

- (b) at boarding pass issuance, or when no boarding pass is issued, prior to boarding the aircraft.

**Note:**

The information may be provided in text or pictorial form, electronically, or verbally, as described in the operator's manuals.

**1.4.3.2** An operator or the operator's handling agent and the airport operator must ensure that information on the types of dangerous goods which are forbidden for carriage aboard an aircraft is communicated effectively to passengers. This information must be presented:

- (a) at each of the places at an airport:
- where tickets are issued;
  - boarding passes are issued;
  - passenger baggage is dropped off; and
  - in aircraft boarding areas.
- (b) any other location where:
1. passengers are issued boarding passes; and
  2. checked baggage is accepted.
- (c) should be prominently displayed in sufficient numbers in baggage claim areas.

**1.4.3.2.1** This information must include visual examples of dangerous goods forbidden from carriage aboard an aircraft.

**1.4.3.3** An operator, of passenger aircraft, should have information on those dangerous goods which may be carried by passengers in accordance with 2.3.2 to 2.3.5 available prior to the boarding pass issuance process on their web sites or other sources of information.

**1.4.3.4** Any organization or enterprise other than an operator (such as a travel agent) involved in the air transport of passengers, should provide passengers with information about the types of dangerous goods which they are forbidden from carrying aboard an aircraft. This information should consist as a minimum of notices at those locations where there is an interface with the passengers.

## 1.4.4 Passenger Check-in Procedures

**1.4.4.1** Operators' check-in staff must be adequately trained to assist them to identify and detect dangerous goods carried by passengers other than as permitted in Subsection 2.3.

**1.4.4.2** Many innocuous-looking items may contain dangerous goods and a list of general descriptions which, experience has shown, are often applied to such items is shown in Subsection 2.2. Check-in staff should therefore seek confirmation from any passenger where there are suspicions that an item of baggage may contain dangerous goods that are not permitted.

## 1.4.5 Provision of Information at Cargo Acceptance Areas

An operator or the operator's handling agent must ensure that sufficient notices, prominently displayed, are provided at visible location(s) at cargo acceptance points, giving information about the transport of dangerous goods to alert shippers/agents about any dangerous goods that

may be contained in their cargo consignment(s). These notices must include visual examples of dangerous goods, including batteries.

## 1.5 Training Requirements

STATE VARIATIONS: AEG-02, BRG-07, CAG-11, HKG-01, NLG-06, VEG-05

### 1.5.0 General

**1.5.0.1** The successful application of regulations concerning the transport of dangerous goods and the achievement of their objectives are greatly dependent on the appreciation by all individuals concerned of the risks involved and on a detailed understanding of the Regulations. This can only be achieved by properly planned and maintained initial and recurrent training programmes for all persons concerned in the transport of dangerous goods.

**1.5.0.2** Personnel identified in the categories specified in Tables 1.5.A, 1.5.B or 1.5.C must be trained or training must be verified prior to the person performing any duty specified in Tables 1.5.A, 1.5.B or 1.5.C.

△ **1.5.0.3** Recurrent training must be provided within 24 months of previous training to ensure knowledge is current. However, if recurrent training is completed within the final 3 months of validity of previous training, the period of validity extends from the month on which the recurrent training was completed until 24 months from the expiry month of that previous training. For example, a person attends an initial course finishing on 14 April 2017; their training validity therefore expires 30 April 2019. They may attend recurrent training any time between 1 February and 30 April 2019 and their next recurrent training date will remain 30 April 2021. If, however they complete recurrent training in January 2019, then as this is more than 3 months prior to the end of April then their training expiry date becomes 31 January 2021.

**1.5.0.4** A test must be provided following dangerous goods training to verify understanding of the regulations. Confirmation is required of successful completion of the test.

