International Civil Aviation Organization

WORKING PAPER

DGP-WG/05-WP/6
24/3/05

DANGEROUS GOODS PANEL (DGP)

MEETING OF THE WORKING GROUP OF THE WHOLE

Montreal, 18 to 22 April 2005

Agenda Item 2: Development of recommendations for amendments to the *Technical Instructions* for incorporation in the 2007/2008 edition
2.5: Part 5 — Shipper's Responsibilities

DRAFT AMENDMENTS TO THE TECHNICAL INSTRUCTIONS TO ALIGN TO THE UN RECOMMENDATIONS — PART 5

(Presented by the Secretary)

SUMMARY

Below are the draft amendments to Part 5 Chapters 1, 2, 3 and 4 to reflect the decisions taken by the UN Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals at the second session (Geneva, 10 December 2004).

Chapter 1

GENERAL

Parts of this Chapter are affected by State Variations AU 2, AU 3, BE 4, CA 1, CA 4, CA 14, CA 15, CA 16, CH 3, DE 1, DE 2, DK 1, FR 3, FR 4,GB 1, GB 6, HK 3, IR 1, IR 2, IT 1, IT 2, IT 5, JP 8, MY 1, MY 2, MY 3,, NL 3, UA 1, US 10, VU 2; see Table A-1

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1.2 GENERAL PROVISIONS FOR CLASS 7

1.2.1 Requirements before shipments

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1.2.1.2 *Each shipment*

Before each shipment of any package, the following requirements must be fulfilled:

a) For any package it must be ensured that all the requirements specified in the relevant provisions of these Instructions have been satisfied;

b) It must be ensured that lifting attachments which do not meet the requirements of 6;7.1.2 have been removed or otherwise rendered incapable of being used for lifting the package, in accordance with 6;7.1.3;

c) For each package requiring competent authority approval ~~Type B(U), Type B(M) and Type C package and for each package containing fissile material~~, it must be ensured that all the requirements specified in the approval certificates have been satisfied;

d) Each Type B(U), Type B(M) and Type C package must be held until equilibrium conditions have been approached closely enough to demonstrate compliance with the requirements for temperature and pressure unless an exemption from these requirements has received unilateral approval;

e) For each Type B(U), Type B(M) and Type C package, it must be ensured by inspection and/or appropriate tests that all closures, valves, and other openings of the containment system through which the radioactive contents might escape are properly closed and, where appropriate, sealed in the manner for which the demonstrations of compliance with the requirements of 6;7.7.7 and 6;7.9.3 were made;

f) For each special form radioactive material, it must be ensured that all the requirements specified in the approval certificate and the relevant provisions of these Instructions have been satisfied;

g) For packages containing fissile material, the measurement specified in 6;7.10.4 b) and the tests to demonstrate closure of each package as specified in 6;7.10.7 must be performed where applicable;

h) For each low dispersible radioactive material, it must be ensured that all the requirements specified in the approval certificate and the relevant provisions of these Instructions have been satisfied.

1.2.2 Approval of shipments and notification

1.2.2.1 *General*

In addition to the approval for package designs described in Part 6, Chapter 4, multilateral shipment approval is also required in certain circumstances (1.2.2.2 and 1.2.2.3). In some circum-stances it is also necessary to notify competent authorities of a shipment (1.2.2.4).

1.2.2.2 *Shipment approvals*

Multilateral approval must be required for:

a) The shipment of Type B(M) packages not conforming with the requirements of 6;7.6.5;

b) The shipment of Type B(M) packages containing radioactive material with an activity greater than 3000 A_1 or 3000 A_2, as appropriate, or 1000 TBq, whichever is the lower;

c) The shipment of packages containing fissile materials if the sum of the criticality safety indexes of the packages in a single freight container or in a single conveyance exceeds 50; and

except that a competent authority may authorize transport into or through its country without shipment approval, by a specific provision in its design approval (see 1.2.3.1).

1.2.2.3 *Shipment approval by special arrangement*

Provisions may be approved by a competent authority under which a consignment, which does not satisfy all of the applicable requirements of these Instructions may be transported under special arrangement (see 1;1.3.4).

