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Item 5 (b) of the provisional agenda
Proposals for amendments to RID/ADR/ADN: new proposals

RID/ADR 6.2.3.1.5 – Pressure relief devices for non-UN acetylene cylinders

Transmitted by the Government of Germany[*, **, ***]

Summary

Executive summary:	The aim of this proposal is to clarify that non-UN acetylene cylinders may not generally be fitted with pressure relief devices.
Action to be taken:	Extend the prohibition of pressure relief devices for non-UN acetylene cylinders in RID/ADR 6.2.3.1.5.
Related documents:	Informal documents INF.21/Rev.1 and INF.42 of the Joint Meeting in March 2014.

Introduction

1. In March 2014, the Joint Meeting agreed to prohibit the fitting of fusible plugs to non-UN acetylene cylinders based on a proposal from Germany (informal document INF.42), with the support from the Joint Meeting's working group on standards (informal document INF.21/Rev.1).

2. Up to date, no other pressure relief devices than fusible plugs have been used for acetylene cylinders, so the prohibition referred to in paragraph 1 was sufficient. However, as

[*] A/75/6 (Sect.20), para 20.51.

[**] Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2021/20.

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a result of the above-mentioned prohibition of fusible plugs, the use of alternative pressure relief devices (e.g. bursting discs) is increasingly being discussed.

3. However, the negative effects of using fusible plugs do not apply just to fusible plugs, but to all types of pressure release devices when using acetylene cylinders (see informal document INF.42: if the fusible plug melts when acetylene decomposition is initiated within the cylinder, the porous material can no longer perform its task of stopping decomposition of the acetylene in the cylinder. Instead, the decomposition reaction is maintained by transporting acetylene in the cylinder, which leads to a quick increase in temperature of the cylinder shell in the area of decomposition. In particular, if the release device is blocked by the decomposition products of the acetylene, there is a high risk of the acetylene cylinder bursting).

4. As standard EN ISO 3807:2013 referred to in the table in 6.2.4.1 only contains the use of fusible plugs as an optional pressure relief device, which are prohibited by the Note in the table in 6.2.4.1 (also introduced in March 2014), the proposal has no impact on the reference to standard EN ISO 3807:2013.

Proposal

5. Amend RID/ADR 6.2.3.1.5 as follows:

"Acetylene cylinders shall not be fitted with ~~fusible plugs~~ pressure relief devices."

Justification

6. This amendment clarifies that, in general, no pressure relief devices shall be used for non-UN acetylene cylinders, and thus improves safety.