



ADVISORY CIRCULAR

**CAA-AC-AGA607
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PROCEDURES FOR SAFE HANDLING AND STORAGE OF HAZARDOUS MATERIALS

1.0 PURPOSE

This Circular is meant to provide guidelines to the Aerodrome Operator in adopting operation procedures and principles for handling of Hazardous Materials at an aerodrome. The aerodrome operator shall use the combination of these procedures that will:

- a) Ensure safe movement and transportation of Dangerous Goods into the aircraft with the objective of preventing accidents that might result from the handling of Dangerous Goods;
- b) Ensure safe storage of Dangerous Goods at aerodrome premises; and
- c) Ensure safe and expeditious handling of Dangerous Goods by personnel.

2.0 REFERENCES.

1. Civil Aviation (Aerodromes) Regulations, as amended.
2. ICAO Annex 18 The Safe Transport of Dangerous Goods by Air.
3. ICAO Technical Instructions for the Safe Carriage of Dangerous Goods by Air, Doc 9284

3.0 GENERAL

Aerodrome operators shall develop procedures and responsibilities for the handling of Hazardous Materials at an aerodrome. The procedures so developed shall meet the requirements of ICAO Annex 18, ICAO Technical Instructions for the Safe Carriage of Dangerous Goods by Air, Doc 9284 and Civil Aviation (Aerodromes) Regulations, as

amended. Due to the current sensitivity of security and insistence on safety management system, Aerodrome operators shall ensure that the carriage of dangerous goods is specifically and minutely supervised.

3.1 General Procedures Governing Hazardous Material

The following procedures shall be followed in the processing of Dangerous Goods presented at an Aerodrome:

- a) Dangerous Goods are carried on board an aircraft only when they meet ICAO and IATA requirements for such carriage in relation to classification, marking and packing.
- b) No Dangerous Goods shall be carried in the aircraft passenger cabin or cockpit except those that have been specifically allowed by the ICAO/Technical Instructions and are within the quantity and conditions specified therein.
- c) At the Terminal Buildings and at the cargo shed, the Dangerous Goods shall be handled only by persons or employees trained and licensed in handling such goods.

3.2 Procedures for handling of Dangerous Goods

3.2.1 Packing: Dangerous goods shall be packed in accordance with the provisions of the Technical Instructions.

3.2.2 Labels: Unless otherwise provided, each package of dangerous goods shall be labeled with the appropriate labels and in accordance with the Technical Instructions.

3.2.3 Markings: Unless otherwise provided, each package of dangerous goods shall be marked with the proper shipping name of its contents as may be specified in those Technical Instructions.

3.2.4 Shipper's Responsibilities: Before a person offers any package or over-pack of dangerous goods for transport by air, the designated person shall ensure that the dangerous goods are not forbidden for transport by air and are properly classified, packed, marked, labeled and accompanied by a properly executed dangerous goods transport document, as specified in the Technical Instructions.

3.2.4 Operator's Responsibilities: An operator shall not accept dangerous goods to be transported by air:

- a) Unless the dangerous goods are accompanied by a completed dangerous goods transport document, except where the Technical Instructions indicate that such a document is not required; and

- b) Until the package, over-pack or freight container containing the dangerous goods has been inspected in accordance with the acceptance procedures contained in the Technical Instructions.

3.2.6 Provision of Information: The operator of an aircraft in which dangerous goods are to be carried, shall provide the pilot-in-command with written information about the nature of the goods as specified in the Technical Instructions as early as practicable before departure of the aircraft.

3.2.7 Establishment of Training Programs: Aerodrome operators shall ensure Dangerous Goods training programs are established and updated as provided for in the Technical Instructions.

4. Specific Procedures for Storage of Dangerous Goods

4.1 Description of particulars of the procedures for the safe handling and storage of Dangerous Goods at the aerodrome should include the following –

- a) Arrangements for special areas of the aerodrome to be set up for the storage of inflammable liquids (including aviation fuels) and any other Dangerous Goods; and
- b) The method to be followed for the delivery, storage, dispensing and handling of Dangerous Goods.

4.2 Specific role of Cargo Handling Agents. If the Aerodrome acts as a cargo handling agent for Dangerous Goods, then procedures need to be established and documented as follows:

- a) Designate personnel to receive and handle hazardous substances and materials;
- b) Receive assurance from shippers that cargo can be handled safely, including any special handling procedures required for safety;
- c) Designate special areas on the Aerodrome for storage of Dangerous Goods while on the Aerodrome
- d) The designated officer shall:
 - i. Store Dangerous Goods only at a place designated for such a purpose
 - ii. Ensure that such a place is properly demarcated and has appropriate signage clearly visible.
 - iii. Ensure that incompatible materials are stored separately from each other by the required distance

- iv. Ensure that packages with damaged packing have the inner packing still secure and do not pose a risk.
- v. Regularly check for leakages from containers holding flammable liquids or other dangerous liquid materials.
- vi. Ensure that fire fighting cylinders and hoses suitable for extinguishing fire are readily available at hand for the specific types of material stored.

