

The Republic of the Union of Myanmar
Ministry of Transport and Communications
Department of Civil Aviation



DANGEROUS GOODS INSPECTOR MANUAL

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DANGEROUS GOODS INSPECTOR MANUAL

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Dangerous Goods Inspector Manual

FOREWORD

This Manual is intended to provide detailed instructions for the Department of Civil Aviation, the Ministry of Transport and Communications and The Republic of the Union of Myanmar, to carry out its Dangerous Goods Operations and Inspections responsibilities. This Manual has been developed to comply with the Annex 18 to the Convention on International Civil Aviation, “The Safe Transport of Dangerous Goods by Air” and “Document 9284 Technical Instructions for The Safe Transport of Dangerous Goods by Air”.

This Second Edition is superseded the First Edition of Dangerous Goods Inspector Guidance Manual. That has been issued since June 2010.



Min Lwin
Director General
Department of Civil Aviation

Dangerous Goods Inspector Manual

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Chapter 1 General Information

1.1 Introduction

1.1.1 As required by Annex 18 to the Chicago Convention:

- *“Each Contracting State shall establish inspection, surveillance and enforcement procedures for all entities performing any function prescribed in its regulations for air transport of dangerous goods with a view to achieving compliance with those regulations.*
- *Note 1.— It is envisaged that these procedures would include provisions for*
 - *inspecting dangerous goods consignments prepared, offered, accepted or transported by the entities referred to in Annex 18 paragraph 11.1;*
 - *inspecting the practices of the entities referred to in Annex 18 paragraph 11.1; and*
 - *Investigating alleged violations (see Annex 18 Paragraph 11.3).*
- *Note 2.— Guidance on dangerous goods inspections and enforcement may be found in the Supplement to the Technical Instructions (Part S-5, Chapter 1 and Part S-7, Chapters 5 and 6).”*

1.1.2 The policies, procedures and guidelines presented in this manual are designed to help the uniform implementation of the air transportation of dangerous goods inspection program and to promote the Inspector’s uniform application.

1.1.3 The following guidance is offered to assist primarily in the inspection of operators, handling agents, freight agents, shippers and other parties.

1.1.4 This manual outlines the recommended procedures the Dangerous Goods Inspector should follow in conducting his/her duties.

1.2 Manual Scheme

1.2.1 To facilitate the use of this manual, care was taken to ensure that the pages are easy to read and that information is easy to locate. The table of contents provides easy reference to the overall content. The chapters provide detailed information about the various items listed in the table of contents. Finally, the appendices provide supporting material to the chapter such as checklists and charts.

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1.3 Definitions

1.3.1 The definitions located in the MCAR Part-8 and International Civil Aviation Organization (ICAO)'s "Annex 18 to the Convention on International Civil Aviation, The Safe Transport of Dangerous Goods by Air" and the "ICAO Technical Instructions for the Safe Transport of dangerous Goods by Air (ICAO TI)" definitions apply. Where a word or term is not defined by these documents, see the dictionary definition.

1.3.2 The following additional definitions are only for the use of this manual.

"Additional Documents" means any documents other than the Transport Document, when required or used. Examples of additional documents are:

- Dangerous Goods Transport Documents
- Acceptance checklist;
- Notification to the Pilot-in-Command (NOTOC);
- Air Waybill; and
- Packaging Design Certificates for some of the packaging design to contain radioactive material.

"Combi Aircraft" means an aircraft that can be used to carry either passengers, as an airliner, or cargo as a freighter, and may have a partition in the aircraft cabin to allow both uses at the same time in a mixed passenger / freight combination.

"Compliance" means the state of conforming to specified requirements of a regulation.

"Dangerous Goods Coordinator" means the person within an organization who has technical knowledge on the safe transport of dangerous goods by air and act as a contact point between the organization and the competent authorities of the State.

"Inspection" means the examination of specific documents, articles or processes either routinely or for specific reason to ensure compliance with the regulations.

"Investigation" Systematic search for and documentation of facts relevant to an occurrence or suspected violation, from which a decision to take appropriate action will be made.

"Material Safety Data Sheet (MSDS)" (Synonyms: Safety Data Sheet (SDS) and Product Safety Data Sheet (PSDS)) is a document intended to provide workers and

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emergency personnel with procedures for handling or working with that substance in a safe manner, and includes information such as physical data (melting point, boiling point, flash point, etc.), toxicity, health effects, first aid, reactivity, storage, transportation, disposal, protective equipment, and spill-handling procedures. MSDS formats can vary from source to source within a country depending on national requirements

“Operations specifications” means the authorizations, conditions and limitations associated with the air operator certificate and subject to the conditions in the operations manual.

“Procedure” means a series of steps taken to reach a desired outcome.

“Process” means a series of actions, changes, or functions bringing about a result

1.4 Acronyms

“AN 18” - The current edition of the Annex 18 to the Convention on International Civil Aviation, The Safe Transport of Dangerous Goods

“ANC” – ICAO’s Air Navigation Commission

“COMAIL” - Company mail

“COMAT” - Company material

“DGP” - Dangerous Goods Panel

“FDG” – Used in checklists to mean “finding”

“IAEA” - The International Atomic Energy Agency

“IATA DGR” - The current edition of the International Air Transport Association (IATA)’s document title “Dangerous Goods Regulations”

“ICAO” - International Civil Aviation Organization

“ICAO TI” - The current edition of the International Civil Aviation Organization Technical Instruction for the Safe Transport of Dangerous Goods by Air.

“ICAO TI SUP” - The current edition of the International Civil Aviation Organization Supplement to the Technical Instruction for the Safe Transport of Dangerous Goods by Air.

“MCAR” - Myanmar Civil Aviation Requirement

“MSDS” - Material Safety Data Sheet (Synonyms: Safety Data Sheet (SDS) and Product Safety Data Sheet (PSDS))

“NOTOC” - Notification to Pilot-in-command

“N/A” - Not applicable

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“N/O” - Not observed

“SARPs” - Standards and recommended practices

“UN” - United Nations

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Chapter 2 Legislative Framework

2.1 International Regulation

2.1.1 International Civil Aviation Organization Annex 18 to the Convention on International Civil Aviation

2.1.1.1 The Convention on International Civil Aviation (also known as Chicago Convention) was signed on 7 December 1944 by 52 States. Pending ratification of the Convention by 26 States, the Provisional International Civil Aviation Organization (PICAO) was established. It functioned from 6 June 1945 until 4 April 1947. By 5 March 1947 the 26th ratification was received. ICAO came into being on 4 April 1947. In October of the same year, ICAO became a specialized agency of the United Nations linked to Economic and Social Council (ECOSOC). The Convention on International Civil Aviation set forth the purpose of ICAO in the preamble:

- *"WHEREAS the future development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to the general security; and*
- *WHEREAS it is desirable to avoid friction and to promote that co-operation between nations and peoples upon which the peace of the world depends;*
- *THEREFORE, the undersigned governments having agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically;*
- *Have accordingly concluded this Convention to that end."*

2.1.1.2 The Convention is supported by nineteen annexes containing standards and recommended practices (SARPs). The annexes are amended regularly by ICAO.

2.1.1.3 Annex 18 was developed to respond to a demand by Contracting States for an internationally agreed upon set of provisions addressing the transportation of dangerous goods by air. These provisions are based upon the Recommendations of the United Nations Committee of Experts on the Transport of Dangerous Goods and the Regulations for the Safe transport of Radioactive Material of the International Atomic Energy Agency. All amendments to Annex 18 are approved by the Council following a recommendation from the ICAO Dangerous Goods Panel (DGP) and the Air Navigation Commission (ANC).

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2.1.2 International Civil Aviation Organization's Technical Instructions for the Safe transport of Dangerous Goods by Air

2.1.2.1 The International Civil Aviation Organization Technical Instructions for the Safe transport of Dangerous Goods by Air contain the detailed technical material needed to support the broad provisions of Annex 18 providing a fully comprehensive set of international regulations. The ICAO TI can also be amended by the Council, following a recommendation from the Dangerous Goods Panel (DGP) of the Air Navigation Commission (ANC) and consultation with States. The Standard and Recommended Practices are contained in the Annex 18 and the Technical Instructions contain all the detailed instructions for the safe transport of dangerous goods by air. The Technical Instructions for the Safe transport of Dangerous Goods by Air are published biennially.

