



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)**

**TWENTY-SEVENTH MEETING**

**Montréal, 16 to 20 September 2019**

**Agenda Item 2: Managing air-specific safety risks and identifying anomalies**

**2.2: Develop proposals, if necessary, for amendments to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) for incorporation in the 2021-2022 Edition**

**DRAFT AMENDMENTS TO THE TECHNICAL INSTRUCTIONS TO ADDRESS AIR-SPECIFIC SAFETY RISKS AND IDENTIFIED ANOMALIES AGREED AT DGP-WG/18 AND DGP-WG/19**

(Presented by the Secretary)

**SUMMARY**

This working paper contains draft amendments to the Technical Instructions developed at DGP-WG/18 (Montréal, 1 to 5 October 2018) and DGP-WG/19 (Montréal, 1 to 5 April 2019) to address air-specific safety risks and identified anomalies related to the transport of dangerous goods.

The DGP is invited to agree to the draft amendments in this working paper.

### Part 3

## DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND LIMITED AND EXCEPTED QUANTITIES

...

### Chapter 2

## ARRANGEMENT OF THE DANGEROUS GOODS LIST (TABLE 3-1)

...

Table 3-1. Dangerous Goods List

Name	UN No.	Class or division	Subsidiary hazard	Labels	State variations	Special provisions	UN packing group	Excepted quantity	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12	13
DGP-WG/18-WP/21 (see paragraph 3.2.2.7 of the DGP-WG/18 report) (incorporated in the 2019-2020 Edition by way of a corrigendum):												
Engine, internal combustion	3530	9		Miscellaneous		A87 A208		E0	972	No limit	972	No limit
Machinery, internal combustion	3530	9		Miscellaneous		A87 A208		E0	972	No limit	972	No limit
DGP-WG/18-WP/5 (see paragraph 3.2.2.1 of the DGP-WG/18 report) (incorporated in the 2019-2020 Edition by way of a corrigendum):												
Toxic solid, flammable, inorganic, n.o.s.*	3535	6.1	4.1	Toxic & Solid flammable		A5	I II	E5 E4	665 668 Y644	1 kg 15 kg 1 kg	672 675	15 kg 50 kg
...												

...

## Chapter 4

### DANGEROUS GOODS IN LIMITED QUANTITIES

...

#### 4.5 PACKAGE MARKING

4.5.1 Packages containing limited quantities of dangerous goods must be marked as required by the applicable paragraphs of 5;2, except that 5;2.4.4.1 does not apply.

4.5.2 Packages containing limited quantities of dangerous goods and prepared in accordance with this chapter must bear the mark shown in Figure 3-1 below. The mark must be readily visible, legible and able to withstand open weather exposure without a substantial reduction in effectiveness. The mark must be in the form of a square set at an angle of 45°(diamond shaped). The top and bottom portions and the surrounding line must be black. The centre area must be white or a suitable contrasting background. The minimum dimension must be 100 mm × 100 mm and the minimum width of the line forming the diamond must be 2 mm. The symbol “Y” must be placed in the centre of the mark and must be clearly visible. Where dimensions are not specified, all features must be in approximate proportion to those shown.

4.5.2.1 If the size of the package so requires, the minimum outer dimensions shown in Figure 3-1 may be reduced to be not less than 50 mm × 50 mm provided the mark remains clearly visible. The minimum width of the line forming the diamond may be reduced to a minimum of 1 mm. The symbol “Y” must remain in approximate proportion to that shown in Figure 3-1.

---

DGP-WG/19-WP/2 (see paragraph 3.2.2.2 of the DGP-WG/19 report):

---

4.5.2.2 The entire mark must appear on one side of the package.

...

## Chapter 5

### DANGEROUS GOODS PACKED IN EXCEPTED QUANTITIES

...

#### 5.4 MARKING OF PACKAGES

5.4.1 Packages containing excepted quantities of dangerous goods prepared in accordance with this chapter must be durably and legibly marked with the mark shown in Figure 3-2. The primary hazard class or, when assigned, the division of each of the dangerous goods contained in the package must be shown in the mark. Where the name of the shipper or consignee is not shown elsewhere on the package, this information must be included within the mark.

5.4.2 The mark must be in the form of a square. The hatching and symbol must be of the same colour, black or red, on white or suitable contrasting background. The dimensions of the mark must be a minimum of 100 mm × 100 mm. Where dimensions are not specified, all features must be in approximate proportion to those shown.

