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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

Twenty-fifth session, 5-14 July 2004
Item 2 of the provisional agenda

TRANSPORT OF GASES

Provisions for the transport of gases

Comments on ST/SG/AC.10/C.3/2003/43

Miscellaneous proposals to the requirements for Multi-Element Gas Containers (MEGCs)

Transmitted by the European Industrial Gases Association (EIGA)

Introduction

EIGA welcomes the United States of America's proposal to amend the requirements for Pressure Relief Devices (PRDs) on MEGCs. In particular we support the proposals 3 and 4 without reservation.

Proposals 1 and 2 are also helpful clarifications, but they are not acceptable to EIGA as they stand because they are based on the premise that the only allowable configuration of PRDs is one or more per receptacle. It should be remembered that MEGCs could be built from individual gas cylinders and this option is frequently chosen in Europe. It would be nonsense to fit a PRD to every cylinder on such a MEGC resulting in an assembly with several hundred devices.

In justification of the United States of America's stance that at least one PRD must be fitted to every receptacle, five dashed supporting reasons are given in the justification of proposal one. EIGA makes the following response, taking each dashed point in turn:

1. If the heating is local, the pressure rise will be slow and a manifolded device would result in an even slower pressure rise as the mass available to absorb the pressure rise would be greater. There is no reason to believe that flow capacity would be insufficient when designed properly.
2. This is a matter of design and risk assessment, but the nature of the PRD has a bearing on the number used and the position. It is true that one would want to limit the volume if bursting discs or

fusible plugs were used, but that does not necessitate imposing such a requirement on all devices such as spring loaded pressure relief valves.

3. Manifolds are required to be configured to resist damage in 6.7.5.3.1, and the risk of the flow being restricted by damage should therefore be low.

4. This point is hard to understand. If there is a small fire, there is a small pressure rise and no need to release product. If the pressure rises to a dangerous level the relevant PRD will operate, the pressure will not remain high only in the region of the fire. The point may have relevance if thermally operated devices are used, but is not generally true.

5. This point is already fully catered for by 6.7.5.4.2 which requires a PRD for each element or group of elements which can be isolated.

Thus, we are not convinced by the supporting argument and we wish to retain the option of fitting PRDs to groups of elements. Also, the proposed reference to 6.2.1.3.4 in proposals 1 and 2 is unhelpful because that sub-section is framed around the fitting PRDs to every receptacle, which is correct in the context of Chapter 6.2, but not for MEGCs.

Proposals

Proposal 1

Revise the first sentence of 6.7.5.4.1 as follows

6.7.5.4.1 "One or more pressure relief device shall be fitted on each element or group of elements of a MEGC used for the transport of UN 1013 carbon dioxide and UN 1070 Nitrous oxide. *The second sentence remains unchanged.*

Justification

EIGA agrees that one PRD on a MEGC would be an unlikely and inadequate solution but would not like to forbid the grouping of elements for the reasons given above. The United States of America's proposed reference to 6.2.1.3.4 adds confusion because this provision speaks of PRDs on each individual pressure receptacle. The other requirements in 6.2.1.3.4 are covered by the provisions in 6.7.5.4.2, except for the text on positioning the outlet for flammable gases which could be added to this clause, if necessary.

Proposal 2

Replace 6.7.5.5.1 with the following text based upon the United States of America's proposal 2:

6.7.5.5.1 The relief capacity for each element or group of elements of a MEGC shall be determined in accordance with the standard specified by the competent authority for the country of use.

Justification

EIGA can support the United States of America's proposal if the confusing reference to 6.2.1.3.4 is dropped and if "or group of elements" is inserted between "each element" and "of a MEGC".