2.1.3 International Civil Aviation Organization's Supplement to the Technical Instructions for the Safe transport of Dangerous Goods by Air

2.1.3.1 The Supplement to the Technical Instructions for the Safe Transport of Dangerous Goods by Air provides information that is primarily of interest to States. Certain dangerous goods, which are normally forbidden (identified in Table 3-1 of the TI by Special Provisions such as A-1 or A-2), may be specifically authorized for air transport by approval of the appropriate national authority. The Supplement to the TI provides information to State for the processing of approvals or exemptions. The Supplement to the Technical Instructions for the Safe transport of Dangerous Goods by Air is published biennially.

2.2 National Regulation

2.2.1 It is assumed that Annex 18 and the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air are included directly or by reference in Myanmar Aircraft Rule 1937 Rule No(8), MCAR Part-1 and DCAP11.

2.3 Reference Manuals

2.3.1 Whilst this procedures manual only makes reference to documents from the International Civil Aviation Organization, in order to carry out some of the inspections identified, it may be necessary to use one of the reference manuals most commonly used by the operators, The International Air Transport Association's "Dangerous Goods Regulations" (IATA Regulations), published annually;

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- 2.3.2 The above mentioned reference manual must, as a minimum, reflect all the Technical Instructions for the Safe Transport of Dangerous Goods by Air's provisions. It is important to understand that any additional requirements, identified in the references manual, may not have any legal weight.

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Chapter 3 Dangerous Goods Inspector's Qualification and Training

3.1 Introduction

- 3.1.1 The inspector must be trained in every aspect of his / her duties as a technical inspector and as a regulatory officer. As each shipment of dangerous goods may represent a threat to life, health, property or the environment, the inspector must have the required knowledge and training to inspect shipments as well as evaluate compliance with the associated procedures and regulations in place to minimize the danger during air transport.
- 3.1.2 This chapter sets out, the recommended training qualifications required by the personnel responsible to act as a dangerous goods inspector.

3.2 Designated Inspector's courses recommendation

- 3.2.1 All employees occupying position with delegation of authority must be qualified and competent by receiving the training required to perform their duties.
- 3.2.2 The following training topics are recommended:
- Initial Training on the ICAO Technical Instructions (ITI);
 - Recurrent Training on the ICAO Technical Instructions (RTI), every 24 months;
 - Initial Dangerous Goods Safety Oversight Training (IDGO);
 - National Dangerous Goods Regulations training;
 - Safety Management System (SMS) training;
 - Audit procedures training;
 - Investigation Procedures training;
 - Aviation Enforcement training; and
 - Structured on the job training (OJT).
- 3.2.3 Other recommended specialized training topics:
- Specialized Training - Radioactive Materials (SRAD);
 - Specialized Training - Infectious Substances (SINF); and
 - Recurrent Dangerous Goods Safety Oversight Training (IDGO).
- 3.2.4 To ensure full competency as a designated Inspector, the Inspector should also successfully complete training in order to be familiar with the reference manuals

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used by the air operators such as training on the IATA's "Dangerous Goods Regulations".

3.3 On-the-Job Training (OJT)

3.3.1 On-the-job training (OJT) is a type of skill development training where an Inspector learns how to do the work through hands-on experience.

3.3.2 This is in contrast to skill formation that is purely cognitive or perceptual and usually given in a classroom environment.

3.3.3 On-the-job training (OJT) gives the Inspector the opportunity to work in the same place and with the same equipment that will be used regularly.

3.3.4 During on-the-job training (OJT) the new Inspector is assigned to an experienced Inspector or supervisor, who demonstrates how the job is done.

3.3.5 The new Inspector may shadow the other Inspectors for several shifts, while learning the steps that make up the job and how to use all of the required equipment.

3.3.6 On-the-job training (OJT) is usually conducted one-on-one, and the new Inspector generally has the opportunity to perform the different parts of the job with direct supervision.

3.3.7 To properly document the training of each Inspector, a structure "on the job (OJT) training" syllabus, based on competency profiles, should be completed for each Dangerous Goods Inspector.

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Chapter 4 Initial Process Inspection

4.1 Initial Process Inspection

- 4.1.1 An operator must demonstrate before being authorized to transport dangerous goods that
- Procedures are in place to handle, offer for transport or transport dangerous goods;
 - That arrangements have been made with ground handling agent(s) (if applicable);
 - That the operations manual or other staff instructions contain the required information; and
 - That training has been approved and given to the appropriate staff.
- 4.1.2 The initial inspection will include:
- Review of the operator application to transport dangerous goods under normal circumstances;
 - Approval of operations manual and/or other appropriate manuals; and
 - Approval of training programs.

4.2 Application for an Authorization to Transport Dangerous Goods

- 4.2.1 The oversight of the transport of dangerous goods by air can be achieved by granting authorization, approvals and exemptions for the transport of dangerous goods under normal and specialized circumstances.
- 4.2.2 The aims of granting authorization, approvals and exemptions are to exercise control over the transport of dangerous goods and to aid enforcement activities.
- 4.2.3 Authorization for the transport of dangerous goods under normal circumstances should be granted to the operators by the Authority (i.e.: those goods which the Technical Instructions do not indicate as forbidden for transport on passenger aircraft or both passenger and cargo aircraft).
- 4.2.4 The authorization should be granted only once the operator has demonstrated that procedures are in place to handle dangerous goods, that arrangements have been made with the ground handling agent(s) (if applicable), that the operations manual

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and/or other appropriate manuals contain the required information and that training has been given to the appropriate staff.

- 4.2.5 An operator planning to transport dangerous goods as cargo under normal circumstances should submit an application containing as a minimum:
- General information on the identity, contact information and planned operations of the operator;
 - Content of the dangerous goods operation's manual, (see section 4.3) and
 - Content of the dangerous goods training programs for each category of personnel (see section 4.4).

Examples of all information required from the operator are attached
APPENDIX 4-1 - "Application for an Authorization to Transport Dangerous Goods as Cargo"
APPENDIX 4-2 - "Operations Manual's Dangerous Goods Segment"
APPENDIX 4-3 - "Application for Approval of Dangerous Goods Training Programs"

4.3 Inspection of Operations Manual and/or other Appropriate Manuals

- 4.3.1 As required by Annex 6 to the Convention on International Civil Aviation, each air operator shall provide procedure and information, in the operations manual as will enable the flight crew to carry out its responsibilities. The Technical Instructions require the operations manual or other manuals to contain certain information when the operator intends to transport dangerous goods. In addition to this information, the operations manual needs to contain sufficient guidance material and instructions to enable all those concerned (both ground staff and flight and cabin crew) to meet their responsibilities.
- 4.3.2 The operations manual inspection aims to confirm the information provided by the operator is adequate, complete and up-to-date; also that any handling agent has copies of the relevant parts of the manual or other instructions concerning the operator's policy and procedures.
- 4.3.3 When an operator does not intend to transport dangerous goods as cargo or mail, the operations manual is still required to be inspected to ensure it contains information about the policy of the operator in regard to dangerous goods, the policy for the transport of COMAT (company material, spare parts) and instructions about

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the carriage of Crew Members and passengers with dangerous goods in their baggage or on their person.

- 4.3.4 An initial inspection of the operations manual and other staff instructions must be made before an operator start to transport dangerous goods. Following the initial inspection of the operations manual, periodic inspections are to be made if there are some modifications to the operations or regulations.

4.4 Inspection of Training Programs

4.4.1 Approval of Training Programs

- 4.4.1.1 The Technical Instructions require that the operator's initial and recurrent dangerous goods training programs for all staff be reviewed and approved by the Authority. The Technical Instructions sets out the minimum training requirements, required by the various categories of employees involved in the handling, offering or transporting of dangerous goods as it relates to their assigned duties. The inspection is to confirm that training meets the both the requirements of the Technical Instructions and MCAR Part 8.

- 4.4.1.2 Depending on the size of the operator and the responsibilities of his staff, there may be several different training programs, since the areas covered by the training and the depth to which they are covered will depend on the responsibilities of the persons concerned. Even if the operator does not transport dangerous goods as cargo there is still a need for training programs for both operational and ground staff involved in dealing with passengers and their baggage. The dangerous goods training for such staff may be included with the training in, for example, safety and emergency procedures. The content of the training program will vary according to the responsibilities of the staff.

- 4.4.1.3 The initial inspection leading to the approval of the training programs approvals can be carried out as an office activity.