---

DGP-WG/19-WP/2 (see paragraph 3.2.2.2 of the DGP-WG/19 report):

---

5.4.3 The entire mark must appear on one side of the package.

...

## Part 4

### PACKING INSTRUCTIONS

...

#### Chapter 5

### CLASS 3 — FLAMMABLE LIQUIDS

...

---

DGP-WG/18-WP/20 (see paragraph 3.2.2.6 of the DGP-WG/18 report):

---

#### Packing Instruction 378

Passenger and cargo aircraft for UN 3528 only  
(See Packing Instruction 220 for flammable gas-powered engines or machinery, Packing Instruction 950 for flammable liquid-powered vehicles, Packing Instruction 951 for flammable gas-powered vehicles, Packing Instruction 952 for battery-powered equipment and vehicles or Packing Instruction 972 for engines or machinery containing only environmentally hazardous fuels)

...

#### ADDITIONAL PACKING REQUIREMENTS

...

##### *Flammable liquid fuel tanks*

Except as otherwise provided for in this packing instruction, fuel tanks must be drained of fuel and tank caps fitted securely. Special precautions are necessary to ensure complete drainage of the fuel system of machines or equipment incorporating internal combustion engines, such as lawn mowers and outboard motors, where such machines or equipment could possibly be handled in other than an upright position. When it is not possible to handle in other than an upright position, machinery must be drained of fuel as far as practicable, and if any fuel remains, it must not exceed one-quarter of the tank capacity.

...

...

## Chapter 8

### CLASS 6 — TOXIC AND INFECTIOUS SUBSTANCES

...

#### Packing Instruction 650

This packing instruction applies to UN 3373.

...

---

DGP-WG/19-WP/2 (see paragraph 3.2.2.2 of the DGP-WG/19 report):

- 4) For transport, the mark illustrated below must be displayed on the external surface of the outer packaging on a background of a contrasting colour and must be clearly visible and legible. The mark must be in the form of a square set at an angle of 45° (diamond-shaped) with each side having a length of at least 50 mm, the width of the line must be at least 2 mm, and the letters and numbers must be at least 6 mm high. The entire mark must appear on one side of the package. The proper shipping name "Biological substance, Category B" in letters at least 6 mm high must be marked on the outer packaging adjacent to the diamond-shaped mark.

...

---

DGP-WG/18-WP/22 (see paragraph 3.3.6.4 of the DGP-WG/18 report):

- 11) Infectious substances assigned to UN 3373 which are packed and marked in accordance with this packing instruction are not subject to any other requirement in these Instructions except for the following:
- a) the name and address of the shipper and of the consignee must be provided on each package;
  - b) the name and telephone number of a person responsible must be provided on a written document (such as an air waybill) or on the package;
  - c) classification must be in accordance with 2;6.3.2;
  - d) the incident reporting requirements in 7;4.4 and 7;4.5 must be met;

...

---

DGP-WG/19-WP/29 (see paragraph 3.2.2.10 of the DGP-WG/18 report):

- 13) Other dangerous goods must not be packed in the same packaging as Division 6.2 infectious substances unless they are necessary for maintaining the viability, stabilizing or preventing degradation or neutralizing the hazards of the infectious substances. A quantity of 30 ml or less of dangerous goods included in Class 3, 8 or 9 permitted as excepted quantities under 3;5 may be packed in each primary receptacle containing infectious substances ~~provided these substances meet the requirements of 3;5~~. When these small quantities of dangerous goods are packed with infectious substances in accordance with this packing instruction no other requirements in these Instructions need be met.

...

## Chapter 11

### CLASS 9 — MISCELLANEOUS DANGEROUS GOODS

...

#### Packing Instruction 959

Passenger and cargo aircraft for UN 3245 only

...

DGP-WG/19-WP/2 (see paragraph 3.2.2.2 of the DGP-WG/19 report):

For transport, the mark illustrated below must be displayed on the external surface of the outer packaging on a background of a contrasting colour and must be clearly visible and legible. The mark must be in the form of a square set at an angle of 45° (diamond-shaped) with each side having a length of at least 50 mm; the width of the line must be at least 2 mm and the letters and numbers must be at least 6 mm high. The entire mark must appear on one side of the package.

...

