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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-second session
Geneva, 3-12 (a.m.) December 2007
Item 6 of the provisional agenda

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

**Impact Testing of UN Portable Tanks and MEGCs Section 41.2
of the Manual of Tests and Criteria**

Transmitted by the expert from Canada^{*/}

Background

1. The Sub-Committee adopted the current requirements for impact testing of UN portable tanks and MEGCs in 2004 based on a proposal from Canada at its 26th session) (see ST/SG/AC.10/C.3/52, para. 104). The impact test protocol has since been successfully used by testing establishments in various parts of the world and has been adopted into the IMDG Code.
2. During consideration of the Canadian impact testing proposal at this Sub-Committee in 2004, it was noted that the ISO TC 104/SC2 had been working on standardizing the impact test protocol since 1996 and that the work at ISO was continuing. An amendment to ISO 1496-3

^{*/} In accordance with the programme of work of the Sub-Committee for 2007-2008 approved by the Committee at its third session (refer to ST/SG/AC.10/C.3/60, para. 100 and ST/SG/AC.10/34, para. 14) (tank issues).

adopting the impact test was finally published in February 2006. However, ISO 1496-3 applies only to tank containers for liquids, gases and pressurized dry bulk. MEGCs are outside the scope of ISO 1496-3.

3. The test protocol now included in ISO 1496-3 is identical to that adopted into the Manual for Tests and Criteria under the UN Model Regulations on TDG in 2004, except for the “permitted design variations” (41.2 of the UN Manual for Tests and Criteria).

4. The “permitted design variations” define whether or not an impact test conducted in the past on a tank container or MEGC of given design, can be considered valid to support a changed container design. Design variations permitted in this context are those where no significant change in the behavior of a tank container or MEGC under impact testing is expected. The permitted design variations for tank containers were considered at length at ISO on the basis of the UN Manual for Tests and Criteria and considerable refinements were made. The proposal made below would harmonize the permitted design variations for tank containers in the UN Manual for Tests and Criteria with those now in ISO 1496-3.

5. MEGCs are outside the scope of ISO 1496-3. The proposal below would create separate “permitted design variations” criteria applicable to MEGCs in the UN Manual for Tests and Criteria based on the factors expected to influence an MEGC’s behaviour in the impact test and in keeping with the general approach taken by ISO 1496-3 for tanks. These permitted design variation for MEGCs were developed for the domestic standard in Canada (CSA B625).

6. Since ISO 1496-3 treats tank containers but not MEGCs, Canada considers it desirable to retain the impact testing protocol within the UN Manual for Tests and Criteria for both container types. If our proposal is accepted the UN requirements will nonetheless be in harmony with what has been published by ISO.

Proposal

Strike out the existing Section 41.2 in the UN Manual for Tests and Criteria and replace with the following:

41.2 Permitted design variations

The following variations in container design from an already tested prototype are permitted without additional testing:

41.2.1 Portable tanks

- (a) A reduction of no more than 10% or an increase of no more than 20% in capacity, resulting from variations in diameter and length;
- (b) A decrease in maximum permissible gross mass;
- (c) An increase in thickness, independent of design pressure and temperature;
- (d) A change to the grade of material of construction provided that the permitted yield strength meets or exceeds that of the tested portable tank;
- (e) A change in location of, or a modification to, nozzles and manways.

41.2.2 MEGCs

- a) A change in capacity of any individual element of no more than 10%;
 - b) A change of no more than 10% in unladen (tare) mass;
 - c) A change of no more than 10% in maximum permissible gross mass.
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