- 4.4.1.4 To approve the operator's training programs, the inspector must review the complete training program, including the exam. Operator's staff must receive training in the requirements commensurate with their responsibilities. If a checklist was required to be submitted with the training program application, the same checklist can be used to assist the inspector in the process of review and approval.

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4.4.2 **Training courses**

- 4.4.2.1 It is important to verify that when an Instructor provides training, the training is provided to the appropriate staff and covers all required aspects depending on their responsibilities. To evaluate the suitability of the program and the Instructor, the inspector should attend a sample of the course.

4.4.3 **Approval Letter**

- 4.4.3.1 Following the initial inspection of the training programs, the inspector will grant an approval if the training programs meet the requirements of the ICAO Technical Instructions and MCAR Part 8.

An example of a Training programs approval letter is attached. APPENDIX “4-4” - “Dangerous Goods Training Programs Approval Letter”
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4.4.4 **Expiry of Approval**

- 4.4.4.1 Training programs approval is issued by the Authority and is valid from date of issuance until such time as there is operational change affecting the dangerous goods operation within the operator, regulatory amendment or such date specified by the Authority. (Normally for 1 Year)

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Chapter 5 Surveillance Plan and Procedures

5.1 Purposes of Surveillance

5.1.1 As required by Annex 18 to the Chicago Convention, each contracting State shall establish process inspection procedures with a view to achieving compliance with its dangerous goods regulations.

“Each Contracting State shall establish inspection, surveillance and enforcement procedures for all entities performing any function prescribed in its regulations for air transport of dangerous goods with a view to achieving compliance with those regulations.

Note 1.— It is envisaged that these procedures would include provisions for

- *inspecting dangerous goods consignments prepared, offered, accepted or transported by the entities referred to in Annex 18 paragraph 11.1;*
- *inspecting the practices of the entities referred to in Annex 18 paragraph 11.1; and*
- *investigating alleged violations (see Annex 18 Paragraph 11.3).*

Note 2.— Guidance on dangerous goods inspections and enforcement may be found in the Supplement to the Technical Instructions (Part S-5, Chapter 1 and Part S-7, Chapters 5 and 6.)

5.1.2 The aim of the surveillance is to assess the suitability of the organisation and processes established by the operator and of the facilities provided for the handling of dangerous goods, taking into account the nature and scale of the operation. If the operator uses a handling agent, the liaison between them needs to be verified to confirm that each knows what is expected of each other.

5.1.3 The establishment of surveillance procedures will ensure that dangerous goods are transported safely without placing an aircraft or its occupants at risk. There are numerous aspects related to the transport of dangerous goods by air to verify during surveillance. The surveillance needs to confirm that the operator has sufficient resources (human and physical) for the intended operation and has identified those individuals who have specific responsibilities and has made them aware of their responsibilities. It will ensure that reference manuals are up-to-date and available to staff who will need to use them.

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5.1.4 The manner of handling and storing dangerous goods in airport premises is inspected to ensure there are no practices which could lead to accidental damage of packages or put staff at risk; and the method of loading and stowage on aircraft is verified to ensure it is carried out according to the requirements.

5.2 Common Locations of Process Inspections

5.2.1 Process inspections are carried out:

- at cargo facilities;
- on the ramp;
- in shipper's facilities (maintenance);
- in passenger terminals;
- occasionally, other places such as security check-points; and
- Shippers, freight forwarders, packaging manufacturers, at a frequency commensurate with the scale and nature of the operation.
- In addition, process inspections include visiting operator's or handling agent's premises, as appropriate.

5.3 Summary of Process Inspection Procedures

5.3.1 Various facilities' process inspections will be explained in subsequent chapters and sample inspection checklists will be reviewed.

5.3.2 The purpose of a process inspection is to verify that the operator meets the requirements of the Myanmar Aircraft Rule No (156), MCAR PART-1 and the ICAO Technical Instructions when transporting dangerous goods by air.

5.3.3 A pre-certification process inspection includes, as a minimum, a review of:

- Operator application to transport dangerous goods in normal or special circumstances;
- Operations manual and other staff instructions; and
- Training programs approvals.

5.3.4 The post certification process inspections or surveillance are designed to verify that the operator keeps the information in the reference manuals up to date and that the manner of handling and storing dangerous goods in airport premises and the method of loading and stowage on aircraft are carried out according to the requirements.

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5.3.5 Surveillance inspections includes among other:

- Inspection of Cargo Facilities;
- Inspection of Passenger Terminals;
- Inspection of Ramp Facilities; and
- Inspection of Shipper's Facilities.

5.4 How to plan a Process Inspection

5.4.1 Pre-Inspection Phase

5.4.2 Before a process inspection is initiated, all information concerning the operator's procedures shall be reviewed. The relevant information should be retrieved from the following sources:

- Operator company files;
- Certification files;
- Operations specifications;
- Company manuals;
- Occurrence reports;
- Previous process inspection records;
- State approvals;
- State exemptions;
- Referral materials; and
- Any other relevant information available.

5.4.3 Once DG inspector have access the relevant information, the process inspection checklists should be preliminary completed with the information to be verified. As an example the latest revision date and number for the Operator's Operations Manual.

5.4.4 On-Site Process Inspection

5.4.4.1 When a process inspection is scheduled, adequate notice should be given to advise the operator / handling agent and arrangements made for access to relevant areas. In some circumstances the process inspection may be made without giving prior notice. However, this may not always be practicable or desirable.

5.4.4.2 On arrival, DG inspector will introduce to the company representative with credential card. Explain to the appropriate person in charge, the reason for the process inspection and areas needed to be accessed. Ensure that DG inspector's

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safety equipment meets the on-site requirements (i.e. safety boots, high visibility vest, etc.). Ask for a representative of the operator to be with DG inspector if not offered. Verify if DG inspector can take pictures on-site.

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Chapter 6 Surveillance Procedures for Cargo Facilities

6.1 General Set-Up

6.1.1 A cargo facility usually has the following areas:

- A non-restricted area, open to the public which include:
 - An area where the documentation for cargo will be accepted
 - An area where the cargo packages will be accepted
 - An area where the cargo packages will be released after arrival
- A restricted area limited to those authorized to be present which include:
 - An outbound area where the outbound cargo will be stored prior to be brought to an aircraft.
 - An inbound area where the inbound cargo will be stored after arrival
- An area where the records will be kept

6.2 Common Hazards

6.2.1 Risk Assessment

6.2.1.1 The level of risk involved in the surveillance to be undertaken must be assessed before that activity commences and should be reviewed at appropriate intervals during the activity, should conditions have changed. The level of risk will be affected by the precautions taken. The Dangerous Goods Inspector must assess the risk and take the appropriate precautions to ensure that the risk is kept as low as reasonably practical. It may be that despite the precautions taken, it will be decided that the surveillance should not be undertaken in the first place, or that it should stop if it has already commenced.

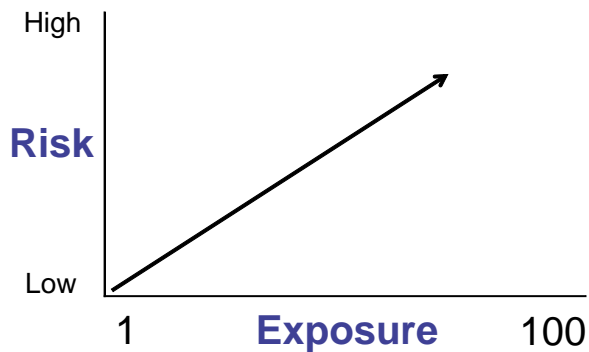
6.2.1.2 Factors to consider when evaluating a risk:

- If the Probability of an incident is HIGH or LOW
- If the Severity of an incident would be SERIOUS or MINOR
- If the Exposure to an incident is MINIMAL or MAXIMAL

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		Probability		
		High	Medium	Low
Severity	Serious	5	4	3
	Medium	4	3	2
	Minor	3	2	1

6.2.1.3 While the probability and severity are concepts easy to establish, the resulted risk assessment will be affected. As an example, the probability of being contaminated by a crushed package containing radioactive materials is low but the severity can be high. This would result in a medium risk. If the cargo facility does not handle packages containing radioactive materials, then the exposure would be low.



6.2.2 Warehouse Safety

6.2.2.1 Normally, handling agents or operators provide health and safety information such as clothing and footwear requirements when visitors first arrive at their premises. In any event, and particularly if such information has not been provided, the Dangerous Goods Inspector should ask about it.