DGP-WG/18-WP/22 (see paragraph 3.3.6.4 the DGP-WG/18 report):

GMOs or GMMOs assigned to UN 3245 which are packed and marked in accordance with this packing instruction are not subject to any other requirement in these Instructions except for the following:

- 1) the name and address of the shipper and of the consignee must be provided on each package;
- 2) classification must be in accordance with 2;9.2.1 c);
- 3) the incident reporting requirements in 7;4.4 and 7;4.5 must be met;
- 4) the inspection for damage or leakage requirements in 7;3.1.3 and 7;3.1.4;
- 5) passengers and crew members are prohibited from transporting UN 3245 either as, or in, carry-on baggage or checked baggage or on their person.

...

DGP-WG/18-WP/22 (see paragraph 3.3.6.4 the DGP-WG/18 report):

#### Packing Instruction 965

Cargo aircraft only for UN 3480

...

#### II. SECTION II

Lithium ion cells and batteries, when complying with Section II of this packing instruction, are only subject to the following additional provisions of these Instructions:

- Part 1;2.3 (General — Transport of dangerous goods by post);
- Part 5;1.1 g) and j) (Shipper's responsibilities — General requirements);
- Part 7;2.1 (Operator's responsibilities — Loading restrictions on the flight deck and for passenger aircraft);
- Part 7;2.4.1 (Operator's responsibilities — Loading of cargo aircraft);
- Part 7;4.4 (Operator's responsibilities — Reporting of dangerous goods accidents and incidents);
- Part 7;4.5 (Operator's responsibilities — Reporting of undeclared and misdeclared dangerous goods);
- Part 8;1.1 (Provisions concerning passengers and crew — Dangerous goods carried by passengers or crew); and
- Paragraphs 1 and 2 of this packing instruction.

...

...

---

DGP-WG/18-WP/22 (see paragraph 3.3.6.4 the DGP-WG/18 report):

---

### Packing Instruction 966

Passenger and cargo aircraft for UN 3481 (packed with equipment) only

...

#### II. SECTION II

Lithium ion cells and batteries, when complying with Section II of this packing instruction, are only subject to the following additional provisions of these Instructions:

- Part 1;2.3 (General — Transport of dangerous goods by post);
- Part 7;4.4 (Operator's responsibilities — Reporting of dangerous goods accidents and incidents);
- ~~Part 7;4.5 (Operator's responsibilities — Reporting of undeclared and misdeclared dangerous goods);~~
- Part 8;1.1 (Provisions concerning passengers and crew — Dangerous goods carried by passengers or crew); and
- Paragraphs 1 and 2 of this packing instruction.

...

...

---

DGP-WG/18-WP/22 (see paragraph 3.3.6.4 of the DGP-WG/18 report):

---

### Packing Instruction 967

Passenger and cargo aircraft for UN 3481 (contained in equipment) only

...

#### II. SECTION II

Lithium ion cells and batteries, when complying with Section II of this packing instruction, are only subject to the following additional provisions of these Instructions:

- Part 1;2.3 (General — Transport of dangerous goods by post);
- Part 7;4.4 (Operator's responsibilities — Reporting of dangerous goods accidents and incidents);
- ~~Part 7;4.5 (Operator's responsibilities — Reporting of undeclared and misdeclared dangerous goods);~~
- Part 8;1.1 (Provisions concerning passengers and crew — Dangerous goods carried by passengers or crew); and
- Paragraphs 1 and 2 of this packing instruction.

...

...

---

DGP-WG/18-WP/22 (see paragraph 3.3.6.4 of the DGP-WG/18 report):

---

### Packing Instruction 968

Cargo aircraft only for UN 3090

...

#### II. SECTION II

Lithium metal or lithium alloy cells and batteries, when complying with Section II of this packing instruction, are only subject to the following additional provisions of these Instructions:

- Part 1;2.3 (General — Transport of dangerous goods by post);
- Part 5;1.1 g) and j) (Shipper's responsibilities — General requirements);
- Part 7;2.1 (Operator's responsibilities — Loading restrictions on the flight deck and for passenger aircraft);
- Part 7;2.4.1 (Operator's responsibilities — Loading of cargo aircraft);
- Part 7;4.4 (Operator's responsibilities — Reporting of dangerous goods accidents and incidents);
- ~~Part 7;4.5 (Operator's responsibilities — Reporting of undeclared and misdeclared dangerous goods);~~
- Part 8;1.1 (Provisions concerning passengers and crew — Dangerous goods carried by passengers or crew); and
- Paragraphs 1 and 2 of this packing instruction.

...

...

---

DGP-WG/18-WP/22 (see paragraph 3.3.6.4 of the DGP-WG/18 report):

---

### Packing Instruction 969

Passenger and cargo aircraft for UN 3091 (packed with equipment) only

...

