



DANGEROUS GOODS PANEL (DGP)

TWENTIETH MEETING

Montréal, 24 October to 04 November 2005

Agenda Item 2: Development of recommendations for amendments to the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284) for incorporation in the 2007-2008 Edition

EXCEPTED QUANTITIES — REVISED UN PAPER

(Presented by the Secretary)

1. INTRODUCTION

1.1 Further to the issuance of DGP/20-WP/28, a revised paper to the UNSCOE meeting (November 2005) has been submitted by the expert from the United Kingdom (ST/SG/AC.10/C.3/2005/42); see Appendix.

2. PROPOSAL

2.1 Panel members are requested to use the proposal in this paper as the basis for discussion of the issue, as referred to in DGP/20-WP/28.

APPENDIX

ST/SG/AC.10/C.3/2005/42

Excepted quantities

Transmitted by the expert from the United Kingdom

Introduction

1. The Sub-Committee will recall the discussions that took place during the twenty-seventh session of the UN Sub-Committee of Experts on the Transport of Dangerous Goods held in July 2005. Two papers were presented, ST/SG/AC.10/C.3/2005/17, by the expert from the United Kingdom and UN/SCETDG/27/INF.27 presented by the representative of ICCA. There was extensive debate on this topic (see paragraphs 36-44 of ST/SG/AC.10/C.3/54) at the end of which the expert from the United Kingdom promised to produce a revised paper taking into account comments at the meeting as well as written comments from other members of the Sub-Committee. A number of written comments have been received and considered.

2. The principal changes from the previous United Kingdom proposal are as follows:

- the whole text on excepted quantities has been removed from the existing Chapter 3.4 addressing dangerous goods in limited quantities. The expert from United Kingdom agrees that provisions for excepted quantities would be better placed as free-standing text elsewhere in the Model Regulations. This might be in a new Chapter 3.5 (although there would be no associated indication in the columns of the Dangerous Goods List) or in a new Chapter 1.5 (as an indication of the concept being a general exemption). Others have suggested inclusion in Chapter 2.0, as part of the classification process where transport of samples is currently addressed. The United Kingdom can see problems with each of these options and is thus open to further suggestions. The numbering of the text in this proposal is, therefore, intended to be indicative;
- dangerous goods permitted for transport as excepted quantities has been presented in a Table that now includes all Divisions/Classes to improve clarity. Quantities permitted are now more closely aligned with the quantities currently permitted in air transport. The current restriction in air transport to only substances permitted for transport in passenger aircraft is recognized. However, on close examination of these restrictions there do appear to be some anomalies (for Division 4.3 Packing Group III substances for example) and the Sub-Committee may wish to invite ICAO to further examine its current restrictions in the light of this proposal.
- packages must now be capable of meeting various test requirements that generally reflect the current air transport provisions, with some minor simplifications;
- proposals for the package mark have been further developed;
- requirements for placarding and transport documentation for excepted quantities above 1000 kg gross weight have been introduced, although the precise figure for the threshold proposed will clearly be open for discussion.

3. The United Kingdom believes that the concept of an exemption for small quantities of dangerous goods along the lines of the excepted quantities concept presented in this paper, a concept which has been used in the air mode for some 20 years, should have a multi-modal application and recommends the adoption of the concept as proposed in this paper.

Proposal

4. Add the following text to the Model Regulations:

“X.1 Excepted quantities

X.1.1 Excepted quantities of dangerous goods of certain classes meeting the provisions of this section are not subject to any other provisions of these Regulations except for :

- (a) the training requirements in Chapter 1.3;
- (b) the classification procedures and packing group criteria in Part 2, Classification;
- (c) the packaging requirements of 4.1.1.1, 4.1.1.2, 4.1.1.4, 4.1.1.4.1 and 4.1.1.6 in Part 4.

X.1.2 Excepted quantities of dangerous goods shall be transported in accordance with the provisions of sections X1.3 and X1.4 and Table X.1.1. Substances that meet the provisions of sections X1.3 and X1.4 and Table X1.1 may be transported by aircraft only if they are permitted for transport on a passenger aircraft by the ICAO Technical Instructions.

Table X.1.1: Excepted quantities

CLASS/ DIVISION	Packing Group I		Packing Group II		Packing Group III	
	Packagings		Packagings		Packagings	
	Inner	Outer	Inner	Outer	Inner	Outer
1	Not permitted					
2.1	Not permitted					
2.2 ^a without subsidiary risk	30ml	1L	30ml	1L	30ml	1L
2.3	Not permitted					
3 without subsidiary risk ^b	30ml	300ml	30ml	500ml	30ml	1L
3 with subsidiary risk	Not permitted		30ml	500ml	30ml	1L
4.1 ^c	Not permitted		30g	500g	30g	1kg
4.2	Not permitted		30g	500g	30g	1kg
4.3	Not permitted		30g or 30ml	500g or 500ml	30g or 30ml	1kg or 1L
5.1	Not permitted		30g or 30ml	500g or 500ml	30g or 30ml	1kg or 1L
5.2 ^d	30ml or 30g	500g or 500ml	30ml or 30g ₃	500g or 500ml	30ml or 30g	500g or 500ml
6.1	1g or 1ml	300g or 300ml	1g or 1ml	500g or 500ml	30g or 30ml	1kg or 1L
6.2	Not permitted					
7	Not permitted					
8 ^e	Not permitted		30g or 30ml	500g or 500ml	30g or 30ml	1kg or 1L
9	Not applicable		30g or 30ml	500g or 500ml	30g or 30ml	1kg or 1L

^a For gases, the volume indicated for inner packagings refers to the water capacity of the inner receptacle and the volume indicated for outer packagings refers to the combined water capacity of all inner packagings within a single outer package;

^b Desensitized explosives shall not be transported as excepted quantities;

^c Self-reactive substances and desensitized explosives shall not be transported as excepted quantities;

^d Division 5.2 dangerous goods shall ONLY be transported as excepted quantities if in UN No. 3316, Chemical Kit or First Aid Kit;

^e UN Nos. 2803 and 2809 shall not be transported as excepted quantities.

