

**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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Item 2 of the provisional agenda

ADDITIONAL PROVISIONS FOR THE TRANSPORT OF GASES

Transmitted by the expert from the United States of America

1. The expert from the United States of America is interested in continuing the work to incorporate pressure receptacle requirements into the Model Regulations. While significant accomplishments have been achieved, there are several issues remaining that were not previously resolved. It is anticipated that ISO TC 58 and TC 220 will finalize several pressure receptacle standards in the near term including standards for welded cylinders, pressure drums and closed cryogenic receptacles standards. The expert from the United States recommends the Gases Working Group consider the issues and proposed amendments to the Model Regulations identified in this paper.

Items for the Gases Working Group to consider during the July 2004 Working Group Meeting:

Item	Status
1. Standard for welded steel pressure drums.	ISO Standard CD 21172 “Gas Cylinders - Welded steel pressure drums up to 3000 liter capacity for transport of gases.” The United States performed a side-by-side evaluation of this ISO standard with comparable DOT 106A and 110AW standards, and finds it acceptable except for the maximum size authorized. The United States recommends not referencing ISO 21172 standard in the UN Model Regulations unless the maximum water volume is limited to 1000 liters.
2. Standard for welded steel cylinders.	ISO 4706- Part 1 “Gas Cylinders -- Refillable — Part 1: Welded steel cylinders 90 bar test pressure and below.” The expert from the United States reviewed the draft ISO 4706-Part 1 and submitted technical comments to ISO. One significant technical comment that must be resolved is to limit the cylinder’s test pressure to 60 bar instead of 90 bar. The expert from the United States recommends not referencing the ISO 4706-Part 1 standard until all of the technical comments have been resolved.

Item	Status
3. Modification of ISO 7866, adding additional requirement for fracture performance for high strength aluminium receptacles.	<p>The work is in progress at ISO/TC58/SC3/WG19 “Test methods on fracture performance for high strength aluminium cylinder, ISO/TR 20704.”</p> <p>The expert from the United States participated in the ISO/TC58/SC3/WG19 meeting in Paris and reviewed the ISO/TR 20704 report. ISO/TC58/SC3/WG19 drafted a list of testing requirements to be included in the ISO 7866 standard for cylinders made from high strength aluminium alloy .</p> <p>The United States recommends replacing current ISO 7866:1999 in section 6.2.2.1.3 with the revised ISO 7866 standard that includes the Leak before burst (LBB) and Flawed cylinder cycling (FCC) tests recommended by the WG19 members.</p>
4. Inclusion of ISO 11119-3 in the reference table of section 6.2.2.1.3	<p>The expert from the United States recommends referencing ISO 11119-3:2003 “ Gas cylinders of composite construction — Specification and test methods — Part 3: Fully wrapped fibre reinforced composite gas cylinders with non-load sharing metallic or non-metallic liners.”</p> <p>The United States recommends the inclusion of the same conditions that were currently applied for ISO 11119-1 and 11119-2 in 6.2.2.1.1 Note 1 (i.e. the cylinder must be designed for unlimited service life).</p>
5. Amendment of sections 6.7.5.4.1, 6.7.5.5.1 and 6.7.5.6.1.	<p>The United States proposes amendments to the Model Regulations to address safety issues related to pressure release device (PRD) requirements for MEGCs.</p> <p>The expert from the United States considers the proposals in ST/SG/AC.10/C.3/2003/43 necessary to provide the appropriate level of safety for placement and capacity of PRDs installed on MEGCs. Additionally, we propose a more relevant PRD marking requirement and updated CGA Publication reference.</p>
6. Amend section 6.2.2.1.3 and P200.	<p>The United States recommends ISO 7866, “Gas Cylinders – Refillable seamless aluminium alloy gas cylinders – Design, construction and testing” be removed from 6.2.2.1.3 as an authorized cylinder for acetylene. In addition, the expert from the United States recommends that Special Provision “a” be added in the P200 table to Acetylene, Dissolved (UN1001) and Acetylene, Solvent Free (UN3374).</p> <p>Aluminium used to manufacture pressure receptacles typically contains a high percentage of copper. Since copper can react violently with acetylene, the use of aluminium pressure receptacles should be prohibited.</p>
7. Section 6.2.3, Requirements for non-UN pressure receptacles.	<p>The expert from the United States recommends consolidating sections 6.2.3.1 and 6.2.3.3 for clarity. The new section 6.2.3.1 would read, “Pressure receptacles not designed, constructed, inspected, tested, marked and approved according to the requirements of 6.2.2 shall be designed, constructed, inspected, tested, marked and approved in accordance with the provisions of a technical code recognized by the competent authority.” Section 6.2.3.3 would then be deleted.</p> <p>Additionally, we question the need to reference compliance with the general requirements of 6.2.1 in 6.2.3.1. This reference brings in the applicability of 6.2.1.1.5 requirement for P200 test pressure requirements for non-UN pressure receptacles.</p>