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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-third session  
Geneva, 30 June-9 July (a.m.) 2008  
Item 2 of the provisional agenda

**EXPLOSIVES AND RELATED MATTERS**

Additional test for 1.4S classification

Transmitted by the Institute of Makers of Explosives (IME)\*

**Background**

1. In ST/SG/AC.10/C.3/2007/29, the expert from Canada had proposed a new test to evaluate candidates for inclusion in Compatibility Group S of Division 1.4 (see also ST/SG/AC.10/C.3/62, paras. 20-22 and ST/SG/AC.10/C.3/62/Add.1, annex 2).

**Discussion**

2. The Institute of Makers of Explosives (IME) opposes this test for the following reasons:
- (a) The need for a new test has not been adequately demonstrated and the ramifications of the new test have not been fully studied:

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\* 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/C.3/34, para. 14)

- (i) Canada has provided no data that proper and complete application of the current classification system and tests for explosives has led to incorrect or inappropriate classifications. If proper and complete application of the system is resulting in correct classifications, then why is a new test needed?
  - (ii) Canada has reported test results for shaped charges. However, they have not discussed why the application of the proposed test to shaped charges is needed. IME is unaware of any transportation or workplace incident involving packaged\* 1.4S shaped charges that would indicate the need for a new test;
  - (iii) There is no data provided in the proposal on how 1.4S articles other than shaped charges might perform in the test. The IME is concerned that acceptance of this test could lead to reclassification of approved articles from Compatibility Group S to some other compatibility group; even though there is no evidence that such reclassification is needed or desirable.
- (b) The proposal is incomplete.
- (i) The proposal contains no indication as to how the proposed test will fit in the flow chart (Figure 10.3 of the Manual of Tests and Criteria);
  - (ii) The proposal provides incomplete guidance regarding test failures. Paragraph 16.7.1.4 of the proposal states that failures should be excluded from Compatibility Group S, but provides no indication as to what compatibility group those failing devices should be assigned.
- (c) The acceptance criteria of paragraph 16.7.1.4 of the proposal are subjective and vague, are open to varying interpretations, and are inconsistent with the conditions under which performance of the test is proposed:
- (i) Criterion “a” mentions “Damage to the witness plate”. IME questions what kind of damage? Does this mean any damage? Is discoloration of the witness plate the kind of damage that would result in exclusion from Compatibility Group S? Would a scratch on the witness plate be sufficient to exclude from Compatibility Group S, and if so, on what basis? If not a scratch, what about a dent? Would any dent result in a failure or only dents of certain sizes (and what would those sizes be)? Is a hole evidence of a failure and if so, what size hole? Would a hole the

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\* Shaped charges can only be 1.4S when they are properly packaged. Unpackaged or improperly packaged shaped charges are not 1.4S.

diameter of a straight pin be a failure, and if so, on what basis? IME acknowledges that this discussion could be perceived as facetious, but it serves to demonstrate how the vagueness of the criterion “damage to the witness plate” is open to varying interpretations, many of which are inappropriate when considering assignment to Compatibility Group S.

The criterion “damage to the witness plate” is also inconsistent with the conditions provided in paragraph 16.2.2 of the proposed method that states that the test is performed on Compatibility Group S candidates if it is expected that functioning of an article would produce effects more severe than in the 6(c) test. There is no witness plate in the 6(c) test. IME questions how examining a witness plate can be used as a measure of severity greater than Test 6(c)?

- (ii) Criterion “c” of the proposed test method mentions “Disruption and scattering of the package and its contents”. IME questions what is meant by the phrase “disruption and scattering”? How much disruption and scattering is considered enough to exclude a device from Compatibility Group S? As we noted above, we point out that “disruption and scattering” are also not Test 6(c) criteria and question how this coincides with the conditions of proposed section 16.2.2 in evaluating effects worse than can be expected from Test 6(c)?

### **Recommendation**

3. On the basis that no need for this proposal has been demonstrated, that the proposal is incomplete, and that the acceptance criteria of the proposal are too vague and open to varying interpretations, the Institute of Makers of Explosives recommends that the Sub-Committee of experts on the Transport of Dangerous Goods reject the proposal for a new test contained in ST/SG/AC.10/C.3/2007/29.

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