



WORKING PAPER

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

LIMITED QUANTITIES

(Presented by R. Richard)

1. INTRODUCTION

1.1 During WG/05, Panel members indicated general support for revising the limited quantity provisions in the TI in order to avoid confusion in modal regulations. It was noted that the use of the term “limited quantities” was misleading as provisions for air transport were markedly different to those for other modes. In order to reduce confusion, it was suggested consideration be given to adopting a new name and it was agreed the issue needed further discussion. The TI uses the terminology “limited quantities” but the requirements in the TI are significantly different from the limited quantity provisions in the UN Model Regulations and in the regulations of the other modes. In particular, limited quantities prepared in accordance with the TI are required to bear hazard labels and the inner packaging quantities are much less than those permitted in other modes of transport. The only exception provided in the TI for limited quantities is that packages are not required to be tested and marked in accordance with Part 6, Chapter 4, although according to 3;4.4 they must be capable of passing a 1.2 meter drop test and a 24 hour stacking test.

2. PROPOSAL

2.1 This paper proposes to amend the TI by removing references to the words “limited quantities” and amending requirements for limited quantities accordingly.

2.2 The following amendments are proposed:

a. In the Forward paragraph 5 reads as follows:

5. If it is desired to transport the substance or article under the provisions for limited quantities, all the requirements of 3;4 must be met and also all the applicable requirements of the Technical Instructions, except where otherwise provided for in Part 3, Chapter 4.

It is proposed that this paragraph be deleted and that subsequent paragraphs be renumbered accordingly.

b. It is proposed that paragraph 6 of the Forward be amended as follows:

“6. If the substance or article is not to be transported as an excepted quantity ~~or a limited quantity~~, determine whether it is desired to transport it on passenger or cargo aircraft.”

c. Amend the table of contents so that it reads:

2.5 ~~Exceptions for Dangerous goods~~ packaged in accordance the provisions of Part 3, Chapter 4 ~~limited quantities~~ 1-2-3

Part 3 DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND PROVISIONS FOR USE OF NON-SPECIFICATION PACKAGINGS

Chapter 4. USE OF NON-SPECIFICATION PACKAGINGS FOR CERTAIN DANGEROUS GOODS

d. In 1;2.5 amend the text so that it reads:

2.5 USE OF NON-SPECIFICATION PACKAGINGS FOR CERTAIN DANGEROUS GOODS

Dangerous goods packaged according to the Y packing instructions are accepted from certain provisions of these Instructions subject to the conditions in Part 3, Chapter 4.

e. Amend the title of Part 3 to read “DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND PROVISIONS FOR USE OF NON-SPECIFICATION PACKAGINGS”.

f. Amend the last sentence in the column 9 explanation which states: “Such packing instructions are for limited quantities of dangerous goods.” to read: Such packing instructions apply to substances and articles which may be transported in non-specification packagings subject to the conditions in Part 3, Chapter 4.

g. Amend the column 10 explanation to read:

“Where a maximum net quantity appears beside a packing instruction prefixed by the letter “Y”, this indicates it is the maximum net quantity permitted in the packaging ~~containing limited quantities of dangerous goods.~~

h. Amend special provision A44 paragraph (b) to read “(b) the ~~limited quantities under~~ provisions of 3;4.1.2.”

- i. Amend Part 3, Chapter 4 consistent with the amendments provided in Annex 1.
- j. Delete 4;1.1.20. This should have been deleted in the previous update to the TI.
- k. Amend 5;1.1 g) by changing the words “limited quantities (when applicable) and” to “other markings required by these Technical Instructions including”.
- l. Amend 5;2.4.9 a) by changing the words “limited quantities (when applicable) and” to “other markings required by these Technical Instructions including”.
- m. Amend 5;2.4.10 to read:

“2.4.10 Markings of packages containing dangerous goods packaged in accordance with the provisions of Part 3, Chapter 4.”

~~Packages containing limited quantities of dangerous goods and~~ prepared in accordance with 3;4 must be marked ~~“limited quantity(ies)” or “LTD QTY”~~ with the applicable Y packing instruction number assigned to the specific substance or article in the Dangerous Goods List and the words “non-specification packaging.” An example of such a marking is as follows:

“Y305, non-specification packaging”
- n. Delete 5;4.1.5.2.
- o. Amend 7;1.1.2 c) by changing the words “limited quantities (when applicable) and” to “other markings required by these Technical Instructions including”.
- p. Variations AF-02, GF-04, LH-01, LX-02, SV-02 and US-12 should be amended accordingly.
- q. The index should be amended in 2 places.

Annex 1

Chapter 4

USE OF NON-SPECIFICATION PACKAGINGS FOR CERTAIN DANGEROUS GOODS LIMITED QUANTITIES

Note.—The UN Recommendations contain provisions for limited quantities of dangerous goods. These recognize that many dangerous goods when in reasonably limited quantities present a reduced hazard during transport and can safely be carried in good quality packagings of the types specified in the Recommendations but which have not been tested and marked accordingly. The provisions contained in this paragraph are based on those in the UN Recommendations and allow limited quantities of dangerous goods to be transported in packagings which, although not tested and marked in accordance with Part 6 of these Instructions, do meet the construction requirements of that part

4.1 APPLICABILITY

4.1.1 Limited quantities of dangerous goods may only be carried in Certain dangerous goods may be transported in packagings that are not required to meet the package testing and marking requirements in Part 6, Chapter 4 (non-specification packagings) ~~accordance with the limitations and provisions of this chapter and~~ must meet all the applicable requirements of the Technical Instructions unless otherwise provided for below.

