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Inland Transport Committee

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, 21–25 March 2011

Item 5 (b) of the provisional agenda

Proposals for amendments to RID/ADR/ADN: new proposals

Clarification of sub-section 1.1.4.2.1 regarding the import of cylinders approved by the United States Department of Transportation (DOT cylinders) in European ADR contracting parties

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

Summary

Executive summary:	Clarification of the text of 1.1.4.2.1 to specifically include the import of DOT cylinders in European ADR/RID contracting parties.
Action to be taken:	Amend the text of 1.1.4.2.1 as proposed.
Related documents:	Transportable Pressure Equipment Directive 1999/36/EC – 2010/35/EC Multilateral Agreement M180 IMDG Code (resolution MSC.122(75), as amended)

¹ In accordance with the programme of work of the Inland Transport Committee for 2010–2014 (ECE/TRANS/208, para.106, ECE/TRANS/2010/8, programme activity 02.7 (c)).

² Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2011/6.

Background and analysis

1. Within the European ADR/RID contracting member states, the Transportable Pressure Equipment Directive (TPED) 1999/36/EC – 2010/35/EC is applicable and prohibits the use of non TPED-conforming pressure receptacles, i.e. United States DOT cylinders. The ADR/RID regulations are aligned with this Directive and hence the normal circulation of DOT cylinders is not possible within the normal boundaries of this legislative framework.
2. The import of United States DOT cylinders into Europe currently occurs under the application of ADR/RID 1.1.4.2 taking into account that maritime transport of these cylinders is allowed under International Maritime Dangerous Goods Code (IMDG Code) section 6.2.3 (see Annex II). The current wording of ADR/RID 1.1.4.2.1, however, does not entirely cover the differences in construction (design pressure/temperature,...), testing and approval which are at the basis of the differences between ADR/RID and DOT cylinders and which are expressed in a more detailed manner in the applicable IMDG code text. Additionally there is a difference between the French word "emballage" used in the French version of paragraph 1.1.4.2.1 and the English word "packing", which should be "packaging" as defined in chapter 1.2 and including receptacles.
3. The further transport of DOT cylinders which have arrived on the European mainland through a transport chain including maritime carriage towards the end users is only possible through the application of the Multilateral Agreement M180 (see Annex I), which allows for Class 2 gases in DOT cylinders to be transported and used (emptied) before being re-exported to the country of origin without being refilled.
4. Taking the above into consideration, Belgium proposes to clarify the text of 1.1.4.2.1. and to open the discussion on a more permanent solution for the distribution of gases of Class 2 in DOT cylinders after the expiry of M180 on 2 June 2011.

Proposal

5. Amend the text in 1.1.4.2.1 of RID/ADR as follows:
 - 1.1.4.2.1. Insert "packagings", after "Packages", at the beginning and add a new subparagraph (d) at the end to read as follows:

"(d) If packagings are not designed, constructed, inspected, tested and approved in accordance with ADR(RID), they shall be so in conformity with the requirements of the IMDG Code or the ICAO Technical Instructions.
6. Consider and discuss a more permanent solution for the distribution of gases of Class 2 in DOT cylinders after the expiry of M180 on 2 June 2011".

Annex I

Text of M180, done at Brussels on 1 June 2006

Multilateral Agreement M 180

under 1.5.1.1 of ADR concerning the carriage of different gases of Class 2 in DOT cylinders in relation to 1.1.4.2

By derogation from the provisions of 6.2.1.4 (approval of receptacles), 6.2.1.5 (initial inspection), 6.2.1.6 (periodic inspection) and 6.2.1.7 (marking of receptacles) of ADR, gases and liquids listed in tables of 4.1.4.1 (P200) may be transported from the location of the temporary storage to the end-users in pressure receptacles imported under the cover of 1.1.4.2 and approved by DOT, under the following conditions:

- (1) When imported from a non-ADR contracting party, the conformity of the pressure receptacles to this agreement shall be verified by a competent person. The verification will be documented with the date, the identification of the pressure receptacles and the name and signature of the competent person. The records of the imported pressure receptacles shall be kept for 5 years for eventual verification by the competent authorities.
- (2) The pressure receptacles shall be marked and labelled in conformity with 5.2.1 of ADR.
- (3) All relevant requirements of ADR with regard to filling ratios and testing periodicities have to be fulfilled.
- (4) When empty, the pressure receptacles shall not be refilled and shall be re-exported to the country of origin.
- (5) The consignor for the ADR journey shall include the following entry in the transport document:

"Carriage agreed under the terms of multilateral agreement M180".

A copy of this agreement shall be carried on the transport unit.

This multilateral agreement enters into force the date it has been signed by one of the Contracting Parties. The agreement applies to carriage between the Parties which have signed ADR and this agreement, in their territories until 1 June 2011, on condition that it has not earlier been revoked by at least one of the Contracting Parties, in which case it is only applicable to carriage between the ADR Contracting Parties which have signed but have not revoked this agreement, on their territory up to that date.

