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**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

Thirty-first session  
Geneva, 2-6 July 2007  
Item 6 of the provisional agenda

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

Periodic inspection and test

Proposal transmitted by the European Industrial Gases Association (EIGA)

**Introduction**

1. EIGA proposes to delete **NOTE 2** under 6.2.1.5.1 (d) of the Model Regulations annexed to the 14<sup>th</sup> revised edition of the Recommendations on the Transport of Dangerous Goods requiring the agreement of the competent authority to replace the hydraulic pressure test of cylinders or tubes by equivalent methods based on acoustic emission and ultrasonic examination.

**Justification**

2. Acoustic emission testing has been successfully introduced since 1982 on tubes in the United States of America, Ultrasonic testing has been authorised and practised for more than a decade. It is now standard procedure during manufacturing to use ultrasonic testing together with hydraulic testing.

3. Ultrasonic inspection has been documented in ISO 6406:1992 for seamless steel and in ISO 10461: 1993 for seamless aluminium-alloy, both standards referred under **6.2.2.4 Periodic inspection and test**.

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4. An additional standard “ISO 16148: 2006 Gas cylinders. Refillable seamless steel cylinders. Acoustic emission testing for periodic inspection” will be proposed for reference in **6.2.2.4**.

5. These methods have enabled the industry to detect flaws that were not discovered by hydraulic testing. Especially for high purity specialty gases, it is important to avoid the ingress of humidity let alone water in the receptacle.

6. A large number of competent authorities has already officially authorised the use of these methods in replacement of the hydraulic method.

### **Proposal**

7. Add “**and/or acoustic emission and/or ultrasonic examination test**” after 6.2.1.5.1 (d)\*  
A hydraulic pressure test

8. Delete under 6.2.1.5.1 (d) \* the **NOTE 2** reading:” *With the agreement of the testing and certifying body approved by the competent authority, the hydraulic pressure test of cylinders or tubes may be replaced by an equivalent method based on acoustic emission testing, ultrasonic examination or a combination of acoustic emission testing and ultrasonic examination.*”

### **Feasibility**

9. Confirmation of existing practice. No safety issues.

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\* Note by the secretariat: In the 15<sup>th</sup> revised edition of the Recommendations on the Transport of Dangerous Goods, this paragraph has been renumbered 6.2.1.6.1 (d). If these proposals are adopted, existing NOTE 1 should become “NOTE”.