Joint Meeting in RID/ADR.

2. Moreover, for tanks equipped with a venting system according to 6.8.2.2.6 of RID/ADR, fitted with a flame arrester (code "F"), it should be considered whether reference can be made to standard ISO EN 16852 or EN 12874 concerning the performance requirements for those tanks.

Proposal

3. The second subparagraph of 6.8.2.2.3 of RID/ADR should be reworded as follows:

"Vacuum valves (RID: and self-operating ventilation valves) and venting systems (see paragraph 6.8.2.2.6) used on tanks intended for the carriage of substances meeting the flash-point criteria of Class 3, shall prevent the immediate passage of flame into the tank by means of a suitable flame arrester, or the shell of the tank shall be capable of withstanding, without leakage, an explosion resulting from the passage of the flame.

The protection device, with a suitable flame arrester, should be positioned as close as possible to the shell or the shell compartment. For multicompartment tanks, each compartment shall be protected separately."

Justification

4. Safety: Improves safety by defining uniform protection targets.

5. Feasibility For new tanks, the flame arresters can be positioned in a uniform way in accordance with the protection targets. For tanks which are already in operation, transitional provisions have to be envisaged.

6. Current application: The amendments will be monitored within the framework of the tank approval procedure. In some countries, flame arresters are already used in practice in this way.
