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Inland Transport Committee

Working Party on the Transport of Dangerous Goods

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Item 4 of the provisional agenda

Reports of informal working groups

Addendum to the report of the informal working group on “Provisions on equipment for tanks and pressure receptacles” including proposals for revising the text of RID/ADR/ADN concerning pressure receptacles (ECE/TRANS/WP.15/AC.1/2015/38)

Transmitted by the European Industrial Gases Association (EIGA)

Introduction

1. This paper should be read in conjunction with paper ECE/TRANS/WP.15/AC.1/2015/38 (EIGA). It contains the remainder of the proposals from the working group.

2. The RID/ADR generally has no requirements for fitting pressure relief devices to cylinders, pressure drums and tubes. Nevertheless, if they are fitted, it is essential that they shall fulfil the requirement to protect against harmful over pressure but not open during normal conditions of carriage. The working group has attempted to devise suitable requirements, but so far a consensus has not yet been achieved. A further meeting of the working group will be arranged for October or November to find an acceptable solution.

3. The proposal which follow are complete and could be adopted without requirements for pressure relief devices.

4. As in the proposals in the formal paper, text enclosed in a box explains the preceding amendment.

Proposal 3 (continued) – Amendments to the UN Model Regulations text in 6.2.1 and 6.2.2

6.2.2.7.3 (i) At the end insert the following *NOTE*.

NOTE: When a cylinder shell is intended for use as an acetylene cylinder (including the porous material), the working pressure mark is not required until the acetylene cylinder is completed.

6.2.2.7.3 (j) In the first sentence replace “liquefied gases and refrigerated liquefied gases” by “liquefied gases, refrigerated liquefied gases and dissolved gases”.

6.2.2.7.3 (k) and (l) Replace paragraphs (k) and (l) with the following.

(k) In the case of cylinders for UN No. 1001 acetylene, dissolved:

- (i) the tare in kilograms consisting of the total of the mass of the empty cylinder shell, service equipment (including porous material) not removed during filling, any coating, the solvent and the saturation gas expressed to three significant figures rounded down to the last digit followed by the letters "KG". At least one decimal shall be shown after the decimal point. For pressure receptacles of less than 1 kg, the mass shall be expressed to two significant figures rounded down to the last digit;
 - (ii) the identity of the porous material; and
 - (iii) the total mass of the filled acetylene cylinder in kilograms followed by the letters "KG";
- (l) In the case of cylinders for UN No. 3374 acetylene, solvent free:
- (i) the tare in kg consisting of the total of the mass of the empty cylinder shell, service equipment (including porous material) not removed during filling, any coating expressed to three significant figures rounded down to the last digit followed by the letters "KG". At least one decimal shall be shown after the decimal point. For pressure receptacles of less than 1 kg, the mass shall be expressed to two significant figures rounded down to the last digit;
 - (ii) the identity of the porous material; and
 - (iii) the total mass of the filled acetylene cylinder in kilograms followed by the letters "KG";

The amendments to (j), (k) and (l) introduce marks necessary for the filling and periodic inspection of acetylene cylinders.

6.2.2.7.4 (n) After the existing text insert a new ***NOTE***

"NOTE: If the manufacturer of the acetylene cylinder and the manufacturer of the cylinder shell are different, the mark of both manufacturers shall be applied."

6.2.2.8 In the title replace "pressure receptacles" by "cylinders".

6.2.2.8.1 In the first sentence replace "pressure receptacles" by "cylinders".

In the second sentence replace "pressure receptacle" by "cylinders".

In the third sentence replace "pressure receptacle" at the first occurrence by "cylinder shell" and at the second occurrence by "cylinder".

In the fifth (penultimate) sentence replace "pressure receptacles" by "cylinders" twice.

6.2.2.8.3 In the ***NOTE*** replace "pressure receptacles" by "cylinders".

Cylinders are the only non-refillable UN pressure receptacle allowed by the Regulations and other types of non-refillable pressure receptacle are very unlikely to be required.

6.2.2.10.1 Replace "cylinders" by "cylinder shells". Insert a new second sentence as follows. "Individual closures in a bundle of cylinders shall be marked in accordance with 6.2.2.11."