#### II. SECTION II

Lithium metal or lithium alloy cells and batteries, when complying with Section II of this packing instruction, are only subject to the following additional provisions of these Instructions:

- Part 1;2.3 (General — Transport of dangerous goods by post);
- Part 7;4.4 (Operator's responsibilities — Reporting of dangerous goods accidents and incidents);
- ~~Part 7;4.5 (Operator's responsibilities — Reporting of undeclared and misdeclared dangerous goods);~~
- Part 8;1.1 (Provisions concerning passengers and crew — Dangerous goods carried by passengers or crew); and
- Paragraphs 1 and 2 of this packing instruction.

...

...

DGP-WG/18-WP/22 (see paragraph 3.3.6.4 of the DGP-WG/18 report):

### Packing Instruction 970

Passenger and cargo aircraft for UN 3481 (contained in equipment) only

...

#### II. SECTION II

Lithium metal or lithium alloy cells and batteries, when complying with Section II of this packing instruction, are only subject to the following additional provisions of these Instructions:

- Part 1;2.3 (General — Transport of dangerous goods by post);
- Part 7;4.4 (Operator's responsibilities — Reporting of dangerous goods accidents and incidents);
- Part 7;4.5 (Operator's responsibilities — Reporting of undeclared and misdeclared dangerous goods);
- Part 8;1.1 (Provisions concerning passengers and crew — Dangerous goods carried by passengers or crew); and
- Paragraphs 1 and 2 of this packing instruction.

...

...

DGP-WG/18-WP/20 (see paragraph 3.2.2.6 of the DGP-WG/18 report):

### Packing Instruction 972

Passenger or cargo aircraft for UN 3530 only

(See Packing Instruction 220 for flammable gas-powered engines and machinery, Packing Instruction 378 for flammable liquid-powered engines and machinery, Packing Instruction 950 for flammable liquid-powered vehicles, Packing Instruction 951 for flammable gas-powered vehicles or Packing Instruction 952 for battery-powered equipment and vehicles)

...

#### ADDITIONAL PACKING REQUIREMENTS

...

##### *Liquid fuel tanks*

Except as otherwise provided for in this packing instruction, fuel tanks must be drained of fuel and tank caps fitted securely. Special precautions are necessary to ensure complete drainage of the fuel system of machines or equipment incorporating internal combustion engines, such as lawn mowers and outboard motors, where such machines or equipment could possibly be handled in other than an upright position. When it is not possible to handle in other than an upright position, machinery must be drained of fuel as far as practicable, and if any fuel remains, it must not exceed one-quarter of the tank capacity.

...

...

## Part 5

# SHIPPER'S RESPONSIBILITIES

...

## Chapter 2

≠

## MARKING

...

### 2.2 APPLICATION OF MARKS

...

2.2.2 All package marks required by 2.1:

- a) must be durable and printed or otherwise marked on, or affixed to, the external surface of the package;
- b) must be readily visible and legible;
- c) must be able to withstand open weather exposure without a substantial reduction in effectiveness;
- d) must be displayed on a background of contrasting colour; and
- e) must not be located with other package marks that could substantially reduce their effectiveness.

---

DGP-WG/19-WP/2 (see paragraph 3.2.2.2 of the DGP-WG/19 report):

---

2.2.3 The marks required by 2.4.9 (Figure 5-2) and 2.4.16 (Figure 5-3) must be applied on one side of the package.

## Part 6

# PACKAGING NOMENCLATURE, MARKING, REQUIREMENTS AND TESTS

...

## Chapter 3

### REQUIREMENTS FOR PACKAGINGS

...

#### 3.2.7 Metal receptacles (aerosols), non-refillable (IP.7, IP.7A, IP.7B)

##### 3.2.7.1 Receptacles (aerosols) IP.7 and IP.7A

3.2.7.1.1 *Materials and construction.* Uniform quality steel plate or non-ferrous metal of uniform drawing quality must be used:

- IP.7 receptacles must have a minimum wall thickness of 0.18 mm;
- IP.7A receptacles must have a minimum wall thickness of 0.20 mm.

---

DGP-WG/19-WP/27 (see paragraph 3.2.2.9 of the DGP-WG/19 report):

---

The receptacles may be seamless or with seams welded, soldered, brazed, double-seamed or swaged. The ends must be of pressure design. Maximum capacity must not exceed ~~820 mL~~ 1 L and the maximum inner diameter must not exceed 76 mm.

...

## Part 7

### OPERATOR'S RESPONSIBILITIES

...