### 1.5.1 Dangerous Goods Training Programmes

#### 1.5.1.1 Establishment and Maintenance

Initial and recurrent training programmes must be established and maintained by or on behalf of:

- (a) operators;
- (b) ground handling agencies which perform, on behalf of the operator, the act of accepting, handling, loading, unloading, transfer or other processing of cargo or mail;
- (c) ground handling agencies located at an airport which perform, on behalf of the operator, the act of processing passengers;

1  
15

- (d) agencies, not located at an airport, which perform, on behalf of the operator, the act of checking in passengers;
- (e) freight forwarders;
- (f) shippers of dangerous goods, including packers and persons' or organisations' undertaking the responsibilities of the shipper;
- (g) agencies engaged in the security screening of passengers, crew and their baggage and/or cargo or mail; and
- (h) designated postal operators.

## 1.5.1.2 Review and Approval

**1.5.1.2.1** Dangerous goods training programmes for operators' personnel must be subjected to review and approval by the appropriate authority of the State of the operator.

**1.5.1.2.2** Dangerous goods training programmes of designated postal operators must be subjected to review and approval by the civil aviation authority of the State where the mail was accepted by the designated postal operator.

**1.5.1.2.3** Dangerous goods training programmes for all categories of staff shown in 1.5.1.1, other than operators and designated postal operators, should be reviewed and approved as determined by the appropriate national authority.

## 1.5.2 Training Curricula

**1.5.2.1** Personnel must be trained in the requirements commensurate with their responsibilities.

**1.5.2.2** Training must include:

- (a) general familiarization training—which must be aimed at providing familiarity with the general provisions;
- (b) function specific training—which must provide detailed training in the requirements applicable to the function for which that person is responsible; and
- (c) safety training—which must cover the hazards presented by dangerous goods, safe handling and emergency response procedures.

**1.5.2.3** In planning training courses, the various categories of personnel must be familiar with minimum subject matter as indicated in Table 1.5.A.

## 1.5.3 Training Curricula—"No Carry" Operators

**1.5.3.1** Operators that do not carry dangerous goods as cargo or mail must ensure that personnel receive training in the requirements commensurate with their responsibilities.

**1.5.3.2** The subject matter to which their various categories of personnel must be familiar is indicated in Table 1.5.B.

**Note:** Security staff are required to be trained irrespective of whether the operator on which passenger or cargo is to be transported carries dangerous goods as cargo.

## 1.5.4 Training Curricula—Designated Postal Operators

Staff of designated postal operators must be trained commensurate with their responsibilities. The subject matter to which their various categories of staff should be familiar with is indicated in Table 1.5.C.

## 1.5.5 Record of Training

STATE VARIATIONS: CAG-11, VEG-05

**1.5.5.1** A record of training must be maintained, which must include:

- the individual's name;
- the most recent training completion month;
- a description, copy or reference to training materials used to meet the training requirement;
- the name and address of the organization providing the training; and
- evidence, which shows that a test has been completed satisfactorily.

**1.5.5.2** The training records must be retained by the employer for a minimum period of thirty-six months from the most recent training completion month and must be made available upon request to the employee or appropriate national authority.

## 1.5.6 Instructor Qualifications

**1.5.6.1** Unless otherwise provided for by the appropriate national authority, instructors of initial and recurrent dangerous goods training programmes must have adequate instructional skills and have successfully completed a dangerous goods training programme in the applicable category or Category 6 of Table 1.5.A or another training programme that additionally covers all aspects of Table 1.5.A, prior to delivering such a dangerous goods training programme.

**Note:** "Adequate instructional skills" can come from a variety of methods. A list of instructional techniques is found in the *Guidelines for Instructors of Dangerous Goods Courses*.

**1.5.6.2** Instructors delivering initial and recurrent dangerous goods training programmes must at least every 24 months deliver such a course, or in the absence of this attend recurrent training. Instructors must receive and understand updates to dangerous goods information and be made familiar with those changes by training or other means on an annual basis or as the Regulations are modified.

**1.5.6.3** Organisations must ensure that the instructor receives updates to the Regulations and training material on an annual basis with the issuance of each edition of the DGR.

### △ 1.5.7 Competency-Based Training and Assessment

New provisions for dangerous goods training using competency-based training and assessment approach as well as guidance material for implementation were agreed by the ICAO Dangerous Goods Panel at DGP/26 in October 2017. However, the publication and implementation of these provisions have been deferred and are now expected to be adopted into the 2021-2022 edition of the ICAO Technical Instructions. IATA supports this approach

and has developed further guidance material to support industry adoption. Appendix H in this edition provides the changes proposed to the provisions for dangerous goods training as agreed by the Dangerous Goods Panel. Also included in Appendix H is the guidance materials developed by the IATA Dangerous Goods Training Working Group members and observers.