1.2.2.4 *Notifications*

Notification to competent authorities is required as follows:

a) Before the first shipment of any package requiring competent authority approval, the consignor must ensure that copies of each applicable competent authority certificate applying to that package design have been submitted to the competent authority of each country through or into which the consignment is to be transported. The consignor is not required to await an acknowledgement from the competent authority, nor is the competent authority required to make such acknowledge-ment of receipt of the certificate;

b) For each of the following types of shipments:

   i) Type C packages containing radioactive material with an activity greater than 3000 A_1 or 3000 A_2, as appropriate, or 1000 TBq, whichever is the lower;

ii) Type B(U) packages containing radioactive material with an activity greater than 3000 A_1 or 3000 A_2, as appropriate, or 1000 TBq, whichever is the lower;

iii) Type B(M) packages;

iv) Shipment under special arrangement;

the consignor must notify the competent authority of each country through or into which the consignment is to be transported. This notification must be in the hands of each competent authority prior to the commencement of the shipment, and preferably at least 7 days in advance;

c) The consignor is not required to send a separate notification if the required information has been included in the application for shipment approval;

d) The consignment notification must include:

i) sufficient information to enable the identification of the package or packages including all applicable certificate numbers and identification marks;

ii) information on the date of shipment, the expected date of arrival and proposed routeing;

iii) the names of the radioactive material or nuclides;

iv) descriptions of the physical and chemical forms of the radioactive material, or whether it is special form radioactive material or low dispersible radioactive material; and

v) the maximum activity of the radioactive contents during transport expressed in units of becquerels (Bq) with an appropriate SI prefix symbol (see 1;3.2). For fissile material, the mass of fissile material in units of grams (g), or multiples thereof, may be used in place of activity.

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Chapter 2

PACKAGE MARKINGS

Parts of this Chapter are affected by State Variations CA 4, ES 1, HK 2, MY 6, NZ 1, PK 1, US 1, US 5, US 8, VU 1; see Table A-1

2.1 THE REQUIREMENT TO MARK

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2.4.5 Special marking requirements for radioactive material

2.4.5.1

a) each package of gross mass exceeding 50 kg must have its permissible gross mass legibly and durably marked on the outside of the packaging;

b) each package which conforms to:

i) a Type IP-1 package, a Type IP-2 package or a Type IP-3 package design must be legibly an d durably marked on the outside of the packaging with "TYPE IP-1", "TYPE IP-2" or "TYPE IP-3" as appropriate;

ii) a Type A package design must be legibly and durably marked on the outside of the packaging with "TYPE A";

iii)a Type IP-2 package, a Type IP-3 package or a Type A package design must be legibly and durably marked on the outside of the packaging with the international vehicle registration code (VRI Code) of the country of origin of design and either the name of the manufacturers, or other identification of the packaging specified by the competent authority of the country of origin of design.

c) each package which conforms to a design approved by the competent authority must be legibly and durably marked on the outside of the packaging with:

i) the identification mark allocated to that design by the competent authority;

ii) a serial number to uniquely identify each packaging which conforms to that design;

iii) in the case of a Type B(U) or Type B(M) package design, with "TYPE B(U)" or "TYPE B(M)"; and

iv) in the case of a Type C package design, with "TYPE C".

d) each package which conforms to a Type B(U), Type B(M) or Type C package design must have the outside of the outermost receptacle which is resistant to the effects of fire and water plainly marked by embossing, stamping or other means resistant to the effects of fire and water with the trefoil symbol, as shown in Figure 5-1 below:

e) each excepted package must be marked with the UN number, preceded by the letters "UN".