4.1.2 Only dangerous goods which are permitted on passenger aircraft, are assigned a Y packing instruction number in column 9 of the DGL are packaged according the provisions of the Y packing instruction and which meet the criteria of the following classes, divisions and packing groups (if appropriate) may be transported according to the provisions of this chapter: ~~carried under these provisions for dangerous goods in limited quantities~~

Divisions 2.1 and 2.2	Aerosols and UN 2037 without subsidiary risk
Division 2.2	Gases without subsidiary risk but excluding refrigerated liquefied gases
Class 3	Packing Groups II and III
Division 4.1	Packing Groups II and III but excluding all self-reactive substances irrespective of packing group
Division 4.3	Packing Groups II and III, solids only
Division 5.1	Packing Groups II and III
Division 5.2	Only when contained in a chemical kit or a first-aid kit
Division 6.1	Packing Groups II and III
Class 8	Packing Groups II and III but excluding UN Nos. 2794, 2795, 2803, 2809 and 3028
Class 9	Only UN Nos. 1941, 1990, 2071, 3077, 3082 and 3316

Note.— Many articles or substances, including the following, are NOT permitted under these ~~limited quantity~~ provisions:

- a) those permitted only on cargo aircraft;
- b) those in Packing Group I;
- c) those in Class 1 or 7 or Divisions 2.1 (other than aerosols), 2.3 or 6.2;
- d) those in Division 4.2 or with a subsidiary risk 4.2.

4.1.3 The limitations and provisions of this chapter ~~for the transport of dangerous goods in limited quantities~~ apply equally to both passenger and cargo aircraft.

4.2 PACKING AND PACKAGINGS

4.2.1 The general packing requirements of 4;1.1 ~~applicable to passenger aircraft~~ must be met except that the requirements of 4;1.1.2, 4;1.1.8 c), 4;1.1.8 e) and 4;1.1.16 do not apply.

Comment: The words “applicable to passenger aircraft” appear to be unnecessary since no special passenger requirements apply in 4;1.1.

4.2.2 Packagings, including closures, which have been used more than once (i.e. they have been refilled and are being reshipped after having previously been emptied) must be inspected thoroughly and must be in such condition that they will protect their contents and perform their containment functions as efficiently as new packagings. Cushioning and absorbent materials if used previously must remain capable of performing their primary functions.

4.2.3 Single packagings, including composite packagings, are not permitted.

4.2.4 ~~Limited quantities of Dangerous goods~~ *that meet the requirements of this chapter* must be packed in accordance with the requirements of the applicable ~~limited quantity~~ Y packing instruction identified by the prefix letter “Y” indicated in column 9 of Table 3-1.

~~Note. — The packing instruction prefixed with the letter “Y” bears the same number as the packing instruction applicable to normal quantities permitted by passenger aircraft for the entry concerned or packing group of that entry.~~

This note is unnecessary and may not be valid after completion of the packing instruction revisions.

4.2.5 Inner packagings must meet the requirements of Part 6;3.2. Outer packagings must ~~be so designed that they meet the construction requirements in of Part 6;3.1 which apply to the type of outer packaging to be used for the article or substance.~~

4.3 QUANTITY LIMITATIONS

4.3.1 The net quantity per package must not exceed the quantity specified in column 10 of Table 3-1 against the packing instruction number identified by the prefix letter “Y” in column 9.

4.3.2 The gross mass per package must not exceed 30 kg.

4.3.3 When different dangerous goods are contained in one outer packaging, the quantities of such dangerous goods must be so limited that:

a) for classes other than Classes 2 and 9, the total net quantity in the package does not exceed the value of 1, where “Q” is calculated using the formula:

where n_1, n_2 etc., are the net quantities of the different dangerous goods and M_1, M_2 etc., are the maximum net quantities for these different dangerous goods shown in Table 3-1 against the relevant “Y” packing instructions; and

b) for Classes 2 and 9:

1) when packed together without goods of other classes, the gross mass of the package does not exceed 30 kg; or

2) when packed together with goods of other classes, the gross mass of the package does not exceed 30 kg and the total net quantity in the package of goods other than in Classes 2 or 9 does not exceed the value of 1 when calculated according to a) above.

4.3.4 Where the different dangerous goods in the outer packaging consist only of those with the same UN number, packing group and physical state (i.e. solid or liquid), the calculation in 4.3.3 a) does not need to be made. However, the total net quantity in the package must not exceed the maximum net quantity according to Table 3-1.

4.4 PACKAGE TESTING

4.4.1 Each package offered for transport must be capable of withstanding a 1.2 m drop test on to a rigid, non-resilient, flat and horizontal surface, in the position most likely to cause damage. The criteria for passing the test is that the outer packaging must not exhibit any damage liable to affect safety during transport and there must be no leakage from the inner packaging(s).

4.4.2 Each package offered for transport must be capable of withstanding, without breakage or leakage of any inner packaging and without significant reduction of effectiveness, 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 test sample).

4.5 PACKAGE MARKING

4.5.1 Packages containing ~~limited quantities of dangerous goods~~ *packaged in accordance with the Y packing instructions are excepted from the package specification markings in* must be marked as required by the applicable paragraphs of Part 5, Chapter 2, ~~except that 5;2.4.4.1 does not apply.~~ *but must be marked with the applicable Y packing instruction number (e.g. “Y305”) and the words “non-specification packaging”.*

4.5.2 ~~Packages containing limited quantities of dangerous goods and prepared in accordance with this chapter must be marked “limited quantity(ies)” or “LTD QTY”.~~

4.6 DANGEROUS GOODS TRANSPORT DOCUMENT

The dangerous goods transport document required by 5;4.1 must contain the words “limited quantity” or “LTD QTY” to indicate that the consignment contains limited quantities of dangerous goods.

The Y packing instruction number is already required on the transport document (see 5;4.1.5.8.1). This is sufficient to indicate that the package is being offered for transport in accordance with the Y packing instruction exceptions.

— END —