The content of Appendix H.2 is provided with the intention of receiving feedback from industry under <https://www.iata.org/whatwedo/cargo/dgr/Pages/index.aspx>

**TABLE 1.5.A**  
**Minimum Requirements for Training Curricula (1.5.2)**

Aspects of transport of dangerous goods by air with which they should be familiar, as a minimum	Shippers and packers		Freight forwarders			Operators and ground handling agents						Security screeners
	Category											
	1	2	3	4	5	6	7	8	9	10	11	12
General philosophy	X	X	X	X	X	X	X	X	X	X	X	X
Limitations	X		X	X	X	X	X	X	X	X	X	X
General requirements for shippers	X		X			X						
Classification	X	X	X			X						X
List of dangerous goods	X	X	X			X				X		
General packing requirements	X	X	X			X						
Packing instructions	X	X	X			X						
Labelling and marking	X	X	X	X	X	X	X	X	X	X	X	X
Shipper's Declaration and other relevant documentation	X		X	X		X	X					
Acceptance procedures						X						
Recognition of undeclared dangerous goods	X	X	X	X	X	X	X	X	X	X	X	X
Storage and loading procedures					X	X		X		X		
Pilots' notification						X		X		X		
Provisions for passengers and crew	X	X	X	X	X	X	X	X	X	X	X	X
Emergency procedures	X	X	X	X	X	X	X	X	X	X	X	X

#### CATEGORY

1. Shippers and persons undertaking the responsibilities of shippers', including operator's staff acting as shippers, operator's staff preparing dangerous goods as Company Materials (COMAT)
2. Packers
3. Staff of freight forwarders involved in processing dangerous goods
4. Staff of freight forwarders involved in processing cargo or mail (other than dangerous goods)
5. Staff of freight forwarders involved in the handling, storage and loading of cargo or mail
6. Operator's and ground handling agent's staff accepting dangerous goods
7. Operator's and ground handling agent's staff accepting cargo or mail (other than dangerous goods)
8. Operator's and ground handling agent's staff involved in the handling, storage and loading of cargo or mail and baggage
9. Passenger handling staff
10. Flight crew members, loadmasters, load planners and flight operations officers/flight dispatchers
11. Crew members (other than flight crew members)
12. Security staff who deal with the screening of passengers and crew and their baggage and cargo or mail, e.g. security screeners, their supervisors and staff involved in implementing security procedures.

**TABLE 1.5.B**  
**Minimum Requirements for Training Curricula for "No Carry" Operators (1.5.3)**

Aspects of transport of dangerous goods by air with which they should be familiar, as a minimum.	Operators and ground handling agents				
	Category				
	13	14	15	16	17
General philosophy	X	X	X	X	X
Limitations	X	X	X	X	X
Labelling and marking	X	X	X	X	X
Shipper's Declaration and other relevant documentation	X				
Recognition of undeclared dangerous goods	X	X	X	X	X
Provisions for passengers and crew	X	X	X	X	X
Emergency procedures	X	X	X	X	X

**CATEGORY**

- 13. Operator's and ground handling agent's staff accepting cargo or mail (other than dangerous goods)
- 14. Operator's and ground handling agent's staff involved in the handling, storage and loading of cargo or mail and baggage
- 15. Passenger handling staff
- 16. Flight crew members, loadmasters, load planners and flight operations officers/flight dispatchers
- 17. Crew members (other than flight crew members).