6.2.2.2 It should be determined early on whether there is any unusual activity taking place in the warehouse, prior to entering it, which may require particular attention (such as construction work).

6.2.2.3 Whenever working in a warehouse, shoes or boots with protective toecaps and high visibility reflective clothing should be worn.

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- 6.2.2.4 Many warehouses have specific walkways that should be used but even so, a careful watch must be kept to ensure that manoeuvring vehicles, particularly forklift trucks, are avoided.
- 6.2.2.5 Other hazards that should be borne in mind are wet or slippery floors and trip hazards.
- 6.2.2.6 Most warehouses use racking to store freight and sometimes packages that need to be inspected are stored under a shelf providing low headroom. Care must therefore be taken when inspecting packages and it is often advisable to ask for the packages concerned to be taken out of the racking system first.
- 6.2.2.7 As the exterior of packages may have been contaminated during transport, handling or by the environment, hands should be washed thoroughly as soon as possible, after working in a warehouse, whether or not protective gloves have been worn.

6.3 Areas to Inspect

- 6.3.1 A process inspection report of a cargo facility should include the following topics:
- Identification of Cargo Facility;
 - Past Occurrences;
 - Hidden Dangerous Goods Warnings;
 - Identification of Employees;
 - Training Records;
 - Reference Documents;
 - Transport Documents;
 - Packages Inspected; and
 - Available Tools.

An example of a Cargo Facility Process Inspection Form is attached.

APPENDIX "X" - "Dangerous Goods Operator / Cargo /Shipper /Freight forwarder / Passenger Terminal and Ground Handling Inspection Checklist and Report "

- 6.3.2 The aim of inspecting consignments of dangerous goods is to determine that, as far as can be ascertained from an external check, that the packages and their associated documents comply with the requirements. It also aims to determine, as far as possible, that other associated documentation (e.g. air waybill, dangerous goods transport document, acceptance check list, notification to the Pilot-in-command (NOTOC) meets all applicable requirements.

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- 6.3.3 A cargo facility inspection includes inspection of packages inspection and / or documents inspection.
- 6.3.4 Cargo facility inspections are also carried out, to determine whether or not the operators / handling agent's procedures are being followed.
- 6.3.5 Ideally, the inspection of packages should be done after the dangerous goods have been accepted for transport or whilst they are still in the care of the operator or handling agent.
- 6.3.6 Both export and import consignments are to be inspected but with the emphasis on export consignments since, if a consignment is found which does not comply with the requirements, action can be taken to prevent it from being loaded on an aircraft and investigation initiated into how it was offered for transport and accepted in the condition in which it was found.
- 6.3.7 Import consignments are also to be inspected, since although they have been carried by air, the finding of evidence of non-compliance with the requirements needs to be reported to the State where the goods were originally accepted and loaded on an aircraft.
- 6.3.8 **Early Warning**
- 6.3.8.1 When a cargo facility process inspection is scheduled, adequate notice should be given to advise the operator / handling agent and arrangements made for access to relevant areas. In some circumstances the inspection may be made without giving prior notice. However, this may not always be practicable or desirable. If arrival is unannounced, upon arrival, the most senior operational person on duty should be contacted and informed of the inspection to take place. It should be confirmed which consignments are available for inspection and, if necessary, a final decision made on what will be inspected.
- 6.3.9 **Dangerous Goods in Air Mail**
- 6.3.9.1 Most dangerous goods are not permitted in air mail. There are five exceptions; these are:
- Patient specimens (human and animals);
 - infectious substances assigned to category B (UN3373); and dry ice when used as a refrigerant for them;
 - radioactive material, in excepted packages (UN2910 and UN2911 only);

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- lithium ion batteries contained in equipment (UN 3481) meeting the provisions of Section II of Packing Instruction 967; and
- lithium metal batteries contained in equipment (UN 3091) meeting the provisions of Section II of Packing Instruction 970.

6.3.9.2 The conditions of carriage for both of these are laid down by the Universal Postal Union.

6.3.9.3 For infectious substances (and dry ice), all the applicable requirements of the Technical Instructions, when shipped as cargo, also apply.

6.3.9.4 For radioactive material, a special marking will be needed.

6.3.10 **Spare Labels**

6.3.10.1 If labels are found missing from packages of dangerous goods during transport, they are to be replaced using the information on the appropriate dangerous goods transport document. The Dangerous Goods inspector should verify the presence of spare labels.

6.3.11 **Tools to Secure Dangerous Goods**

6.3.11.1 Packages of dangerous goods need to be secured to prevent movement in flight. This is particularly so for radioactive material, where the securing needs to ensure they cannot move sufficiently to lessen the distance between them and the passengers and/or crew. The Dangerous Goods Inspector should verify the presence, in the facilities of straps for securing dangerous goods in the aircraft.

6.3.12 **Identification of Identification of Unit Loaded Devices (ULD)**

6.3.12.1 If dangerous goods are placed in a unit load device, either the labels on the packages are to be visible or a tag needs to be attached to the unit load device identifying the contents by class/division and whether they are for 'cargo aircraft only'. Once the dangerous goods have been removed from a unit load device, the tag on it needs to be removed immediately. As Unit Load Devices (ULD) is usually prepared in cargo warehouse, the Dangerous Goods inspector should verify the availability of those tags.

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6.4 Special Provisions and Exceptions

6.4.1. Special provisions

- 6.4.1.1 The following are special provisions which should be kept in mind during a process inspection in a cargo facility
- 6.4.1.2 Special Provision A9 - Alcoholic beverages containing not more than 70 per cent alcohol by volume, when packed in receptacles of 5 litres or less, are not subject to the Technical Instructions when carried as cargo.
- 6.4.1.3 Special Provision A26 - Refrigerating machines and refrigerating machine components are considered not subject to the Technical Instructions if containing less than 12 kg of a gas in Division 2.2 or if containing less than 12 L ammonia solution (UN 2672).
- 6.4.1.4 Special Provision A32 – Safety devices, electrically initiated and safety devices, pyrotechnic installed in vehicles, vessels or aircraft or in completed components such as steering columns, door panels, seats, etc., which are not capable of inadvertent activation are not subject to the Technical Instruction.
- 6.4.1.5 Special Provision A44 - The entry chemical kit or first aid kit is intended to apply to boxes, cases, etc., containing small quantities of one or more compatible items of dangerous goods which are used, for example, for medical, analytical or testing or repair purposes. The packing group assigned to the kit as a whole must be the most stringent packing group assigned to any individual substance in the kit.
- 6.4.1.6 Special Provision A70 - Internal combustion or fuel cell engines or machinery being shipped either separately or incorporated into a vehicle, machine or other apparatus, the fuel tank of which has never contained any fuel and the fuel system of which is completely empty of fuel, or that are powered by a fuel that does not meet the classification criteria for any class or division, and without batteries or other dangerous goods, are not subject to the Technical Instructions.
- 6.4.1.7 Special Provision A87 - Articles which are not fully enclosed by packaging, crates or other means that prevent ready identification are not subject to the marking requirements or the labelling requirements.

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- 6.4.1.8 Special Provision A98 - Aerosols, gas cartridges and receptacles, small, containing gas with a capacity not exceeding 50 ml, containing only Division 2.2 gas, are not subject to the Technical Instructions.
- 6.4.1.9 Special Provision A152 - Insulated packagings conforming to the requirements of Packing Instruction 202 containing refrigerated liquid nitrogen fully absorbed in a porous material are not subject to the Technical Instructions.
- 6.4.1.10 Special Provision A154 - Lithium batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).
- 6.4.1.11 Special Provision A183 - Waste batteries and batteries being shipped for recycling or disposal are prohibited from air transport unless approved by the appropriate national authority of the State of Origin and the State of the Operator.
- 6.4.1.12 Special Provision A198 - Hay, straw and bhusa, when not wet, damp or contaminated with oil are not subject to the Technical Instructions.
- 6.4.1.13 Special Provision A199 - Nickel-metal hydride batteries or nickel-metal hydride battery-powered devices, equipment or vehicles having the potential of a dangerous evolution of heat are not subject to the Technical Instructions when properly prepared for transport so as to prevent a short circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals, or, in the case of equipment, by disconnection of the battery and protection of exposed terminals) and unintentional activation.