X.1.3 Packagings, including their closures, used for the transport of dangerous goods in excepted

quantities shall be in compliance with the following:

- (a) there shall be an inner packaging and each inner packaging shall be constructed of plastic (when used for liquid dangerous goods it shall have a minimum thickness of not less than 0.2 mm), or of glass, earthenware or metal and the closure of each inner packaging with a removable closure must be held securely in place with wire, tape or other positive means; any receptacle having a neck with moulded screw threads must have a leakproof threaded type cap. The closure shall be resistant to the contents;
- (b) each inner packaging shall be securely packed in an intermediate packaging with cushioning material. The intermediate packaging shall completely contain the contents in case of breakage or leakage, regardless of package orientation. For liquid dangerous goods, the intermediate packaging shall contain sufficient absorbent material to absorb the entire contents of the inner packaging. In such cases, the absorbent material may be the cushioning material. Dangerous goods shall not react dangerously with cushioning and absorbent material or reduce the integrity or function of the materials;
- (c) the intermediate packaging shall be securely packed in a strong, rigid outer packaging (wooden, fibreboard or other equally strong material);
- (d) each package shall be of such size that there is adequate space to apply the required marks;
- (e) each package type shall be in compliance with the provisions in X.1.4; and
- (f) overpacks may be used and may also contain packages of dangerous goods or goods not subject to these Regulations provided there are no packages containing dangerous goods or other goods that may react dangerously with each other.

X.1.4 Package tests

X.1.4.1 The complete package as prepared for transport, with inner packagings filled to not less than 95% of their capacity for solids or 98% for liquids, must be capable of withstanding, without breakage or leakage of any inner packaging and without significant reduction in effectiveness:

- (a) the following free drops onto a rigid, non-resilient flat and horizontal surface from a height of 1.8 m:
 - (i) for a packaging with six sides (i.e. a box shape):
 - one drop flat on the bottom;
 - one drop flat on the top;
 - one drop flat on the long side;
 - one drop flat on the short side; and
 - one drop on a corner at the junction of three intersecting edges;
 - (ii) for a cylindrical packaging (i.e. a drum shape):
 - one drop diagonally on the chime or on a circumferential seam or an edge;
and
 - one drop on the weakest part not tested by the first drop, e.g. a closure.

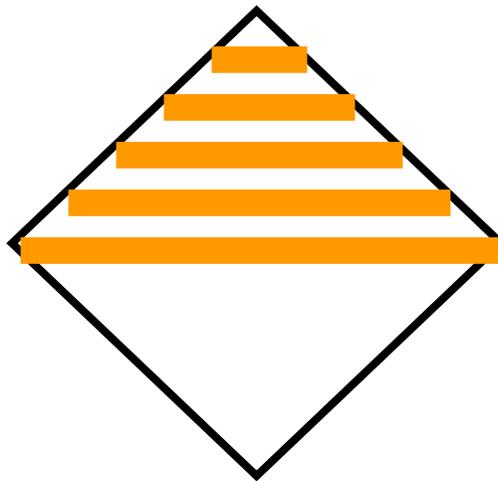
Note: Each of the above drops may be performed on different but identical packages.

- (b) a force applied to the top surface for a duration of 24 hours, equivalent to the total weight of identical packages if stacked to a height of 3 m (including the drop sample).

X.1.4.2 For the purposes of testing, the substances to be transported in the packaging may be replaced by other substances except where this would invalidate the results of the tests. For solids, when another substance is used, it must have the same physical characteristics (mass, grain size, etc.) as the substance to be carried. In the drop tests for liquids, when another substance is used, its relative density (specific gravity) and viscosity should be similar to those of the substance to be transported.

X.1.4.3 Packages containing excepted quantities of dangerous goods prepared in accordance with this section shall be durably marked with the mark shown in Figure X.1. For packages the dimensions shall be 100 mm × 100 mm, except in the case of packages of such dimensions that they can only bear small marks. If the package is included in an overpack, these markings shall be clearly visible or appear on the overpack. For transport units (see X.1.5), the minimum dimensions shall be 250 mm × 250 mm.

Figure X.1



Excepted quantities mark

X.1.5 Transport units carrying dangerous goods in excepted quantities above 1 000 kg gross weight shall be marked on at least 2 opposing sides of the unit and in any case in such a position as may be seen by all those involved in the loading or unloading process, with the excepted quantities mark to be affixed in accordance with the provisions of X.1.4 for packages.

X.1.6 Dangerous goods in excepted quantities above 1 000 kg gross weight shall be accompanied by a document that includes the statement: “Dangerous Goods in excepted quantities”.