6.2.2.10.3 (b) In the first sentence replace the phrase in brackets by "cylinder shells and service equipment".

In the second sentence after "tare" delete "mass".

At the end insert a new subsection 6.2.2.11 as follows and renumber existing 6.2.2.11 as 6.2.2.12.

“6.2.2.11 Marking of closures for refillable UN pressure receptacles

For closures the following permanent marks shall be applied clearly and legibly, (e.g. stamped, engraved or etched):

- (a) Manufacturer's identification mark
- (b) Design standard or design standard designation
- (c) Date of manufacture, (year and month or year and week)

The valve test pressure shall be marked when it is less than the test pressure which is indicated by the shape of the valve filling connection.

Closures which are conformity assessed separately shall be marked in addition with the UN packaging symbol as specified in 6.2.2.7.2 (a) with a minimum size of 5 mm.”

6.2.2.12 (renumbered 6.2.2.11) After the table insert a new sentence “For separate conformity assessments (e.g. cylinder shell and closure) see 6.2.1.4.3.”

Proposal 4 – Amendments to RID/ADR text in 6.2.3, 6.2.4 and 6.2.5

- 6.2.3.1.1 After “Pressure receptacles” delete “and their closures”.
- 6.2.3.1.2 In the second paragraph replace “pressure envelope and supporting components” by “pressure receptacle and/or pressure receptacle shells including all permanently attached integral parts (e.g. neck ring, foot ring, etc.)”
- 6.2.3.3.2 Delete the heading “*Openings*”.
- 6.2.3.3.3 Delete the heading “*Fittings*”.
- 6.2.3.4.2 In the title replace “*receptacles*” by “*receptacle shells*” and in paragraph (a) replace “receptacles” by “receptacle shells”
- 6.2.3.5.1 In the **NOTE** after “*cylinder*” insert “*shell*”.
- 6.2.3.5.2 In paragraph (a) insert “pressure” before “receptacle” and insert “service” before “equipment”.
- 6.2.3.6.1 After the table replace the sentence starting “For refillable pressure receptacles, the conformity assessment ...” by “For separate conformity assessments (e.g. cylinder shell and closure) see 6.2.1.4.3.”
- 6.2.3.9.1 replace the existing sentence by “Marks shall be in accordance with 6.2.2.7 and 6.2.2.11 with the following variations.
- 6.2.3.10** Replace “**pressure receptacles**” by “**cylinders**”
- 6.2.3.10.1 Replace “Markings” by Marks”
- 6.2.4.1** After the end of the text and before the table insert a new **NOTE** as follows.

“NOTE: The words ‘cylinder’, ‘tube’ and ‘pressure drum’ when used in these standards shall be understood to exclude closures except in the case of non-refillable cylinders.”

In the third row of the table (after the two header rows) replace “**for design and construction**” by “**for pressure receptacles or pressure receptacle shells**”.

- 6.2.4.2** Delete the third row of the table (after the two header rows) including the text “**for periodic inspection and test**”.
- 6.2.5.3 In the first sentence after the heading insert “shell” after “pressure receptacle”.

In the sentence after the end of the **NOTE** delete “and their closures”.

6.2.5.4.1 Replace “receptacles” by “receptacle shells”.

In the sentence preceding the algebraic formulae insert “shell” after “receptacle” twice.

After the formulae, amend the definition of ‘e’ and “D” to read “e = minimum wall thickness, in mm” and “D = nominal external diameter, in mm”.

In **NOTE 1** replace “receptacles” by “receptacle shells”.

6.2.5.4.2 Replace “receptacles” by “receptacle shells” twice.

6.2.5.4.3 Replace “receptacles” by “receptacle shells” once and insert “shell” after “receptacle” in each of the three indents.

6.2.5.4.4 Replace “receptacles” by “receptacle shells”.

6.2.5.5 Replace “tubes, pressure drums, and bundles of cylinders” by “tubes and pressure drums”.

Between “the construction” and “shall be” insert “of the pressure receptacle shell”.

6.2.5.6.1 At the end of the sentence delete “and its fittings”.

6.2.5.6.3 Delete “of pressure receptacles”.