6.4.2 Exceptions

- 6.4.2.1 Some general exceptions are present in the Technical Instructions and should be taken under considerations during a process inspection. These being where the dangerous goods are:
 - to provide, during flight, medical aid to a patient;
 - to provide, during flight, veterinary aid or a humane killer for an animal;
 - for dropping in connection with agricultural, horticultural, forestry, avalanche control, ice jam control and landslide clearance or pollution control activities;
 - to provide, during flight, aid in connection with search and rescue operations;

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- vehicles carried in aircraft designed or modified for vehicle ferry operations;
- required for the propulsion of the means of transport or the operation of its specialized equipment during transport (e.g. refrigeration units) or that are required in accordance with the operating regulations (e.g. fire extinguishers);
- contained within items of excess baggage being sent as cargo;
- articles and substances which would otherwise be classified as dangerous goods but which are required to be aboard the aircraft in accordance with the pertinent airworthiness requirements and operating regulations or that are authorized by the State of the Operator to meet special requirements.

6.5 Common Non-Compliances

6.5.1 The following are common non-compliances observed in the past.

- Missing hidden dangerous goods warnings
- Undeclared Dangerous Goods
- Non-dangerous goods shipment in package with DG labels
- Failure to train personnel
- Holes in training history
- Missing training files
- Outdated publication
- Failure to ensure that up to date information is available to staff.
- Lack of segregation
- Security tape over labels
- Unmarked overpack
- Failure to ensure that spare labels are available to staff
- Accepting infectious substances without training
- Radioactive package run over by forklift
- Damaged dangerous goods in transit

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Chapter 7 Surveillance Procedures for Passenger Terminal Facilities

7.1 General Set-Up

7.1.1 A Passenger terminal facility usually has the following areas:

- A non-restricted area, open to the public which include:
 - An area where the passenger are checked-in
 - An area where the passenger can purchase tickets
- A restricted area limited to those authorized to be present which include:
 - An area where passenger can board aircrafts
 - An area where passenger can disembark aircrafts
 - An area where the passenger can retrieve their baggage
- An area where the records will be kept

7.2 Common Hazards

7.2.1 Risk Assessment

7.2.1.1 The level of risk involved in the inspection of passenger terminal is low. Nevertheless care should be taken when dealing with undeclared or misdeclared dangerous goods found in baggage.

7.3 Areas to Inspect

7.3.1 A process inspection of a passenger terminal facility includes the following topics:

- Identification of Passenger Handling Facility;
- Past Occurrences;
- Hidden Dangerous Goods Warning;
- Identification of Employees;
- Training Records;
- Reference Documents;
- Handling of wheelchairs or other battery-powered mobility aids with non-spillable batteries;
- Handling of wheelchairs or other battery-powered mobility aids with spillable batteries;
- Handling of lithium-ion battery-powered wheelchairs or other battery-powered mobility aids;
- Handling of Dry Ice in Passenger or Crew baggage;

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- Passenger profile;
- Items Commonly Seized; and
- Available Tools.

7.3.2 Operator's Responsibilities for Providing Information to Passengers

7.3.2.1 In addition to the common inspection to inspect (training, reference documents, documentation, etc.) the Technical Instructions requires that the operator (or his handling agent) provides information to passengers about the types of dangerous goods forbidden from transporting aboard aircraft.

7.3.2.2. Passengers can create safety hazards when they take onboard aircraft, forbidden items. Over the years there have been many in-flight incidents and several accidents that have been attributed to what passengers had taken on board in their baggage. To counter the problem, operators need to be proactive and to ensure their staff and those of their handling agents are trained as required by the Technical Instructions.

7.3.2.3 Operators must inform passengers about dangerous goods that passengers are forbidden to transport aboard an aircraft. The notification system must be described in their operations manual and/or other appropriate manuals. The notification system must ensure that where the ticket purchase and/or boarding pass issuance can be completed by a passenger without the involvement of another person. The system must include an acknowledgement by the passenger that he or she has been presented with the information. The information must be provided to passengers:

- a) at the point of ticket purchase or, if this is not practical, made available in another manner to passengers prior to boarding pass issuance; and
- b) at boarding pass issuance, or when no boarding pass is issued, prior to boarding the aircraft.

7.3.2.4 An operator or the operator's handling agent and the airport operator must ensure that information on the types of dangerous goods which passengers are forbidden to transport aboard an aircraft is communicated effectively to them. This information must be presented at each of the places at an airport where tickets are issued, boarding passes are issued, passenger baggage is dropped off and aircraft boarding areas are maintained, and at any other location where passengers are issued boarding passes and/or checked baggage is accepted. This information must include visual examples of dangerous goods forbidden from transport aboard an aircraft.

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- 7.3.2.5 An operator, of passenger aircraft, should have information on those dangerous goods which may be carried by passengers in accordance with TI 8;1.1.2 made available prior to the boarding pass issuance process on their websites or other sources of information.
- 7.3.2.6 This is one of the reasons why Annex 18 now places the responsibility on States for ensuring information is promulgated for passengers.
- Annex 18 “9.3 Information to passengers”
 - Each Contracting State shall ensure that information is promulgated in such a manner that passengers are warned as to the types of dangerous goods which they are forbidden from transporting aboard an aircraft as provided for in the Technical Instructions.

An example of Passenger Terminal Inspection Form is attached.
APPENDIX “X”- “Dangerous Goods Operator / Cargo /Shipper /Freight forwarder/ Passenger Terminal and Ground Handling Inspection Checklist and Report ”

7.4 Exceptions and Special Provisions

- 7.4.1 The Technical Instructions contains exemptions for dangerous goods in small quantities carried in carry-on or checked baggage or on the person.
- 7.4.2 The crew on an aircraft can only have the items that passengers are permitted to have. Passengers are permitted to take only certain items. All passengers are likely to have some dangerous goods (I.e.: deodorants, shaving foam, duty-free purchases, etc.). Some of the items are only likely to be taken on an aircraft by passengers with specialist need (I.e. wheelchairs with batteries). The full list of dangerous goods passengers are permitted to have is in Part 8 of the Technical Instructions. There are quantity limitations and conditions that apply to all of the items. Some items need operator approval prior to transport.
- 7.4.3 Dangerous goods that are not on the list of permitted items are forbidden in or as passenger’s baggage. Neither operators nor their staff can permit the transport of such items without approval from the relevant authority.
- 7.4.4 The following is the list of dangerous goods that passengers and crew are permitted to have. Specific limitations can be found in Part 8 of the Technical Instructions:

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- **Medical Necessities**

- Small gaseous oxygen or air cylinders required for medical use
- Cylinders of a gas worn for the operation of mechanical limbs
- Non-radioactive medicinal articles (including aerosols).
- Radioisotopic cardiac pacemakers or other devices implanted into a person
- Radio-pharmaceuticals contained within the body of a person as the result of medical treatment
- Battery-powered wheelchairs or other similar mobility aids with non-spillable batteries
- Battery-powered wheelchairs or other similar mobility aids with spillable batteries
- Lithium-ion battery-powered wheelchairs or other similar mobility aids
- Portable medical electronic devices (Automated External Defibrillators (AED), Nebulizer, Continuous Positive Airway Pressure (CPAP), etc.) containing lithium metal or lithium ion cells or batteries carried by passengers for medical use.
- Small medical or clinical thermometer which contains mercury, for personal use

- **Articles used in dressing or grooming**

- Toiletry articles (including aerosols).
- Hair curlers containing hydrocarbon gas
- Alcoholic beverages
- Aerosols for sporting or home use
- Securely packaged cartridges
- Small packet of safety matches or a cigarette lighter
- Battery-powered equipment capable of generating extreme heat, which could cause a fire if activated (e.g. underwater high intensity lamps)
- Avalanche rescue backpack
- Small cylinders fitted into a self-inflating life-jacket for inflation purposes
- Portable electronic devices (watches, calculating machines, cameras, cellular phones, laptop computers, camcorders, etc.) containing lithium or lithium ion cells or batteries
- Fuel cells used to power portable electronic devices (for example cameras, cellular phones, laptop computers and camcorders) and spare fuel cell cartridges
- Dry ice when used to pack perishables

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- Mercurial barometer or mercurial thermometer carried by a representative of a government weather bureau or similar official agency
- Instruments containing radioactive material when carried by staff members of the Organization for the Prohibition of Chemical Weapons (OPCW).
- Energy efficient light bulbs
- **Security-type equipment**
 - Security type equipment such as attaché cases, cash boxes, cash bags, etc. incorporating dangerous goods as part of this equipment.

