



Civil Aviation Safety Authority
of Papua New Guinea

Advisory Circular

AC92-1

Dangerous Goods – Training Programmes

**Issue 1
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GENERAL

Civil Aviation Safety Authority Advisory Circulars (AC) contain information about standards, practices and procedures that the Director has found to be an Acceptable Means of Compliance (AMC) with the associated rule.

An AMC is not intended to be the only means of compliance with a rule, and consideration will be given to other methods of compliance that may be presented to the Director. When new standards, practices or procedures are found to be acceptable, they will be added to the appropriate Advisory Circular.

PURPOSE

This Advisory Circular provides methods, acceptable to the Director, for showing compliance with the dangerous goods training programmes requirements of Part 92 and explanatory material to assist in showing compliance.

RELATED CAR

This AC relates specifically to Civil Aviation Rule 92.203.

CHANGE NOTICE

This AC replaces the Initial Issue dated 01 July 2002.

APPROVAL

This AC has been approved for publication by the Director of Civil Aviation

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INTRODUCTION

Civil Aviation Rule Part 92 is the legislation on the safe carriage of dangerous goods by air.

Each person involved in the carriage of dangerous goods by air needs training to appreciate the risks involved and the need to strictly comply with the rules. If this training is not undertaken there could be very unfortunate consequences, as the aviation industry has learned from hard experience. Certain articles and substances are classified as dangerous goods as they are highly combustible, toxic, explosive or corrosive. If such goods are not properly identified, packaged, and loaded, they are potentially hazardous to the aircraft and its occupants and the effect could be catastrophic as has occurred in more than one instance.

Properly planned and maintained dangerous-goods training programmes are an essential means of ensuring that the carriage of dangerous goods by air will not be a hazard to the aircraft or its occupants.

1. General

1.1 Conduct of Training Programmes

Dangerous-goods training programmes for personnel assigned duties by the holder of an air operator certificate issued under Part 119, or the certificate holders handling agent involving dangerous goods, are required to be conducted by—

- (1) the Part 119 certificate holder where the holder is authorised to provide dangerous goods training;
or
- (2) the holder of an aviation training certificate issued under Part 141.

Dangerous-goods training programmes for personnel assigned duties involving dangerous goods by other than the holder of an air operator certificate or the certificate holders handling agent are required to be conducted by—

- (1) the holder of an aviation training certificate issued under Part 141; or
- (2) the holder of a current IATA dangerous goods training accreditation.

1.2 Certification to Conduct Training

Applicants for, or holders of, certificates under Part 119 or 141 will be authorised to conduct dangerous-goods training programmes subject to an acceptable submission detailing—

- the training programmes to be conducted
- training programmes curriculum
- qualification and experience of instructors to be used

An organisation may wish to limit its training to certain programmes and this would be reflected in the certification given.

1.3 Number of Personnel to be Trained

The rules require all personnel employed by—

- regular shippers of dangerous goods and their agents
- operators who accept dangerous goods for carriage by air

- handling agents who accept dangerous goods for carriage by air
- agencies, organisations and persons, other than operators, involved in processing or carrying either passengers or cargo
- agencies involved in the security screening of passengers and their baggage

who conduct a function associated with the carriage of dangerous goods by air, to have satisfactorily completed a dangerous-goods training programme and thereafter dangerous-goods recurrent training every two years.

1.4 IATA Dangerous Goods Regulations

The IATA Dangerous Goods Regulations is the IATA version of the ICAO Technical Instructions with some additional material developed by its member airlines. In particular, the IATA document specifies the Dangerous Goods Document that includes the Shippers declaration that IATA member airlines and parties to the IATA Interline Agreement-Cargo require to accompany consignments of dangerous goods.

Most operators use the IATA Dangerous Goods Regulations in their day-to-day handling of dangerous goods and this is usually reflected in their training programmes. It is acceptable to use the IATA regulations for training. But aircraft operators and regular shippers should ensure that the syllabus accurately reflects the requirements contained in those parts of the Technical Instructions incorporated in the rules.

1.5 Training Material

ICAO and IATA have jointly developed training documents in support of the provisions contained in Annex 18 to the Convention on International Civil Aviation. These documents have been produced to help achieve a world-wide uniform level of training. They cover all aspects of handling and carriage of dangerous goods by air and particularly to assist those responsible for the establishment of training programmes. There are four books, each developed for training a particular category of personnel involved in the carriage of dangerous goods by air. They are of a self-study type.

The four books are:

Book 1:	Shippers, Cargo Agents and Operator's Cargo Acceptance Staff
Book 2:	Load Planners and Flight Crew
Book 3:	Passenger Handling Staff and Flight Attendants
Book 4:	Loading and Warehouse Personnel

2. Training Programmes

2.1 Use of Instructions

The instructor used for dangerous-goods training should have—

- (1) Successfully completed at least a cargo acceptance personnel dangerous-goods training course; and
- (2) Successfully completed a course in instructor techniques; and
- (3) Experience in the function to which the training relates; or

- (4) a current IATA dangerous goods training accreditation.

