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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

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TRANSPORT OF GASES

Comments on ST/SG/AC.10/C.3/2003/43 (United States of America)
Miscellaneous proposals to the requirements for Multi -Element Gas Containers (MEGCs)

Transmitted by the expert from the United Kingdom

**Introduction**

The expert from the United Kingdom welcomes the review carried out by the expert from the United States of America on the fitting of pressure relief devices on MEGCs. We support Proposal 4, which seeks to update references to CGA publications. However Proposals 1, 2 and 3 in their form suggested by the United States of America are not acceptable to the United Kingdom. Below, the expert from the United Kingdom gives his reasons and suggests alternative wording for Proposals 1 and 3.

**Proposal 1**

The expert from the United Kingdom agrees that it is important that elements of MEGCs used to transport UN 1013 carbon dioxide and UN 1070 nitrous oxide are protected by a pressure relief device. However, we do not agree that 'all other gases' require protection in this way and in fact would point to the dangers of fitting pressure relief devices to MEGCs used to transport toxic gases.

In addition, it is clear that with proper design, it is as safe to fit one safety valve to a group of elements manifolded together.

Dealing in order with the dashed points which the expert of the United States of America makes in the Justification of this proposal, the expert from the United Kingdom makes the following comments;

1. Localised heating will cause a pressure rise within the element and thermal circulation of the product that will promote cooling. The pressure rise, once sufficient, will cause the pressure relief device to operate. The flow capacity is dealt with adequately by paragraphs 6.7.5.5.5.1 and 6.7.5.7.1.

2. For carbon dioxide and nitrous oxide this is not an issue. If pressure relief is used for other gases then the operator needs to take the risk of such releases into account.

3. Manifold damage is dealt with in 6.7.5.3 and 4.2.4.

4. This is correct, the other elements would act as a buffer to contain the additional pressure generated up to the point the pressure relief is set to operate. This means that a small fire will not result in the loss of contents.

5. 6.7.5.7.1 is clear that the pressure relief cannot be isolated.

Therefore the United Kingdom proposes the following wording for 6.7.5.4.1:

" 6.7.5.4.1 Pressure relief devices shall be fitted on each element or group of elements of a MEGC used for the transport of UN1013 carbon dioxide and UN1070 nitrous oxide. MEGCs for other gases shall be fitted with pressure relief devices as specified by the competent authority for the country of use. "

**Proposal 2**

The expert from the United Kingdom considers that the first two sentences of 6.7.5.5.1 lay down the minimum performance requirement for the pressure relief device during fire engulfment. Such requirements are vital for the safe operation of the MEGC and to treat the MEGC as a series of individual elements would not be consistent with the approach we have given in proposal 1.

Therefore the United Kingdom proposes that 6.7.5.5.1 remains unchanged.

**Proposal 3**

The expert from the United Kingdom considers that paragraph 6.7.5.6.1 should set out the minimum marking requirements that would be acceptable to a global market. The United Kingdom does not accept that such marking requirements should be left to each competent authority where the MEGC may be used.

The expert from the United Kingdom also notes that currently the marking requirements are for spring loaded pressure relief devices only but that the Model Regulations allow the use of other types of PRDs on MEGCs – such as fusible plugs and bursting discs.

In addition the expert from the United Kingdom believes that it should be possible to simplify the marking requirements of the pressure relief device to enable sufficient information to be marked on what can be some very small devices. The manufacturer's name and the relevant catalogue number should provide sufficient information to enable the set pressure, allowable tolerances and rated flow capacities to be found.

Finally, it is clear to the expert of the United Kingdom that such pressure relief devices have a limited life and require examination and maintenance or renewal at the time of the periodic examination of the MEGC. It is therefore proposed that the date of the most recent test is also included in the marking requirement.

Therefore the United Kingdom proposes that 6.7.5.6.1 is rewritten as follows:

" 6.7.5.6.1 Pressure relief devices shall be clearly and permanently marked with the following;

(a) The manufacturers name and relevant catalogue number
(b) The date of last test."

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