Signed:

Belgium	1/06/2006
Norway	31/07/2006
France	26/09/2006
Czech Republic	2/11/2006
Italy	6/11/2006
Germany	13/11/2006
Denmark	22/11/2006

United Kingdom	27/11/2006
Austria	21/12/2006
Netherlands	21/12/2006
Slovak Republic	22/12/2006
Hungary	21/01/2007
Sweden	2/03/2007
Suisse	08/06/2007
Poland	15/06/2007
Portugal	19/09/2007
Luxembourg	29/06/2010

Annex II

Extract from the IMDG code

Applicable IMDG code text:

- 6.2.3 Provisions for non-UN pressure receptacles**
- 6.2.3.1** Pressure receptacles not designed, constructed, inspected, tested and approved according to 6.2.2 shall be designed, constructed, inspected, tested and approved in accordance with a technical code recognized by the competent authority and the general provisions of 6.2.1.
- 6.2.3.2** Pressure receptacles designed, constructed, inspected, tested and approved under the provisions of this section shall not be marked with the UN packaging symbol.
- 6.2.3.3** For metallic cylinders, tubes, pressure drums and bundles of cylinders, the construction shall be such that the minimum burst ratio (burst pressure divided by test pressure) is:
- 1.50 for refillable pressure receptacles,
2.00 for non-refillable pressure receptacles.
- 6.2.3.4** Marking shall be in accordance with the requirements of the competent authority of the country of use.

Referenced applicable IMDG code text:

- 6.2.1 General provisions**
- 6.2.1.1 Design and construction**
- 6.2.1.1.1** Pressure receptacles and their closures shall be designed, manufactured, tested and equipped in such a way as to withstand all conditions, including fatigue, to which they will be subjected during normal conditions of transport.
- 6.2.1.1.2** In recognition of scientific and technological advances, and recognizing that pressure receptacles other than those that are marked with a UN certification marking may be used on a national or regional basis, pressure receptacles conforming to requirements other than those specified in this Code may be used if approved by the competent authorities in the countries of transport and use.
- 6.2.1.1.3** In no case shall the minimum wall thickness be less than that specified in the design and construction technical standards.
- 6.2.1.1.4** For welded pressure receptacles, only metals of weldable quality shall be used.
- 6.2.1.1.5** The test pressure of cylinders, tubes, pressure drums and bundles of cylinders shall be in accordance with packing instruction P200. The test pressure for closed cryogenic receptacles shall be in accordance with packing instruction

P203. [The test pressure of a metal hydride storage system shall be in accordance with packing instruction P205].

- 6.2.1.1.6** Pressure receptacles assembled in bundles shall be structurally supported and held together as a unit. Pressure receptacles shall be secured in a manner that prevents movement in relation to the structural assembly and movement that would result in the concentration of harmful local stresses. Manifold assemblies (e.g., manifold, valves, and pressure gauges) shall be designed and constructed such that they are protected from impact damage and forces normally encountered in transport. Manifolds shall have at least the same test pressure as the cylinders. For toxic liquefied gases, each pressure receptacle shall have an isolation valve to ensure that each pressure receptacle can be filled separately and that no interchange of pressure receptacle contents can occur during transport.
- 6.2.1.1.7** Contact between dissimilar metals which could result in damage by galvanic action shall be avoided.
- 6.2.1.1.8** The following additional provisions apply to the construction of closed cryogenic receptacles for refrigerated liquefied gases:
1. The mechanical properties of the metal used shall be established for each pressure receptacle, including the impact strength and the bending coefficient;
 2. The pressure receptacles shall be thermally insulated. The thermal insulation shall be protected against impact by means of a jacket. If the space between the pressure receptacle and the jacket is evacuated of air (vacuum-insulation), the jacket shall be designed to withstand without permanent deformation an external pressure of at least 100 kPa (1 bar) calculated in accordance with a recognized technical code or a calculated critical collapsing pressure of not less than 200 kPa (2 bar) gauge pressure. If the jacket is so closed as to be gas-tight (e.g., in the case of vacuum-insulation), a device shall be provided to prevent any dangerous pressure from developing in the insulating layer in the event of inadequate gas-tightness of the pressure receptacle or its fittings. The device shall prevent moisture from penetrating into the insulation.
 3. Closed cryogenic receptacles intended for the transport of refrigerated liquefied gases having a boiling point below -182 °C at atmospheric pressure shall not include materials which may react with oxygen or oxygen enriched atmospheres in a dangerous manner, when located in parts of the thermal insulation where there is a risk of contact with oxygen or with oxygen enriched liquid.
 4. Closed cryogenic receptacles shall be designed and constructed with suitable lifting and securing arrangements.