

## COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS AND ON THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS

Sub-Committee of Experts on the Transport of Dangerous Goods

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### MISCELLANEOUS PROPOSALS OF AMENDMENTS TO THE MODEL REGULATIONS ON THE TRANSPORT OF DANGEROUS GOODS

Comments on ST/SG/AC.10/C.3/2008/95 - 6.2.2.7 Marking of refillable UN pressure receptacles

Submitted by the Compressed Gas Association (CGA)

#### **Introduction**

1. In ST/SG/AC.10/C.3/2008/95, the European Industrial Gases Association (EIGA) identifies an issue and proposes amendments concerning the marking requirements for refillable UN pressure receptacles, particularly with respect to bundles of cylinders, in the Model Regulations. Compressed Gas Association (CGA) agrees that the current marking requirements for bundles of cylinders are not clear. However, CGA would like to provide comments and express some concerns regarding the solution proposed by EIGA.

2. From past participation on the Sub-Committee's former working group on gases, as well as in reviewing how the marking requirements are specified in 6.2.2.7 of the Model Regulations, CGA believes that these requirements were intended to apply to individual pressure receptacles (i.e. cylinders, tubes, pressure drums, and closed cryogenic receptacles), likely including individual cylinders within a "bundle of cylinders". For example, the requirement in 6.2.2.7 specifying the minimum size of the marks depends on the diameter of the pressure receptacle. However, a "bundle of cylinders" does not have a diameter, as its overall shape may be deemed a rectangular box. CGA does not believe that these marking requirements were intended to apply to a "bundle of cylinders" altogether as one unit.

#### **Comments on Part 1 of the proposals in ST/SG/AC.10/C.3/2008/95**

3. CGA agrees with the intent of the first part of EIGA's proposed text in that, for a bundle of cylinders, it should be clarified that each individual cylinder within the bundle must be marked with all applicable marks. CGA would suggest that EIGA's proposed text be amended as follows:

"For bundles of cylinders, pressure receptacle marking requirements shall apply to the individual cylinders within the bundle."

4. In the second part of EIGA's proposed text, there is a presumption that a bundle of cylinders has a frame. However, a frame is not specified in the definition of "bundle of cylinders" in 1.2.1 of the Model Regulations, and a frame is not required for a bundle of cylinders elsewhere in the Model Regulations. Two or more cylinders manifolded and strapped together would currently meet the definition of a "bundle of cylinders".

#### **Comments on Part 2 of the proposals in ST/SG/AC.10/C.3/2008/95**

5. 6.2.2.7.2(g) of the Model Regulations currently describes the marking of the "mass" of a pressure receptacle, which includes all permanently attached integral parts, but does not include the mass of any removable parts or accessories such as the valve, valve cap or guard, any coating, or porous material for acetylene. "Mass" is not an appropriate mark for a bundle of cylinders altogether as one unit.

6. However, similar in concept to EIGA's proposed text, "tare" may be an appropriate mark for a bundle of cylinders altogether as one unit. "Tare" is the mass of the pressure receptacle plus all attached parts or accessories when presented for filling, including the valve, valve guard, etc. However, since the "tare" may change as the attached parts or accessories are changed throughout the life of the pressure receptacle, it is not necessary for "tare" to be required as a permanent marking (i.e. stamped, engraved, etched, or cast and intended to remain legible during the entire lifespan of the pressure receptacle). Consistent with the guidance in ISO 13769:2007, *Gas cylinders – Stamp marking*, the "tare" could be a durable marking, meaning that it could be marked by labelling or stencilling (using inks and/or paints), and it should remain legible for a limited period but could be modified.

#### **Comments on Part 3 of the proposals in ST/SG/AC.10/C.3/2008/95**

7. CGA agrees that the minimum guaranteed wall thickness, described in 6.2.2.7.2 (h) of the Model Regulations, is not an appropriate mark for a bundle of cylinders altogether as one unit.

#### **Comments on Part 4 of the proposals in ST/SG/AC.10/C.3/2008/95**

8. CGA agrees that the identification of the cylinder thread, described in 6.2.2.7.3(m) of the Model Regulations, is not an appropriate mark for a bundle of cylinders altogether as one unit.

#### **Other comments regarding the proposals in ST/SG/AC.10/C.3/2008/95**

9. The implication of EIGA's proposals is that the other marks not specifically mentioned in ST/SG/AC.10/C.3/2008/95 would be required on a bundle of cylinders altogether as one unit. However, there would be difficulty in applying some of the other pressure receptacle marks to a "bundle of cylinders".

10. 6.2.2.7.1(b) of the Model Regulations requires the marking of a technical standard used for design, manufacture, and testing. However, there is currently no standard adopted in 6.2.2.1 of the Model Regulations for a bundle of cylinders altogether as one unit; the standards adopted so far could only apply to the individual cylinders within the bundle.

11. In Chapter 6.2, the Model Regulations currently specify design, construction, and testing requirements for individual cylinders, but there are no such requirements pertaining to how cylinders should be interconnected and transported together in a bundle. For example, as mentioned previously (see paragraph 4), there is a presumption in EIGA's proposals that a bundle of cylinders has a frame, but this is not specified anywhere in the Model Regulations.

12. There are a number of marks related to type testing and approval of pressure receptacles specified in the Model Regulations, such as the country of approval (6.2.2.7.1(c)), the inspection body (6.2.2.7.1(d)), the date of initial inspection (6.2.2.7.1(e)), and the manufacturer (6.2.2.7.3(n)). These clearly apply to individual cylinders, but currently without specific requirements in the Model Regulations for bundles, it is unclear how these marks would apply to a bundle. What initial inspections must be performed on a bundle of cylinders altogether as one unit? Who is the manufacturer of a bundle of cylinders – the manufacturer of the bundle design type or the final assembler of each bundle? If individual cylinders or accessories are changed from the original bundle assembly, is this considered a new manufacture, or what inspections or approvals are required? In Europe, practice according to the existing CEN standard on cylinder bundles might lend itself to these marks perhaps for ADR/RID purposes. However, this is not aligned or consistent with North American practice, and there is currently no system in place for this in North America.

13. An ISO standard is currently being developed on cylinder bundles (ISO/DIS 10961), but it is still in its draft stages, and there are still some issues to be resolved. The ISO draft is based on a European standard (EN 13769:2003), and some of the concepts are much different from current North American practice, including type approvals for bundles. It is anticipated but not necessarily guaranteed that, when published, the ISO standard would be considered for adoption in the Model Regulations, along with the other ISO standards already adopted in 6.2.2.1 for other types of pressure receptacles.

14. 6.2.2.7.3(o) of the Model Regulations requires the marking of a serial number assigned by the manufacturer. CGA understands that it is common practice in Europe for a unique serial number to be assigned to a bundle of cylinders. This is currently not common practice in North America, but CGA would agree with serial numbers being marked on new bundles of cylinders going forward, although the manufacturer or owner of the bundle should be able to assign the serial number, particularly since it is not clear at this time who exactly is considered to be the "manufacturer".

### **Proposals**

15. As discussed in paragraph 3 above, it should be clarified in 6.2.2.7 of the Model Regulations that, for bundles of cylinders, the pressure receptacle marking requirements apply to the individual cylinders within a bundle:

"For bundles of cylinders, pressure receptacle marking requirements shall apply to the individual cylinders within the bundle."

16. Consideration of the marking requirements for a bundle of cylinders altogether as one unit should be postponed, until specific technical and type testing and approval requirements for bundles of cylinders are included or clarified in the Model Regulations and perhaps the ISO standard has been published.

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