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Working Party on the Transport  
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Joint Meeting of the RID Safety Committee  
and the Working Party on the Transport  
of Dangerous Goods  
(Geneva, 9-13 September 2002)

**INSPECTIONS OF CRACKING ON HIGH-PRESSURE TANKS  
FOR UN NO. 1005 ANHYDROUS AMMONIA**

**Transmitted by the Government of Germany\***

The secretariat has received from the Central Office for International Carriage by Rail (OCTI) the proposal reproduced below.

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\* Circulated by the Central Office for International Carriage by Rail (OCTI) under the symbol OCTI/RID/GT-III/2002/30.

## SUMMARY

**Executive summary:** Some materials for tanks intended for the carriage of anhydrous ammonia, UN No. 1005, are liable to the emergence of stress corrosion cracking in the weld beads. This proposal again sets out the conditions and also the frequency of inspections to ensure that stress corrosion cracking does not take place.

**Action to be taken:** Addition of a special provision TT8 for UN No. 1005 anhydrous ammonia.

**Related documents:** OCTI/RID/CE/38/6(k) (Germany), INF.5 (UIP) and report A 81-03/502.2002 (paras. 98-102) of the thirty-eighth session of the RID Committee of Experts (Prague, 19-23 November 2001) and INF.27 and report TRANS/WP.15/AC.1/88 (para. 86) of the last Joint Meeting (Bern, 18-22 March 2002).

## Introduction

Informal document INF.27 was discussed at the last Joint Meeting (Bern, 18-22 March 2002). The Joint Meeting accepted the principle of adding a special provision TT8 for anhydrous ammonia, UN No. 1005 for additional checks of cracking on high-pressure tanks (see also para. 86 of the report).

Germany was, however, requested to submit a document to the Joint Meeting taking into consideration the question of the frequency of these inspections.

## Proposal

Add the following new special provision TT8 to section 6.8.4 (d):

Shells intended for the carriage of UN No. 1005 anhydrous ammonia which are approved and constructed in fine-grained mild steel with a yield strength greater than 400 N/mm<sup>2</sup> in accordance with the standard for the material, shall initially be subjected for the next periodic test **and for each subsequent periodic test**, in accordance with 6.8.2.4.2, to additional tests of magnetic particle inspections for superficial cracking.

For each shell, the ring gaskets in the bottom area and the welds of all the pipework and repair and polishing points shall be inspected by means of sampling (at least 20% of the length of the gaskets).

Add "TT8" to column (13) of Table A of Chapter 3.2 for UN No. 1005 anhydrous ammonia.

(Comment: amendments in relation to document INF.27 appear in bold).

**Justification**

- Safety implications: Dangerous situations during the carriage of ammonia may be avoided by complying with the minimum requirements of the special provision. For existing tanks, applying the inspection of superficial cracking as described ensures greater safety.
- Feasibility: Since the inspection of superficial cracking is a known test method, there will be no problems.
- Enforceability: This method has already been used in the Federal Republic of Germany and is necessary for reasons of safety.

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