#### Chapter 2

#### STORAGE AND LOADING

...

#### 2.13 LOADING OF BATTERY-POWERED MOBILITY AIDS CARRIED UNDER THE PROVISIONS OF PART 8

---

DGP-WG/19-WP/6 (see paragraph 3.2.2.4 of the DGP-WG/19 report):

---

##### 2.13.1 Loading of ~~non-spillable wet~~ battery-powered mobility aids powered by non-spillable wet batteries or batteries which comply with Special Provision A123 or A199

2.13.1.1 An operator must secure, by use of straps, tie-downs or other restraint devices, a battery-powered mobility aid with installed batteries. The mobility aid, the batteries, electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo.

2.13.1.2 An operator must verify that:

a) the passenger has confirmed that the battery is:

- 1) a non-spillable wet battery that complies with Special Provision A67;
- 2) a dry battery that complies with Special Provision A123; or
- 3) a nickel-metal hydride battery that complies with Special Provision A199.

b) the battery terminals are protected from short circuits (e.g. by being enclosed within a battery container);

c) the battery is either:

- 1) securely attached to the mobility aid and the electrical circuits are isolated following the manufacturer's instructions; or
- 2) removed by the user, if the mobility aid is specifically designed to allow it to be, following the manufacturer's instructions.

d) a maximum of one spare battery is carried per passenger.

2.13.1.3 An operator must ensure that any battery(ies) removed from the mobility aid and any spare battery are carried in strong, rigid packagings, protected from short circuit and stowed in the cargo compartment.

2.13.1.4 The operator must inform the pilot-in-command of the location of any mobility aids with installed batteries, removed batteries and spare batteries.

...

##### 2.13.2 Loading of mobility aids powered by spillable batteries ~~iesy-powered mobility aids~~

...

##### 2.13.3 Loading of mobility aids powered by lithium ion batteries ~~iesy-powered mobility aids~~

...

#### Chapter 4

## PROVISION OF INFORMATION

...

---

DGP-WG/19-WP/1 (see paragraph 3.2.2.1 of the DGP-WG/19 report):

---

### 4.6 REPORTING OF DANGEROUS GOODS OCCURRENCES

An operator must report to the appropriate authority of the State of the Operator ~~and the State of Origin~~ any occasion when:

- a) dangerous goods are discovered to have been carried when not loaded, segregated, separated or secured in accordance with Part 7;2; or
- b) dangerous goods are discovered to have been carried without information having been provided to the pilot-in-command in accordance with Part 7;4.1.

...

## Part 8

PROVISIONS CONCERNING  
PASSENGERS AND CREW

## Chapter 1

PROVISIONS FOR DANGEROUS GOODS  
CARRIED BY PASSENGERS OR CREW

...

Table 8-1. Provisions for dangerous goods carried by passengers or crew

DGP-WG/19-WP/6 (see paragraph 3.2.2.4 of the DGP-WG/19 report):				
Dangerous Goods	Location		Approval of the operator(s) is required	Restrictions
	Checked baggage	Carry-on baggage		
<b>Batteries</b>				
...				
4) <del>Battery powered</del> Mobility aids (e.g. wheelchairs) <u>powered by:</u> <ul style="list-style-type: none"> <li><u>– spillable batteries;</u></li> <li><u>– non-spillable wet batteries;</u></li> <li><u>– dry batteries;</u></li> <li><u>– nickel-metal hydride batteries; or</u></li> <li><u>– lithium ion batteries</u></li> </ul>	Yes	(see <del>d)</del> <u>e)</u>	Yes	<p>a) for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg);</p> <p>b) the passenger should make advance arrangements with each operator and provide information on the type of battery installed and on the handling of the mobility aid (including instructions on how to isolate the battery);</p> <p><u>c) in the case of a dry battery or nickel-metal hydride battery, each battery must comply with Special Provision A123 or A199, respectively;</u></p> <p><del>d)</del> in the case of a non-spillable wet battery:</p> <ul style="list-style-type: none"> <li>i) each battery must comply with Special Provision A67; and</li> <li>ii) a maximum of one spare battery may be carried per passenger;</li> </ul> <p><del>e)</del> in the case of a lithium ion battery:</p> <ul style="list-style-type: none"> <li>i) each battery must be of a type which meets the requirements of each test in the <i>UN Manual of Tests and Criteria</i>, Part III, subsection 38.3;</li> <li>ii) when the mobility aid does not provide adequate protection to the battery: <ul style="list-style-type: none"> <li>– the battery must be removed in accordance with the manufacturer's instructions;</li> <li>– the battery must not exceed 300 Wh;</li> <li>– the battery terminals must be protected from short circuit (by insulating the terminals, e.g. by taping</li> </ul> </li> </ul>