7.4.5 **Special Provisions**

7.4.5.1 Special Provision A98 - Aerosols, gas cartridges and receptacles, small, containing gas with a capacity not exceeding 50 ml, containing only Division 2.2 gas, are not subject to the Technical Instructions.

7.4.5.2 Special Provision A152 - Insulated packagings containing refrigerated liquid nitrogen fully absorbed in a porous material are not subject to the Technical Instructions provided the design of the insulated packaging would not allow the build-up of pressure within the container and would not permit the release of any refrigerated liquid nitrogen irrespective of the orientation of the insulated packaging and any outer packaging or overpack used is closed in a way that will not allow the build-up of pressure within that packaging or overpack.

7.4.5.2 Special Provision A199 - Nickel-metal hydride batteries or nickel-metal hydride battery-powered devices, equipment or vehicles having the potential of a dangerous evolution of heat are not subject to the Technical Instructions when properly prepared for transport so as to prevent a short circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals, or, in the case of equipment, by disconnection of the battery and protection of exposed terminals) and unintentional activation.

7.4.6 **Exceptions**

7.4.6.1 Some general exceptions are present in the Technical Instructions and should be taken under considerations during a process inspection. These being where the dangerous goods are:

- to provide, during flight, medical aid to a patient.
- to provide, during flight, veterinary aid or a humane killer for an animal;

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- contained within items of excess baggage being sent as cargo;
- articles and substances which would otherwise be classified as dangerous goods but which are required to be aboard the aircraft in accordance with the pertinent airworthiness requirements and operating regulations or that are authorized by the State of the Operator to meet special requirements;
- aerosols, alcoholic beverages, perfumes, colognes, safety matches and liquefied gas lighters carried aboard an aircraft by the operator for use or sale on the aircraft during the flight or series of flights;
- dry ice intended for use in food and beverage service aboard the aircraft; and
- electronic devices, such as electronic flight bags, personal entertainment devices, and credit card readers, containing lithium metal or lithium ion cells or batteries and spare lithium batteries for such devices carried aboard an aircraft by the operator for use on the aircraft during the flight or series of flights.

7.5 Common Non-Compliances

7.5.1 The following are common non-compliances observed in the past:

- Missing hidden dangerous goods warnings
- Undeclared Dangerous Goods
- Non-dangerous goods shipment in package with DG labels
- Holes in training history
- Outdated publication
- Failure to ensure that up to date information is available to staff.
- Failure to provide tools to comply with approved procedures
- Failure to have a process to report dangerous goods discovered in passenger baggage.
- Liquid oxygen onboard
- Mobility Aid battery in cabin
- Dangerous goods in COMAIL

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Chapter 8 Surveillance Procedures for Ground Handling Facilities

8.1 General Set-Up

8.1.1 Ground handling facility usually has the following areas:

- A restricted area limited to those authorized to be present which include:
 - An area where cargo is loaded and unloaded on aircrafts
 - An area where baggage is loaded and unloaded on aircrafts
 - An area where passenger board and disembark aircrafts
- An area where the records will be kept

8.2 Common Hazards

8.2.1 Risk Assessment

8.2.1.1 Many dangerous goods could cause injury or damage to property or the environment in the event of a leakage if they are in a confined space, such as an aircraft cargo hold. As an example, breathing in fumes. Correctly packing dangerous goods and ensuring that leaking or damaged packages are not loaded will make the possibility of them, causing an incident in flight, extremely remote. However, incorrect handling can cause damage during loading and care needs to be taken to prevent accidental damage at this time.

8.3 Areas to Inspect

8.3.1 A process inspection of a ground handling facility includes the following topics:

- Identification of ground handling Facility;
- Past Occurrences;
- Identification of Employees;
- Training Records;
- Reference Documents;
- Transport Documents;
- Packages Inspected; and
- Available Tools.

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8.3.2 Ground Handling Process Inspection (loading and stowage)

8.3.2.1 Ground handling process inspections take place on or adjacent to an aircraft and, sometimes, also in a warehouse / freight shed prior to loading, with the aim of verifying that:

- the operator has prepared for the loading and loaded the aircraft according to the principles of the Technical Instructions;
- that the training of the ground and aircraft crew is valid;
- that all required manuals / staff instructions, etc., are up-to-date; and
- that any necessary approvals / exemptions are being carried and their conditions are being complied with.

8.3.3 Inspections

8.3.3.1 It is important to ensure that packages of dangerous goods are not put on an aircraft when they are damaged or leaking. Once they are accepted for transport, they are likely to be stored in an airport warehouse or transit shed before being loaded on an aircraft; and at this time there is the possibility they may be damaged by a careless action (such as falling off a pallet because they are unsecured or being run-over by a fork-lift truck). It is also possible that packages of dangerous goods may be damaged during a flight if they are not properly secured or if the surrounding cargo is not secured to prevent movement.

8.3.3.2 There are several times during air transport when packages of dangerous goods are required to be inspected to ensure they are not damaged or leaking; these are:

- On acceptance (and to ensure they are correctly marked and labelled and in a fit condition for transport);
- Before loading on an aircraft or being placed in a unit load device; and
- On unloading from an aircraft or unit load device.

8.3.4 Loading and Stowage

8.3.4.1 Packages of dangerous goods are not to be carried in the passenger cabin or on the flight deck. Of course, this does not apply to the dangerous goods that passengers and crew are permitted to have as described in Part 8 of the Technical Instructions.

8.3.4.2 Dangerous goods that are restricted to “cargo aircraft only” must not be loaded on an aircraft carrying passengers. In this context, cargo aircraft and passenger aircraft have been defined and the definitions are in Part 1; 3.1 of the Technical Instructions.

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- “Passenger aircraft. An aircraft that carries any person other than a crew member, an operator’s employee in an official capacity, an authorized representative of an appropriate national authority or a person accompanying a consignment or other cargo.”
- “Cargo aircraft. Any aircraft, other than a passenger aircraft, which is carrying goods or property.”

Note that a “combi” aircraft (Passenger and cargo) is to be treated as a passenger aircraft.

8.3.5 Loading on cargo aircraft

8.3.5.1 Packages or overpacks of dangerous goods bearing the “Cargo aircraft only” label must be loaded on a cargo aircraft in accordance with one of the following provisions:

- a) in a Class C aircraft cargo compartment; or
- b) in a unit load device equipped with a fire detection/suppression system equivalent to that required by the certification requirements of a Class C aircraft cargo compartment as determined by the appropriate national authority (a ULD that is determined by the appropriate national authority to meet the Class C aircraft cargo compartment standards must include “Class C compartment” on the ULD tag);
- c) in such a manner that in the event of an emergency involving such packages or overpacks, a crew member or other authorized person can access those packages or overpacks, and can handle and, where size and mass permit, separate such packages or overpacks from other cargo;
- d) external carriage by a helicopter; or
- e) with the approval of the State of the Operator, for helicopter operations, in the cabin (see TI Part S-7;2.4 of the Supplement)”.

Note.— Cargo compartment classification is described in the ICAO document Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods (Doc 9481).

8.3.5.2 A Class C cargo or baggage compartment is one not meeting the requirements for either a Class A or B compartment but in which:

- a) there is a separate approved smoke detector or fire detector system to give warning at the pilot or flight engineer station;
- b) there is an approved built-in fire-extinguishing system controllable from the pilot or flight engineer station;

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- c) there are means of excluding hazardous quantities of smoke, flames, or extinguishing agent from any compartment occupied by the crew or passengers; and
- d) there are means of controlling ventilation and draughts within the compartment so that the extinguishing agent used can control any fire that may start within the compartment.

8.3.5.3 The above requirements for the loading of dangerous goods bearing the “Cargo aircraft only” label do not apply to:

- a) flammable liquids (Class 3), Packing Group III, other than those with a subsidiary risk of Class 8;
- b) toxic substances (Division 6.1) with no subsidiary risk other than Class 3;
- c) infectious substances (Division 6.2);
- d) radioactive material (Class 7);
- e) miscellaneous dangerous goods (Class 9).

Note – toxic and infectious substances and radioactive material are not required to be accessible since it is considered safer for them to be as far from the flight deck as possible so that in the event of a leakage they are not close to the flight crew.