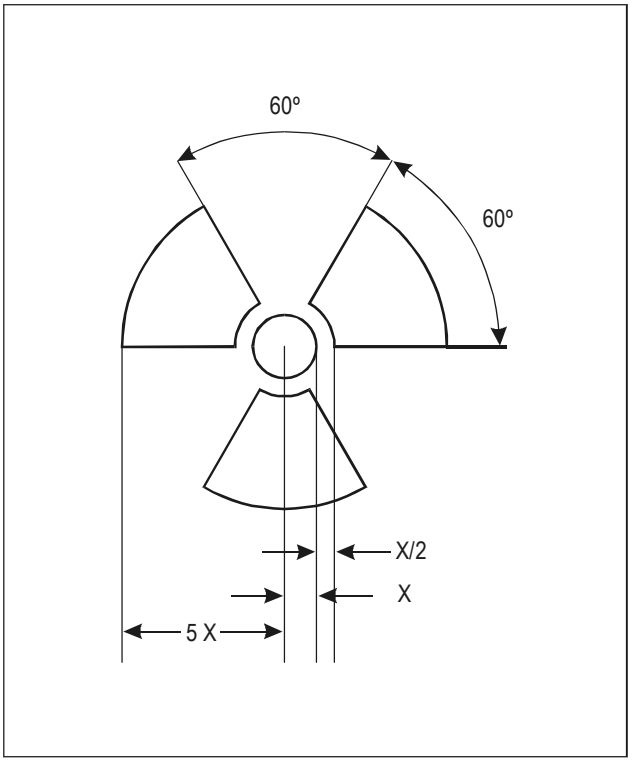


Figure 5-1. Basic trefoil symbol with proportions based on a central circle of radius X. The minimum allowable size of X must be 4 mm.

2.4.5.2 In case of international transport of packages requiring competent authority design or shipment approval, for which different approval types apply in the different countries concerned, marking must be in accordance with the certificate of the country of origin of the design.

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Chapter 3

LABELLING

Parts of this Chapter are affected by State Variations CA 1, CA 4, IT 7, JP 9, JP 21, NZ 2, PK 2, US 8, VC 6, VU 5; see Table A-1

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3.1 THE REQUIREMENT TO LABEL

3.1.1 Where articles or substances are specifically listed in the Dangerous Goods List (Table 3-1), a danger class label must be affixed for the hazard shown in column 3 of Table 3-1 ~~and a~~A subsidiary risk label must also be affixed for any risk indicated by a class or division number in column 4 of Table 3-1, ~~unless qualified by a special provision. In certain cases, the need for using a subsidiary risk label may also be indicated by a special provision indicated in column 7 of Table 3-1.~~However, special provisions indicated in Column 7 may also require a subsidiary risk label where no subsidiary risk is indicated in Column 4 or may exempt from the requirement for a subsidiary risk label where such a risk is indicated in the Dangerous Goods List.

3.1.2 Labels identifying the primary and subsidiary risks of the dangerous goods must bear the class or division number as required in 3.4.1.

3.1.3 All labels must be able to withstand open weather exposure without a substantial reduction in effectiveness.

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3.4 LABEL SPECIFICATIONS

3.4.1 Class hazard label specifications

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Labelling of radioactive material

h) Each label conforming to Figures 5-16, 5-17 and 5-18 must be completed with the following information:

1) Contents:

A) except for LSA-I material, the name(s) of the radionuclide(s) as taken from Table 2-12, using the symbols prescribed therein. For mixtures of radionuclides, the most restrictive nuclides must be listed to the extent the space on the line permits. The group of LSA or SCO must be shown

following the name(s) of the radionuclide(s). The terms “LSA-II”,“LSA-III”, “SCO-I” and “SCO-II” must be used for this purpose;

B) for LSA-I material, the term “LSA-I” is all that is necessary; the name of the radionuclide is not necessary;

2) Activity: The maximum activity of the radioactive contents during transport expressed in units of becquerels (Bq) with the appropriate SI prefix symbol. For fissile material, the mass of fissile material in units of grams (g), or multiples thereof, may be used in place of activity;

3) For overpacks and freight containers the “contents” and “activity” entries on the label must bear the information required in 3.4.1.1 g) 1 A) and B), respectively, totalled together for the entire contents of the overpack or freight container except that on labels for overpacks or freight containers containing mixed loads of packages containing different radionuclides, such entries may read “See Transport Documents”;

4) Transport index: See 2;7.6.1.1 and 2;7.6.1.2. (No transport index entry is required for category I-WHITE.)

i) Each label conforming to the Figure 5-19 must be completed with the criticality safety index (CSI) as stated in the certificate of approval for special arrangement or the certificate of approval for the package design issued by the competent authority.

j) For overpacks and freight containers, the criticality safety index (CSI) on the label must bear the information required in h) above totalled together for the fissile contents of the overpack or freight container.

k) In case of international transport of packages requiring competent authorities design or shipment approval, for which different approval types apply in the different countries concerned, labelling must be in accordance with the certificate of the country of origin of design

3.4.1.2 Illustrations of the class hazard labels, showing the approved symbols and colours, are given in Figures 5-2 to 5-21. The label descriptions used in column 5 of Table 3-1 are indicated in parentheses.

