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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-seventh session, 4-8 July 2005
Item 7 of the provisional agenda

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

Transport of Dangerous Goods Marking Requirements

Orientation Arrows on Class 7 Goods

Transmitted by the Dangerous Goods Advisory Council (DGAC)

1. Discussion

IAEA have reviewed the changes made to the applicability of the orientation arrows (see Annex) agreed at the December 2004 meeting of the UN Committee of Experts.

In addition to the exceptions provided for Type B(U), B(M), or C packages in new paragraph 5.2.1.6.1(d), IAEA agreed that the orientation marking should not be required on three additional Class 7 packages: Type A and Industrial Packages Types IP-2 and IP-3. Type A package designs for liquids are required to pass, without leakage, a 9-metre drop test in the most damaging orientation. IAEA believes that these packages do not have either a safe or unsafe orientation and, therefore, orientation arrows are not needed. To require the marking would imply that the package must be kept in a certain orientation to prevent or minimize leaks, which is not the case. The marking could have the unintended effect of undermining the confidence placed in the packaging approval.

There may be additional Class 7 packages that should not require orientation arrows. It is expected that IAEA, at a future meeting, will discuss the applicability of the marking to fissile approved package designs (Type IP-2F, IP-3F, AF, B(U)F, B(M)F). When these discussions have concluded, DGAC or IAEA will submit a further paper on this matter, if needed.

2. Proposal

Revise 5.2.1.6.1(d) as follows:

“Class 7 radioactive material in Type A, Industrial Package Type IP-2, IP-3, Type B(U), B(M), or C packages; or

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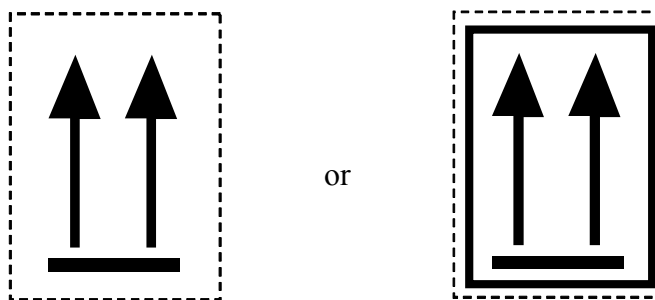
Annex (Extract from ST/SG/AC.10/32/Add.1)

5.2.1.6 Add the following new paragraphs:

"5.2.1.6 Except as provided in 5.2.1.6.1:

- combination packagings having inner packagings containing liquid dangerous goods;
- single packagings fitted with vents; and
- open cryogenic receptacles intended for the transport of refrigerated liquefied gases,

shall be legibly marked with package orientation arrows which are similar to the illustration shown below or with those meeting the specifications of ISO 780:1985. The orientation arrows shall appear on two opposite vertical sides of the package with the arrows pointing in the correct upright direction. They shall be rectangular and of a size that is clearly visible commensurate with the size of the package. Depicting a rectangular border around the arrows is optional.



Two black or red arrows on white or suitable contrasting background.
The rectangular border is optional

5.2.1.6.1 Orientation arrows are not required on packages containing:

- (a) pressure receptacles;
- (b) dangerous goods in inner packagings of not more than 120 ml which are prepared with sufficient absorbent material between the inner and outer packagings to completely absorb the liquid contents;
- (c) Division 6.2 infectious substances in primary receptacles of not more than 50 ml;
- (d) Class 7 radioactive material in Type B(U), B(M) or C packages; or
- (e) articles which are leak-tight in all orientations (e.g. alcohol or mercury in thermometers, aerosols, etc.)."