**Notes:**

- 1. Depending on the responsibilities of the person, the aspects of training to be covered may vary from those shown in Table 1.5.A and Table 1.5.B. For example, in respect of classification, staff involved in implementing security procedures (e.g. screeners and their supervisors) need only be trained in the general properties of dangerous goods.
- 2. A set of detailed dangerous goods training programmes for the various categories of personnel, are available from IATA. These training programmes correspond to the categories of the personnel shown in Table 1.5.A. Also available is a set of guidelines for instructors of dangerous goods courses.
- 3. The categories of personnel identified in Table 1.5.A and Table 1.5.B are not all encompassing. Personnel employed by or interacting with the aviation industry in areas such as passenger and cargo reservation centres and engineering and maintenance, except when acting in a capacity identified in Table 1.5.A or Table 1.5.B, should be provided with dangerous goods training in accordance with 1.5.2.

**Dangerous Goods Training Workbooks**

IATA Dangerous Goods Training Workbooks	Book 1	Book 2	Book 3	Book 4	Book 5
Category of Personnel	1, 2, 3, 6	10	9, 11, 12	5, 8	4, 7

Workbook 1—Shippers; Packers; Personnel Accepting/Processing Dangerous Goods

Workbook 2—Flight Crew; Load Planners; Flight Dispatchers

Workbook 3—Cabin Crew; Passenger Handling Personnel; Security Screening Personnel

Workbook 4—Ramp and Warehouse Personnel

Workbook 5—General Cargo Acceptance Personnel

**TABLE 1.5.C**  
**Minimum Requirements for Training Curricula for Designated Postal Operators (1.5.4)**

Aspects of transport of dangerous goods by air with which they should be familiar, as a minimum	Designated Postal Operators		
	Category		
	a	b	c
General philosophy	X	X	X
Limitations	X	X	X
General requirements for shippers	X		
Classification	X		
List of dangerous goods	X		
General packing requirements	X		
Packing instructions	X		
Labelling and marking	X	X	X
Shipper's Declaration and other relevant documentation	X	X	
Acceptance of the dangerous goods listed in 2.4	X		
Recognition of undeclared dangerous goods	X	X	X
Storage and loading procedures			X
Provisions for passengers and crew	X	X	X
Emergency procedures	X	X	X

1  
1.5  
to  
1.7

**CATEGORY**

- (a) Staff of designated postal operators involved in accepting mail containing dangerous goods
- (b) Staff of designated postal operators involved in processing mail (other than dangerous goods)
- (c) Staff of designated postal operators involved in the handling, storage and loading of mail

**1.6 Adequate Instruction for Shipping Section II Lithium Batteries**

1.6.1 Section II of the lithium battery packing instructions, PI 965-PI 970, include a requirement that "Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities". The packing instructions however do not define or describe what is considered as "adequate instruction".

1.6.2 At a minimum, an employer should consider the following as being adequate instruction:

- Classification of lithium batteries being shipped.
- Documentation of procedures applied to lithium batteries being shipped.
- Written work instructions or other documentation, including automated controls.
- Review and understanding of documented procedures as applicable to the job function.
- Instruction records including date(s) for all employees.
- Refresher instructions provided at a minimum every two years or as the documented instructions are revised or regulations are changed.
- Reverse logistics, including transport mode and applicable prohibitions.

**1.7 Dangerous Goods Security**

STATE VARIATION: USG-17

**1.7.0 General**

1.7.0.1 This subsection addresses the security responsibilities of operators, shippers and others involved in the transport of dangerous goods aboard aircraft. It should be noted that ICAO Annex 17—Security provides comprehensive requirements for implementation of security measures by States to prevent unlawful interference with civil aviation or when such interference has been committed. In addition, the ICAO *Security Manual for Safeguarding Civil Aviation against Acts of Unlawful Interference (Doc 8973 - Restricted)* provides procedures and guidance on aspects of aviation security and is intended to assist States in the implementation of their respective national civil aviation security programmes. The current edition of the IATA Security Manual contains guidance material directed at industry entities such as operators and airports. The requirements in this subsection are intended to supplement the requirements of Annex 17 and to implement measures to be taken to minimize theft or misuse of dangerous goods that may endanger persons or property. The provisions of this subsection do not supersede the requirements of Annex 17 and mandatory elements of the associated documents.

- 1.7.0.2 In addition to the security provisions of these Regulations, appropriate national authorities may implement further security provisions for reasons other than safety of dangerous goods during transport. In order to not impede international and multimodal transport by different explosives security marks, it is recommended that such marks be formatted consistent with an

1

1.7

internationally harmonized standard (e.g. European Union Commission Directive 2008/43/EC).