Note.— The asterisk appearing in the bottom corner of the label indicates the location of the class or division number when the label is used to show the primary risk. See Figures 5-2 to 5-5 concerning the location of information on explosives labels.

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Amend Figure 5.13 as follows:

(Oxidizer ~~or Organic peroxide~~)



Symbol (flame over circle): black
Background: yellow

~~* Place for division number~~

Figure 5-13. Oxidizing substance ~~and organic peroxide~~, Class 5

Insert new Figure 14 as follows:



Symbol (flame): black or white;
Background: upper half red; lower half yellow

Figure 5-14. Organic peroxide, Class 5

Editorial Note.— Renumber subsequent figures accordingly.

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Chapter 4

DOCUMENTATION

Parts of this Chapter are affected by State Variations AE 1, BN 1, CA 1, CA 4, CA 20, ES 1, HK 2, MY 6, PK 3, US 1, US 4, US 7, US 8, US 12, VC 5, VC 7, VU 1, ZA 4; see Table A-1

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4.1.4 Information required on the dangerous goods transport document

4.1.4.1 *Dangerous goods description*

The dangerous goods transport document must contain the following information for each dangerous substance, material or article offered for transport:

a) the UN number preceded by the letters "UN";

b) the proper shipping name, as determined according to 3;1.2~~.~~, including the technical name enclosed in parenthesis, as applicable (see 3;1.2.7);

c) the primary hazard class or, when assigned, the division of the goods, including for Class 1 the compatibility group letter. ~~Any assigned subsidiary hazard class or division number(s) must be entered following the numerical hazard class or division and must be enclosed in parenthesis~~. The words "~~c~~Class" or "~~d~~Division" may be included preceding the primary or subsidiary hazard class or division numbers;

d) Subsidiary hazard class or division number(s) corresponding to the subsidiary risk label(s) required to be applied, when assigned, shall be entered following the primary hazard class or division and shall be enclosed in parenthesis. The words "Class" or "Division" may be included preceding the subsidiary hazard class or division numbers;

~~d~~e) where assigned, the packing group for the substance or article which may be preceded by "PG" (e.g. "PG II").

4.1.4.2 *Sequence of the dangerous goods description*

4.1.4.2.1 The five elements of dangerous goods description specified in 4.1.4.1 must be shown in the order listed above ~~either in sequence a), b), c), d), or in sequence b), c), a), d)~~, with no information interspersed, except as provided in these Instructions. Examples of ~~such permitted~~ a dangerous goods description~~s~~ are:

"UN 1717 Acetyl chloride 3 (8) II" or
"Acetyl chloride, 3 (8), UN 1717, II"

4.1.4.2.2 Alternatively, the dangerous goods transport document may contain the information for each item of dangerous goods in the following sequence:

a) the proper shipping name (supplemented with the technical name(s) if appropriate, see Part 3, Chapter 1);

b) class or when assigned, division (including for Class 1 the compatibility group);

c) UN number (if any) preceded by the letters "UN"; and

d) where assigned, the appropriate packing group shown in Table 3-1.

These four elements of the basic dangerous goods description must always be provided in the order given above with no additional information interspersed. Additionally, the subsidiary risk, when applicable, must be shown in the additional information. An example of a basic dangerous goods description is:

Acetyl chloride 3 UN 1717 II

~~*Note 1.— It is intended that from 1 January 2005, the use of the sequence in 4.1.4.2.2 will be deleted.*~~

Note ~~2~~ 1 — In addition to the requirements of these Instructions, other elements of information may be required by the appropriate national authority or for certain modes of transport (e.g. flash point for sea transport). Unless permitted or required by these Instructions, additional information must be placed after the dangerous goods description.