For the flammable liquid (PGIII) and miscellaneous dangerous goods, it is considered that the hazard presented by these items in the event of a leakage is very low.

8.3.6 Non-pressurized cargo hold

8.3.6.1 When transporting goods in a non-pressurized cargo hold, there will be a large pressure differential at high altitudes. Packages that are filled at a normal atmospheric pressure may not be capable of withstanding this pressure differential. Confirmation of the suitability of the packaging from the shipper may be required.

8.3.7 Packages of dangerous goods which have orientation arrows on them

8.3.7.1 Packages of dangerous goods containing liquids and which have orientation arrows on them need to be kept upright at all times and need to be stowed so they cannot fall over. It should also be ensured that they are kept upright during loading.

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8.3.8 **Securing Dangerous Goods**

8.3.8.1 Packages of dangerous goods need to be secured to prevent movement in flight. This is particularly so for radioactive material, where the securing needs to ensure they cannot move sufficiently to lessen the distance between them and the passengers and/or crew.

8.3.8.2 Damaged packages found before or during loading must not be loaded on an aircraft; and any found on an aircraft need to be removed. Over the years there have been many reports about packages of dangerous goods being found damaged on aircraft; for many of them, the subsequent investigation revealed that inadequate handling was the cause. The Technical Instructions now contain the requirement that an operator needs to protect packages from accidental damage caused by dragging or mishandling during loading or the preparation for loading.

8.3.9 **Segregation**

8.3.9.1 Because of the possibility that dangerous goods will be stowed on an aircraft in close proximity to each other, segregation requirements are needed to ensure that incompatible dangerous goods are kept apart; and in some instances that dangerous goods are kept an adequate distance from persons and animals. The main segregation requirements are summarized in Table 7-1 of the Technical Instructions.

8.3.9.2 The extent to which explosive substances and articles may be stowed together in an aircraft is determined by their “compatibility”. Explosives are considered to be compatible if they can be stowed together without significantly increasing either the probability of an accident or, for a given quantity, the magnitude of the effects of such an accident.

8.3.9.3 Loading of Radioactive Material

- a) Packages of radioactive material that bear hazard labels that have an all white background colour (White-I) do not emit radiation and do not need to be segregated from persons on an aircraft.
- b) Packages of radioactive material bearing hazard labels that have a half white and half yellow background colour do emit varying levels of radiation and the amount is indicated by a Transport Index, which is shown as a number on the hazard label. The practice should be followed of keeping exposure to radiation as low as reasonably achievable.
- c) The separation distances shown in Tables 7-3 and 7-4 from the Technical Instructions are minimum values, and greater distances should be used where

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feasible. As far as possible, packages of radioactive materials stowed in under floor cargo compartments of passenger aircraft should be placed on the compartment floor. If more than one package, overpack or freight container is placed in the aircraft, the minimum separation distance for each individual package, overpack or freight container must be determined in accordance with the table, on the basis of the sum of the transport index numbers of the individual packages, overpacks or freight containers;

- d) If the packages, overpacks or freight containers are separated into groups, the minimum distance from the nearest inside surface of the passenger cabin or flight deck partitions or floors to each group is the distance applicable to the sum of the transport indexes within the individual groups, provided that each group is separated from each other group by at least three times the distance applicable to the one that has the larger sum of transport indexes.

8.3.9.4 Dry ice needs to be stowed taking into account the ventilation rates of an aircraft and the proximity of animals. An operator needs to ensure that the amount of carbon dioxide given off by all the dry ice on an aircraft can be safely dissipated without affecting the crew or passengers; and that animals are not stowed in close proximity to dry ice so they are starved of oxygen.

8.3.10 Identification of the Presence of Dangerous Goods

8.3.10.1 If labels are found missing from packages of dangerous goods during transport, they are to be replaced using the information on the appropriate dangerous goods transport document.

8.3.10.2 If dangerous goods are placed in a unit load device, either the labels on the packages are to be visible or a tag needs to be attached to the unit load device identifying the contents by class/division and whether they are for “cargo aircraft only”. Once the dangerous goods have been removed from a unit load device, the tag on it needs to be removed immediately.

8.3.11 Provision of Information

8.3.11.1 An operator must provide such information in the operations manual and/or other appropriate manuals as will enable flight crews and other employees to carry out their responsibilities with regard to the transport of dangerous goods. This information must include instructions as to the action to be taken in the event of emergencies involving dangerous goods, and details of the location and numbering system of cargo compartments together with:

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- the maximum quantity of dry ice permitted in each compartment; and
- if radioactive material is to be carried, instructions on the loading of such dangerous goods.

Where applicable, this information must also be provided to ground handling agents.

8.3.12 **Notification to the Pilot-in-Command (NOTOC)**

8.3.12.1 Ultimately, packages of dangerous goods are loaded on an aircraft and transported to their destination. They may be in an inaccessible hold on a passenger aircraft or on the main deck of a cargo aircraft; irrespective of their location, the pilot-in-command needs to know they are on board and where they have been stowed. In the event of an in-flight emergency, this information may be crucial to the pilot-in-command in deciding what action needs to be taken.

8.3.12.2 The operator needs to ensure the pilot-in-command receives written or printed notification of the dangerous goods to be carried as cargo on an aircraft. This notification is usually referred to in the air transport industry as the Notification to Pilot in Command (NOTOC). The Notification is usually one of the last documents to be completed when an aircraft is being prepared for departure; and it is the responsibility of the operator or handling agent to ensure it accurately reflects what is on board. When there are dangerous goods still on the aircraft from a previous sector, information about them needs to be included on the document.

8.3.12.3 For each item of dangerous goods the Notification needs to include:

- The air waybill number (when issued);
- The proper shipping name, technical name (if applicable) and UN or ID number;
- The class or division and any subsidiary risk(s)
- The packing group and the number of packages; for radioactive material also the category of the package and transport index;
- Location of the packages;
- The net quantity or gross weight; where the dangerous goods all have the same proper shipping name and UN or ID number, only the total quantity and the largest and smallest quantity per package at each stowage location need be given;
- If any packages must be carried on a cargo aircraft only;
- the aerodrome at which the package(s) is to be unloaded;
- where applicable, an indication that the dangerous goods are being carried under a State exemption; and

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- the telephone number where a copy of the information provided to the pilot-in-command can be obtained during the flight if the operator allows the pilot-in-command to provide a telephone number instead of the details about the dangerous goods on board the aircraft;

The information provided to the pilot-in-command must be readily available to the pilot-in-command during flight.

- 8.3.12.4 This information provided to the pilot-in-command should be presented on a dedicated form and should not be by means of air waybills, dangerous goods transport documents, invoices, etc.. In addition to the languages which may be required by the State of the Operator, English should be used for the information provided to the pilot-in-command. The information provided to the pilot-in-command must also include a signed confirmation, or some other indication, from the person responsible for loading the aircraft that there was no evidence of any damage to or leakage from the packages loaded on the aircraft. The pilot-in-command must indicate on a copy of the information provided to the pilot-in-command, or in some other way, that the information has been received.
- 8.3.12.5 A legible copy of the information provided to the pilot-in-command must be retained on the ground. This copy must have an indication on it, or with it, that the pilot-in-command has received the information.
- 8.3.12.6 A copy, or the information contained in it, must be readily accessible to the flight operations officer, flight dispatcher, or designated ground personnel responsible for flight operations until after the arrival of the flight.
- 8.3.12.7 Many Notifications can be very lengthy, particularly if a cargo aircraft has many consignments on board (i.e.: it has been known for a computerized Notification to be approximately 1 metre in length and for a handwritten Notification to consist of approximately 12 pages). In the event of an in-flight emergency, it is likely to be impractical, if not impossible, for the pilot-in-command to pass on details of all the dangerous goods on a long Notification. If the Notification contains a large number of entries and it is likely to be impractical for all the information to be transmitted in an emergency, a summary can be provided to the pilot-in-command, in addition to the Notification, showing at least the quantities and classes/divisions of the dangerous goods in each cargo compartment.
- 8.3.12.8 In the event of an aircraft accident or incident, the emergency services on the ground and others may need to establish as quickly as possible what was on an aircraft; and

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this information may need to come from ground sources unless the pilot-in-command was able to give sufficient information. To aid in providing information in emergencies, a copy of the Notification needs to be retained on the ground; it can be held electronically (i.e.: in a computer system) or as a hard copy (i.e.: an original copy of the Notification or a fax copy). However, the Notification needs to be readily accessible to the airports of departure and next scheduled arrival point; it could be held by the operator or handling agent or anyone else suitable. If the information is held electronically, it does not need to be sent automatically from the airport of departure to that of scheduled arrival; it would be acceptable for the operator or handling agent to have immediate access to the information via the computer. The Notification needs to remain accessible until after the flight.