2.2 Subjects

Training programmes should address the following subjects—

- programme objectives
- detailed description of the programme contents
- training techniques used
- training aids used
- method of determining student knowledge and, where applicable, competence.

2.3 Objectives

The following are objectives that should be achieved by participants successfully completing the course. These objectives are of general applicability and need to be adjusted to the participants' specific function—

- an understanding of the legal requirements and responsibilities
- a realization that some substances and articles are forbidden for carriage by air or have limitations concerning their carriage
- a recognition that some substances and articles have dangerous characteristics and that there are classes of dangerous goods with accepted criteria;
- the ability to identify the requirements of the list of dangerous goods
- an awareness of, and ability to act, on notified variations to the Technical Instructions
- an understanding of the requirements for packing, including the Packing Instructions
- an appreciation of the specifications for packagings and an understanding of their testing and marking
- the ability to identify the requirements concerning marking and labelling of packages
- an appreciation of the information to be included on the transport documents
- an understanding of the procedures for accepting dangerous goods for carriage by air, including the use of a check list
- the ability to recognise occasions when dangerous goods should be inspected and, appreciation of decontamination procedures
- an awareness of, and the ability to follow, loading instructions
- a realization of what information needs to be communicated regarding dangerous goods
- an awareness of the requirements for the reporting of dangerous-goods incidents and accidents

2.4 Training Methods

Training may be given in various forms and can be provided by means such as self-study guides, class room instruction, video or computer based learning or a combination of these forms. The training should culminate in a class room where each participant is required to demonstrate their knowledge and competence with the functions to be undertaken.

2.5 Training Programmes

The following training programmes should be used as a basis of training programmes for the category of the personnel shown. The training programmes are not restricted to the following and each programme will need to be adjusted as necessary to fit the needs of the group.

2.5.1 PROGRAMME 1 – Acceptance and Dispatch Personnel

- (1) General information and course introduction
- (2) PNG legislation
- (3) International recommendations
 - ICAO Technical Instructions
 - IATA Regulations
 - UN Recommendations
- (4) Application and relationship of International recommendations with PNG legislation
- (5) Contents of the Regulations
 - Definition
 - Applicability
 - Limitations
- (6) Dangerous Goods Classes and Divisions
 - Definition of classes
 - Packing groups
 - Classification
 - Identification
 - List of dangerous goods
 - How to use the list of dangerous goods
 - Mixtures and solutions with a single hazard
 - Mixtures and solutions with a multiple hazard
- (7) Packing Requirements
 - UN specification packagings
 - Limited quantity packagings
 - Non-specification packagings
 - Checking the packaging of dangerous goods shipments
 - Specification package markings
 - Different dangerous goods in one outer package

- Overpacks
- (8) Marking and Labelling
- General marking requirements
 - General labelling requirements
 - Overpacks
- (9) Documentation
- Shippers declaration for dangerous goods
 - Air waybill
- (10) Radioactive Material
- Units of measurement
 - Description of radioactive material
 - Types of packages
 - Quantity limitations – Type “A” packages
 - Excepted package of radioactive material
 - Transport index
 - Marking and labelling
 - Documentation
- (11) State and Operator Variations
- Responsibilities
 - State variations
 - Operator variations
 - Procedures
- (12) Checking Procedure
- Acceptance check lists
 - Acceptance checking procedure
- (13) Excepted Quantities
- Classes and divisions of dangerous goods not permitted
 - Package quantity limits
 - Different dangerous goods packed in the same outer package
 - Labelling
 - Air waybill
- (14) Dangerous Goods Emergency Procedures

- Procedures
- Dangerous goods emergency response

2.5.2 PROGRAMME 2 – Flight Crew and Load Planners

- (1) General information and course introduction
- (2) PNG legislation
- (3) International recommendations
 - ICAO Technical Instructions
 - IATA Regulations
- (4) Dangerous Goods
 - Definition
 - Dangerous goods acceptable
 - Dangerous goods forbidden under any circumstances
 - Dangerous goods forbidden unless exempted
 - Dangerous goods excepted
 - Dangerous goods in limited quantities
 - State and operator variations
- (5) Classes and Divisions
 - Definitions
 - Complete list of classes and divisions
 - List of dangerous goods
 - Classification
 - List of dangerous goods
 - Breakdown of list of dangerous goods
- (6) Packing
 - General packing requirements
 - Methods of packing
 - Types of packaging
- (7) Marking
 - General marking requirements
 - Specification package marking
 - Package use marking
- (8) Labelling