4.3 Role of Aerodrome Rescue and Fire Fighting Services (RFFS)

The Aerodrome Operator shall develop procedures and roles of RFFS in the handling of Dangerous Goods.

4.4 Role of Fuel providers

The aerodrome operator shall develop procedures for Fuelling Agents at the aerodrome to comply with aerodrome standards and prescribed procedures. All fuelling agents engaged in the handling and dispensing of aviation fuel shall be required to take immediate corrective action whenever notified of non-compliance with any of the standards or procedures.

4.5 Training Programme

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.

TRAINING PROGRAMME 1 – Acceptance and Dispatch Personnel

- (a) General information and course introduction
- (b) Related legislation and Regulations
- (c) International recommendations
 - ICAO Technical Instructions
 - IATA Regulations
- (e) Contents of the Regulations
 - Definition
 - Applicability
 - Limitations
- (f) 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

(g) Packing Requirements

- Limited quantity packaging
- Non-specification packaging
- Checking the packaging of dangerous goods shipments
- Specification package markings
- Different dangerous goods in one outer package
- Over-packs

(h) Marking and Labelling

- General marking requirements
- General labelling requirements
- Over-packs

(i) Documentation

- Shippers declaration for dangerous goods
- Air waybill

(j) Radioactive Material

- Units of measurement
- Description of radioactive material
- Types of packages
- Excepted package of radioactive material
- Transport index
- Marking and labelling
- Documentation

(k) State and Operator Variations

- Responsibilities
- State variations
- Operator variations
- Procedures

(l) Checking Procedure

- Acceptance check lists
- Acceptance checking procedure

(m) Excepted Quantities

- Classes and divisions of dangerous goods not permitted
- Package quantity limits
- Different dangerous goods packed in same outer package
- Labelling
- Air waybill

- (n) Dangerous Goods Emergency Procedures
 - Procedures
 - Dangerous goods emergency response

PROGRAMME 2 – Flight crew and load planners

- (a) General information and course introduction
- (b) Related legislation and Regulations
- (c) International recommendations
 - ICAO Technical Instructions
 - IATA Regulations
- (d) Dangerous Goods
 - Definition
 - Dangerous goods acceptable
 - Dangerous goods forbidden under any circumstances
 - Dangerous goods forbidden unless exempted
 - Dangerous goods exempted
 - Dangerous goods in limited quantities
 - State and operator variations
- (e) 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
- (f) Packing
 - General packing requirements
 - Methods of packing
 - Types of packaging
- (g) Marking
 - General marking requirements
 - Specification package marking
 - Package use marking
- (h) Labelling
 - General labelling requirements
 - Hazard labels
 - Handling labels
 - Labelling of unit load device containing dangerous goods

- (i) 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 magnetised 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

- (j) Provision of information
 - Information to pilot in command
 - Information by pilot in command in case of in flight emergency

- (k) Dangerous Goods Emergency Response
 - Procedures

PROGRAMME 3 – Passenger Handling Staff and Flight Attendants

- (a) General information and course introduction

- (b) Related legislation and Regulations

- (c) International recommendations
 - ICAO Technical Instructions
 - IATA Regulations

- (d) Dangerous Goods
 - Definition
 - Dangerous goods acceptable
 - Dangerous goods forbidden under any circumstances
 - Dangerous goods forbidden unless exempted
 - Dangerous goods exempted
 - Dangerous goods in excepted quantities

- (e) Classes and Divisions
 - Definitions
 - Complete list of classes and divisions

- (f) Hidden Dangerous Goods
 - Dangerous goods in passenger baggage
 - Passenger baggage requiring special packaging

- Passenger baggage bearing a dangerous goods mark or label, or both
- Information to passengers

- (g) Dangerous Goods Emergency Response
- Procedures

PROGRAMME 4 – Loading and Storage Personnel

- (a) General information and course introduction
- (b) Relevant legislation and Regulations
- (c) International recommendations
- ICAO Technical Instructions
 - IATA Regulations
- (d) Dangerous Goods
- Definition
 - Dangerous goods acceptable
 - Dangerous goods forbidden under any circumstance
 - Dangerous goods forbidden unless exempted
 - Dangerous goods exempted
 - Dangerous goods in exempted quantities
- (e) Classes and Divisions
- Definitions
 - Complete list of classes and divisions
- (f) Marking and Labelling
- General marking requirements
 - General labelling requirements
 - Hazard labels
 - Handling labels
 - Labelling of unit load device containing dangerous goods
- (g) Inspection
- Inspection of packages of dangerous goods
 - Procedures in case of damage or spillage, or both
 - Emergency handling
 - Emergency procedures
- (h) 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

- Loading of packages containing liquid dangerous goods
- Stowage of poisonous (toxic) and infectious substances
- Loading and stowage of radioactive materials
- Loading of magnetised 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 power mobility aids

(i) Provision of Information

- Information to pilot in command
- Reporting of dangerous goods incidents and accidents
- Reporting of undeclared dangerous goods

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 is the case with initial training, means should be used to determine the knowledge and, where applicable, the skill of the personnel.

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 Training 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.



Director Safety, Security and Economic Regulation