

UN/SCETDG/19/INF.23

**Sub-Committee of Experts on the
Transport of Dangerous Goods**
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TANKS

Suggested modifications to the proposals in ST/SG/AC.10/C.3/2001/30 (USA)

Transmitted by the European Industrial Gases Association (EIGA)

SUMMARY

<i>Executive summary:</i>	The expert from the USA has submitted various proposals to modify the text concerning portable tanks. Suggestions are made to modify those proposals.
<i>Action to be taken:</i>	Modify the proposals in ST/SG/AC.10/C.3/2001/30 as indicated below.
<i>Relevant documents</i>	ST/SG/AC.10/C.3/2001/30

1 Proposed TP5

1.1 Discussion

1. The second proposal in Paper 2001/30 at the top of page 2 (English version) states “There are no filling limits currently prescribed for refrigerated liquefied gases.” This is not true. Provisions for filling are given in 4.2.3.6 and the degree of filling is covered by 4.2.3.6.2 to 4.2.3.6.4. There is therefore no need for the second sentence of the proposed TP5.

2. The proposed text for TP 5 starts with a new requirement to limit the flow rate during filling. It is assumed that this provision is intended to prevent the tank being subjected to excessive pressure during filling and to prevent bursting in the case of overfilling. It is an obvious implicit requirement that a filler should not subject the tank to dangerous pressure. Portable tanks carrying non-refrigerated gases and substances of other Classes are not subject to this explicit requirement and no justification has been given by the expert from the USA as to why refrigerated liquefied gases need this special extra requirement.

3. If such a requirement has to be written into the Model Regulations, it is undesirable to express this objective by requiring one particular technical means of achieving it. Many refrigerated liquefied gas tanks are safely filled at high flow rates by venting the gas during filling, either to atmosphere or to another tank. (Venting during filling is not through the pressure relief device.) Automatic devices to prevent overpressure or overfilling include pressure switches or level switches which cut off the flow, it is also possible to limit pressure build up by filling liquid into the gas space. Limiting flow rate is not the only acceptable means. The requirement should be expressed as a safety objective which in the method proposed effectively means

limiting the tank pressure to 110% of MAWP, the maximum pressure permitted when the pressure relief device is fully open.

1.2 Proposal

1. Delete the proposal to add new text for TP5
2. If experts believe that a particular safety issue for refrigerated liquefied gases has to be addressed, the following sentence should be added to 4.2.3.6.1

“The process of filling shall be controlled so that the pressure in the tank does not exceed 110% of MAWP.”

2 Note to explain the Header of the Minimum Test Pressure Column in T50

2.1 Discussion

EIGA welcomes the proposal to explain the terms in this column header but cautions against creating new descriptions which do not exactly reproduce the words used elsewhere. Such duplication leads to confusion and should be avoided. A particular problem with the USA proposal is that it is not clear that, for example, “insulated” refers only to tanks above 1.5 metre diameter. These terms are, in effect, defined within the definition of Design reference temperature given in 6.7.3.1 and in 6.7.3.2.12. Cross referencing would be ideal, but the structure of the text makes this difficult. EIGA therefore propose that this note should be based on reproducing the text in the Design reference temperature definition.

2.2 Proposal

- * *Small* means having a shell with a diameter of 1.5 metres or less;
 - Bare* means having a shell with a diameter of more than 1.5 metres without insulation or sun shield;
 - Sunshield* means having a shell with a diameter of more than 1.5 metres with sun shield (see 6.7.3.2.12);
 - Insulated* means having a shell with a diameter of more than 1.5 metres with insulation (see 6.7.3.2.12);
- (See definition of Design reference temperature in 6.7.3.1).

3 Definition of Fusible Element

3.1 Discussion

The proposed definition is unnecessarily long because it is a mix of a description and a regulatory requirement. EIGA recommends that definitions should be limited to a description. The second half of the proposed definition is a regulatory requirement which should be, and is, explicitly stated in the Model Regulations because a fusible element is a pressure relief device.

3.2 Proposal

Fusible element means a non-reclosable pressure relief device that is thermally actuated. ~~that provides protection against excessive pressure build-up within the shell developed by exposure to heat, such as from a fire.~~