- General labelling requirements
 - Hazard labels
 - Handling labels
 - Labelling of unit load device containing dangerous goods
- (9) Loading and Stowage
- Inspection of packages of dangerous goods
 - Securing of dangerous goods packages
 - Loading restrictions on flight deck and for passenger aircraft
 - Loading on cargo aircraft
 - Loading of incompatible dangerous goods
 - Loading of packages containing liquid dangerous goods
 - Stowage of poisonous (toxic) and infectious substances
 - Loading and stowage of radioactive materials
 - Loading of magnetized materials
 - Loading of dry ice
 - Loading of self-inflating life raft or aircraft survival kit or aircraft evacuation slide
 - Loading of live animals with dangerous goods
 - Loading of expandable polymeric beads
 - Loading of wheelchairs and other battery powered mobility aids
- (10) Provision of Information
- Information to pilot in command
 - Information by pilot in command in case of in-flight emergency
- (11) Dangerous Goods Emergency Response
- Procedures

2.5.3 PROGRAMME 3 – Passenger Handling Staff and Flight Attendants

- (1) General information and course introduction
- (2) PNG legislation
- (3) International recommendations
 - ICAO Technical Instructions
 - IATA Regulations
- (4) Dangerous Goods

- Definition
 - Dangerous goods acceptable
 - Dangerous goods forbidden under any circumstances
 - Dangerous goods forbidden unless exempted
 - Dangerous goods excepted
 - Dangerous goods in excepted quantities
- (5) Classes and Divisions
- Definitions
 - Complete list of classes and divisions
- (6) Hidden Dangerous Goods
- Dangerous goods in passengers baggage
 - Passenger baggage requiring special packaging
 - Passenger baggage bearing a dangerous goods mark or label, or both
 - Information to passengers
- (7) Dangerous Goods Emergency Response
- Procedures

2.5.4 PROGRAMME 4 – Loading and Storage Personnel

- (1) General information and course introduction
- (2) PNG legislation
- (3) International recommendations
- ICAO Technical Instructions
 - IATA Regulations
- (4) Dangerous Goods
- Definition
 - Dangerous goods acceptable
 - Dangerous goods forbidden under any circumstances
 - Dangerous goods forbidden unless exempted
 - Dangerous goods excepted
 - Dangerous goods in excepted quantities
- (5) Classes and Divisions
- Definitions
 - Complete list of classes and divisions

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- (6) Marking and Labelling
 - General marking requirements
 - General labelling requirements
 - Hazard labels
 - Handling labels
 - labelling of unit load devise containing dangerous goods
 - (7) Inspection
 - Inspection of packages of dangerous goods
 - Procedures in case of damage or spillage, or both
 - Emergency handling
 - Emergency procedures
 - (8) Storage and Loading
 - Securing of dangerous goods packages
 - Loading restrictions on flight deck and for passenger aircraft
 - Loading on Cargo Aircraft
 - Loading of incompatible dangerous goods
 - Organic peroxides of Division 5.2 and self-reacting substances of Division 4.1
 - Loading of packages containing liquid dangerous goods
 - Stowage of poisonous (toxic) and infectious substances
 - Loading and stowage of radioactive materials
 - Loading of magnetized materials
 - Loading of dry ice
 - Loading of self-inflating life raft or aircraft survival kit or aircraft evacuation slide
 - Loading of live animals with dangerous goods
 - Loading of expandable polymeric beads
 - Loading of wheelchairs and other battery powered mobility aids
 - (9) Provision of Information
 - Information to pilot in command
 - reporting of dangerous goods incidents and accidents
 - Reporting of mis-declared dangerous goods

The preceding programmes do not take into account personnel who may have more than one function, or the shipper of a single Class or Division of dangerous goods. For these types of personnel, the programme may be tailored to meet their specific needs. For example, a member of the flight crew may also have the function of cargo acceptance. In this case, if that flight crew member has done the flight crew programme, the

acceptance personnel programme need only consist of those subject matters not covered in the flight crew programme.

Another example might be an organisation producing one Class or Division of dangerous goods such as paint. In this case the subject matters relating to packing, marking, labelling, and other relevant requirements, can be those specifically applicable to the carriage of paint by air.

3. Recurrent Training

All personnel who are required to complete a dangerous-goods training programme are required to undertake a recurrent dangerous-goods training programme at intervals not longer than two years.

The objective of recurrent training is to update personnel with any changes that may have occurred since the last training undertaken and to refresh their knowledge of the requirements applicable to their function.

An assessment of current knowledge should be made, if possible, before starting recurrent training. The outcome of this assessment will determine the depth of training required. This assessment may indicate that it is necessary to cover the same areas as the previous training and take some time. If knowledge is assessed as being reasonably up-to-date the training may be of lesser duration.

As with the initial training, some means should be used to determine knowledge and, where applicable, skill

4. Proof of Attending a Training Programme

A form of proof should be issued to each person who has undertaken a training programme. The proof should indicate the level of competence achieved or the results of any assessment. Where the training has been taken as a self-study programme, a procedure should be established to ascertain the level of knowledge and competence achieved or of assessing the results obtained.

5. Maintenance of Records

Training records are required to be maintained to determine who has received training and to ensure that the required recurrent training can be planned and conducted within the prescribed two year period.

Records for training should identify for each person—

- the initial training programme and last recurrent training undertaken; and
- when it was undertaken; and
- the identity of the person and organisation that conducted the training; and
- the result and competence achieved.