## 1.7.1 General Security Provisions

**1.7.1.1** All persons engaged in the transport of dangerous goods should consider security requirements for the dangerous goods commensurate with their responsibilities.

**1.7.1.2** Dangerous goods should only be offered to operators that have been appropriately identified.

**1.7.1.3** The provisions of this subsection do not apply to:

- (a) UN 2908 and UN 2909 excepted packages;
- (b) UN 2910 and UN 2911 excepted packages with an activity level not exceeding the  $A_2$  value; and
- (c) UN 2912 LSA-I and UN 2913 SCO-I.

## 1.7.2 Dangerous Goods Security Training

**1.7.2.1** The training specified in Subsection 1.5 should include elements of security awareness.

**1.7.2.2** Security awareness training should address the nature of security risks, recognition of security risks, methods to address and reduce such risks and actions to be taken in the event of a security breach. It should include awareness of security plans (if appropriate) commensurate with the responsibilities of individuals and their role in implementing security plans.

**Note:**

*Persons who have received security training in accordance with the requirements of a National Security Plan or other security requirements that fulfil the elements of 1.7.2.2 need not receive additional training.*

**1.7.2.3** Such training should be provided or verified upon employment in a position involving dangerous goods transport. Recurrent training should take place within 24 months of previous training to ensure knowledge is current.

**1.7.2.4** Records of all dangerous goods security training undertaken should be kept by the employer and made available to the employee or appropriate national authority if requested. Records should be kept by the employer for a period of time established by the appropriate national authority.

## 1.7.3 Provisions for High Consequence Dangerous Goods

OPERATOR VARIATIONS: BZ-07, LO-01, OM-10, VA-02

### 1.7.3.1 Definition of High Consequence Dangerous Goods

**1.7.3.1.1** High consequence dangerous goods are those which have the potential for misuse in a terrorist event and which may, as a result, produce serious consequences such as mass casualties, mass destruction or, particularly for Class 7, mass socio-economic disruption.

**1.7.3.1.2** An indicative list of high consequence dangerous goods in classes and divisions other than Class 7 is given in Table 1.7.A.

**TABLE 1.7.A**  
**Indicative List of High Consequence Dangerous Goods (1.7.3.1.2)**

Class 1	Division 1.1
Class 1	Division 1.2
Class 1	Division 1.3 compatibility group C
Class 1	Division 1.4, UN 0104, UN 0237, UN 0255, UN 0267, UN 0289, UN 0361, UN 0365, UN 0366, UN 0440, UN 0441, UN 0455, UN 0456, UN 0500
Class 1	Division 1.5
Class 2	Division 2.3 toxic gases (excluding aerosols)
Class 3	desensitized explosives
Class 4	Division 4.1 desensitized explosives
Class 6	Division 6.1 substances of Packing Group I; except when transported under the excepted quantity provisions (see 2.6)
Class 6	Division 6.2 infectious substances of Category A (UN 2814 and UN 2900)

**1.7.3.1.3** For dangerous goods of Class 7, high consequence radioactive material is that with an activity equal to or greater than a transport security threshold of 3,000  $A_2$  per single package (see also 10.3.2.1) except for the following radionuclides where the transport security threshold is given in Table 1.7.B.

**1.7.3.1.4** For mixtures of radionuclides, determination of whether or not the transport security threshold has been met or exceeded can be calculated by summing the ratios of activity present for each radionuclide divided by the transport security threshold for that radionuclide. If the sum of the fractions is less than 1, then the radioactivity threshold for the mixture has not been met nor exceeded.

This calculation can be made with the formula:

$$\sum \frac{A_i}{T_i} < 1$$

Where:

$A_i$  = activity of radionuclide  $i$  that is present in a package (TBq)

$T_i$  = transport security threshold for radionuclide  $i$  (TBq).

△ **1.7.3.1.5** When radioactive material possesses subsidiary hazards of other classes or divisions, the criteria of Table 1.7.A should also be taken into account (see also 10.0.5).