Note ~~3~~ 2 .— Additional descriptive text in the entries in column 1 of the Dangerous Goods List (Table 3-1) are not part of the proper shipping name but may be used in addition to the proper shipping name.

Note ~~4~~ 3 — For explosives of Class 1, the basic dangerous goods description may be supplemented by additional descriptive text to indicate commercial or military names.

e) for chemical kits and first aid kits, the total net quantity of dangerous goods. The net mass of liquids within the kits is to be calculated on a 1 to 1 basis of their volume, i.e. 1 litre equal to 1 kilogram;

f) for dangerous goods in machinery or apparatus, the individual total quantities of dangerous goods in solid, liquid or gaseous state, contained in the article;

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4.1.5 Information required in addition to the dangerous goods description

In addition to the dangerous goods description the following information must be included after the dangerous goods description on the dangerous goods transport document.

4.1.5.1 *Total quantity of dangerous goods*

Except for empty uncleaned packagings, the total quantity of dangerous goods covered by the description (by volume or mass as appropriate) of each item of dangerous goods bearing a different proper shipping name, UN number or packing group must be included. For dangerous goods transported in salvage packagings, an estimate of the quantity of dangerous goods must be given. The number and kind (e.g. drum, box, etc.) of ~~packagings~~ packages must also be indicated.UN packaging codes may only be used to supplement the description of the kind of package (e.g. one box (4G)). Abbreviations may be used to specify the unit of measurement for the total quantity.

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4.1.5.7 *Radioactive material*

4.1.5.7.1 The following information must be included for each consignment of Class 7 material, as applicable, in the order given:

a) The name or symbol of each radionuclide or, for mixtures of radionuclides, an appropriate general description or a list of the most restrictive nuclides;

b) A description of the physical and chemical form of the material, or a notation that the material is special form radioactive material or low dispersible radioactive material. A generic chemical description is acceptable for chemical form;

c) The maximum activity of the radioactive contents during transport expressed in units of becquerels (Bq) with an appropriate SI prefix symbol (see 1;3.2). For fissile material, the mass of fissile material in units of grams (g), or appropriate multiples thereof, may be used in place of activity;

d) The category of the package, i.e. I-WHITE, II-YELLOW, III-YELLOW;

e) The transport index (categories II-YELLOW and III-YELLOW only);

f) For consignments including fissile material other than consignments excepted under 6;7.10.2, the criticality safety index;

g) The identification mark for each competent authority approval certificate (special form radioactive material, low dispersible radioactive material, special arrangement, package design, or shipment) applicable to the consignment;

h) For consignments of more than one package, the information contained in 4.1.4.1 a) to c) and 4.1.5.7.1 a) to g) must be given for each package. For packages in an overpack or freight

container, a detailed statement of the contents of each package within the overpack or freight container and, where appropriate, of each overpack or freight container must be included. If packages are to be removed from the overpack or freight container at a point of intermediate unloading, appropriate transport documents must be made available;

i) Where a consignment is required to be shipped under exclusive use, the statement "EXCLUSIVE USE SHIPMENT"; and

j) For LSA-II, LSA-III, SCO-I and SCO-II, the total activity of the consignment as a multiple of A_2.

4.1.5.7.2 The shipper must provide a statement regarding actions, if any, that are required to be taken by the carrier. The statement must be in the languages deemed necessary by the carrier or the authorities concerned, and must include at least the following points:

a) Supplementary requirements for loading, stowage, carriage, handling and unloading of the package, overpack or freight container including any special stowage provisions for the safe dissipation of heat (see 7;2.9.3.2), or a statement that no such requirements are necessary;

b) Restrictions on the type of aircraft and any necessary routeing instructions;

c) Emergency arrangements appropriate to the consignment.

4.1.5.7.3 In case of international transport of packages requiring competent authorities design or shipment approval, for which different approval types apply in the different countries concerned, the UN number and proper shipping name required in 5.4.1.4.1 shall be in accordance with the certificate of the country of origin of design.

4.1.5.7.~~3~~4 The applicable competent authority certificates need not necessarily accompany the consignment. The consignor must make them available.

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