<i>Dangerous Goods</i>	<i>Location</i>		<i>Approval of the operator(s) is required</i>	<i>Restrictions</i>
	<i>Checked baggage</i>	<i>Carry-on baggage</i>		
				<p>over exposed terminals);</p> <ul style="list-style-type: none"><li>— the battery must be protected from damage (e.g. by placing each battery in a protective pouch); and</li><li>— the battery must be carried in the cabin;</li></ul> <p>iii) a maximum of one spare battery not exceeding 300 Wh or two spare batteries not exceeding 160 Wh each may be carried. Spare batteries must be carried in the cabin.</p>
...				

...

## Attachment 4

### PROPOSED NEW TRAINING PROVISIONS

...

#### Chapter 1

### PROPOSED NEW PART 1, CHAPTER 4 — DANGEROUS GOODS TRAINING

#### Chapter 4

### DANGEROUS GOODS TRAINING

*Parts of this Chapter are affected by State Variations AE 2, BR 7, CA 11, HK 1; see Table A-1*

#### 4.1 ESTABLISHMENT OF DANGEROUS GOODS TRAINING PROGRAMMES

*Note.— A training programme includes elements such as design methodology, assessment, initial and recurrent training, instructor qualifications and competencies, training records and evaluation of the effectiveness of training.*

---

DGP-WG/19-WP/23 (see paragraph 3.2.2.5 of the DGP-WG/19 report):

---

Original proposed sentence has been restructured (Original text: "The employer must establish and maintain a dangerous goods training programme for personnel that perform functions aimed at ensuring that dangerous goods are transported in accordance with these Instructions")

4.1.1 ~~The employer must establish and maintain a dangerous goods training programme for personnel performing any function described in these Instructions.~~ The employer of personnel that perform functions aimed at ensuring that dangerous goods are transported in accordance with these Instructions must establish and maintain a dangerous goods training programme.

---

~~The following provision will be further reviewed in conjunction with a review of the training provisions in Annex 18~~

---

~~[ 4.1.2 The employer [should/must] establish and maintain a dangerous goods training programme for personnel who may not perform any function described in these Instructions but do perform functions related to the movement of cargo, baggage, passengers or mail. The aim of the programme is to ensure personnel are competent to perform functions aimed at preventing undeclared dangerous goods or dangerous goods not permitted from being carried on an aircraft.]~~

---

Moved from under 4.2.1

---

~~*Note. 1— Chapter 6 provides guidance on tasks that personnel responsible for certain well-defined functions would typically perform. An approach to ensuring personnel are competent to perform any function for which they are responsible is provided in Guidance on a Competency-based Approach to Dangerous Goods Training and Assessment (see Chapter 2 of this attachment).*~~

*Note 2.— Security personnel who are involved with the screening of passengers and crew and their baggage and cargo or mail are required to be trained irrespective of whether the operator on which the passenger or cargo is to be transported carries dangerous goods as cargo.*

4.1.3 All operators must establish a dangerous goods training programme regardless of whether or not they are approved to transport dangerous goods as cargo.

4.1.4 Training courses may be developed and delivered by or for the employer.

## 4.2 OBJECTIVE OF DANGEROUS GOODS TRAINING

4.2.1 The employer must ensure that personnel are competent to perform any function for which they are responsible prior to performing any of these functions. This must be achieved through training and assessment commensurate with the functions for which they are responsible. Such training must include:

- a) general awareness/familiarization training — Personnel must be trained to be familiar with the general provisions;
- b) function-specific training — Personnel must be trained to perform competently any function for which they are responsible; and
- c) safety training — Personnel must be trained on how to recognize the hazards presented by dangerous goods, on the safe handling of dangerous goods, and on emergency response procedures.

---

**Moved to under 4.1.1:**

---

~~Note 1.— An approach to ensuring personnel are competent to perform any function for which they are responsible is provided in Guidance on a Competency-based Approach to Dangerous Goods Training and Assessment (see Chapter 2 of this attachment).~~

Note 2.— General information on the provisions for dangerous goods carried by passengers and crew (see Part 8) should be included in training courses, as appropriate.

4.2.2 Personnel who have received training but who are assigned to new functions must be assessed to determine their competence in respect of their new function. If competency is not demonstrated, appropriate additional training must be provided.

...

-----