8.3.13 Damaged Packages and Contaminated Cargo or Baggage

- 8.3.13.1 If packages of dangerous goods are found damaged or leaking they should never be ignored. There is the possibility that if a package is damaged it may leak. Even if no leakage is immediately visible, a package may be damaged in such a way that inner packagings break allowing dangerous goods to leak into the outer packaging; with the possibility that eventually the integrity of the outer packaging will be destroyed. The leakage of some dangerous goods could cause property damage (i.e.: through a corrosive effect on metal) or a fire (i.e.: by reacting with organic material, such as leather or cotton, to produce great heat) or injury to a person handling either the package or any article contaminated with the leakage. Operators and handling agents are required to take action if damaged or leaking packages of dangerous goods are discovered. Note that metal drums often have minor dents in them that happen during handling; these dents do not constitute the damage referred to in this Chapter, unless there is some other evidence (i.e.: seepage) that suggests the dent has destroyed the integrity of the package.
- 8.3.13.2 If a damaged or leaking package of dangerous goods is found on an aircraft, it is to be removed without delay. All other packages in the consignment are to be checked to confirm they are in a fit condition and are not contaminated. Verification is to be made to ensure that no other cargo or baggage has been contaminated.
- 8.3.13.3 If a package in a consignment leaks for an apparently unknown reason and all the other packages in the consignment are of the same type, there is the possibility that other packages are also leaking; in these circumstances it is important to make a thorough check to confirm that all other packages are fit for transport.

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8.3.13.4 Given the nature of dangerous goods, dealing with leaking packages may be specialist task; since they need to be disposed of safely and contaminated articles either cleaned or disposed of. In many countries, the disposal of dangerous goods is subject to national law for the protection of the environment; operators may need to have arrangements with local specialist organizations for the disposal of items that are found leaking or damaged.

8.3.13.5 A package of an infectious substance may be damaged and it may not be apparent whether or not it is leaking. Since an infectious substance may not be detectable by any of the senses, a damaged package should always be regarded as potentially leaking. If a damaged or leaking package is found to contain an infectious substance:

- Handling of the package should be avoided or kept to a minimum;
- Adjacent packages need to be inspected for contamination and any that are contaminated put aside ;
- The appropriate public health authority or veterinary authority need to be notified; and
- The shipper and or the consignee need to be notified.

Dealing with a leaking package of an infectious substance is a specialist task; the advice of the shipper or consignee or their expertise will always be needed to deal effectively with the package and any contamination.

8.3.13.6 As for infectious substances, a package of radioactive material may be damaged and it may not be apparent whether or not it is leaking. However, inner containers in a package of radioactive material are more robust than for infectious substances and may survive some considerable degree of damage to the outer packaging. Nevertheless, radiation from radioactive material cannot be detected by any of the senses and expert advice will be needed to deal with a damaged package, whether or not it is suspected to be leaking. Note that there is an assumption that any radiation can be detected on radiation monitors, etc.; but it should be noted that different monitors detect different types of radiation. A monitor that detects gamma radiation (which is the external radiation that can be detected emanating from some packages in normal circumstances) may not detect alpha or beta radiation. If a damaged or leaking package is found to contain radioactive material:

- Access to the package needs to be restricted;
- A qualified person needs to assess the extent of contamination and the resultant radiation level of the package;

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- Where applicable, the qualified person also needs to assess the extent of contamination of the aircraft, cargo and baggage and any aircraft equipment and the adjacent loading/unloading areas;
- Any aircraft or aircraft equipment which has been contaminated by radioactive material, or which has a radiation level above the limits in Part 4; 9.1.2 of the Technical Instructions, needs to be taken out of service and decontaminated; and any remaining contamination and the radiation level are to be reduced to the prescribed limits; and
- If necessary to protect property and the environment additional steps, as required by the relevant competent authority, need to be taken to deal with the consequences of the damage to or leakage of a package containing radioactive material.

8.3.16.7 Cargo or baggage that has been contaminated by leaking dangerous goods may not immediately show any adverse reaction or the contamination may not be apparent (i.e.: a liquid may look like rainwater). In time, some dangerous goods may react with the packaging material used for cargo or the leather, plastic, etc., used for baggage, causing damage or a catastrophic reaction, such as a fire. If general cargo or baggage appears to have been contaminated by an unknown substance and it is suspected that it was dangerous goods steps need to be taken to identify the nature and source of the contamination before the cargo or baggage is loaded on an aircraft.

8.3.16.8 If it is confirmed that dangerous goods were the cause of the contamination, the cargo or baggage needs to be isolated and steps taken to nullify the hazard before the cargo or baggage is transported by air. If there is doubt whether the contamination has been successfully removed or nullified, the cargo or baggage should not be transported.

An example of Ground Handling Inspection Form is attached.
APPENDIX "X" - "Dangerous Goods Operator / Cargo /Shipper /Freight forwarder/
Passenger Terminal and Ground Handling Inspection Checklist and Report"

8.4 Exceptions

8.4.1 Some general exceptions are present in the Technical Instructions and should be taken under considerations during a process inspection. These being where the dangerous goods are:

- to provide, during flight, medical aid to a patient;

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- to provide, during flight, veterinary aid or a humane killer for an animal;
- for dropping in connection with agricultural, horticultural, forestry or pollution control activities;
- to provide, during flight, aid in connection with search and rescue operations;
- vehicles carried in aircraft designed or modified for vehicle ferry operations;
- required for the propulsion of the means of transport or the operation of its specialized equipment during transport (e.g. refrigeration units) or that are required in accordance with the operating regulations (e.g. fire extinguishers);
- contained within items of excess baggage being sent as cargo;
- articles and substances which would otherwise be classified as dangerous goods but which are required to be aboard the aircraft in accordance with the pertinent airworthiness requirements and operating regulations or that are authorized by the State of the Operator to meet special requirements;
- aerosols, alcoholic beverages, perfumes, colognes, safety matches and liquefied gas lighters carried aboard an aircraft by the operator for use or sale on the aircraft during the flight or series of flights;
- dry ice intended for use in food and beverage service aboard the aircraft; and
- electronic devices, such as electronic flight bags, personal entertainment devices, and credit card readers, containing lithium metal or lithium ion cells or batteries and spare lithium batteries for such devices carried aboard an aircraft by the operator for use on the aircraft during the flight or series of flights.

8.4.2 Some dangerous goods are not required to appear on the Notification to Pilot in Command. These are:

- UN 2807 Magnetized material
- UN 2908 Radioactive material, excepted package — empty packaging
- UN 2909 Radioactive material, excepted package — articles manufactured from natural uranium or depleted uranium or natural thorium
- UN 2910 Radioactive material, excepted package — limited quantity of material
- UN 2911 Radioactive material, excepted package — instruments or articles
- UN 3090 Lithium metal batteries (including lithium alloy batteries) when meeting the requirements of Packing Instruction 968, Section II
- UN 3091 Lithium metal batteries contained in equipment (including lithium alloy batteries) when meeting the requirements of Packing Instruction 970, Section II
- UN 3091 Lithium metal batteries packed with equipment (including lithium alloy batteries) when meeting the requirements of Packing Instruction 969, Section II
- UN 3245 Genetically modified micro-organisms
- UN 3245 Genetically modified organisms

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- UN 3373 Biological substance, Category B
- UN 3480 Lithium ion batteries (including lithium ion polymer batteries) when meeting the requirements of Packing Instruction 965, Section II
- UN 3481 Lithium ion batteries contained in equipment (including lithium ion polymer batteries) when meeting the requirements of Packing Instruction 967, Section II
- UN 3481 Lithium ion batteries packed with equipment (including lithium ion polymer batteries) when meeting the requirements of Packing Instruction 966, Section II

8.5 Common Non-Compliances

8.5.1 The following are common non-compliances observed in the past:

- Failure to train personnel
- Holes in training history
- Missing training files
- Outdated publication
- Failure to ensure that up to date information is available to staff.
- Lack of segregation
- Failure to ensure that spare labels are available to staff
- Wheelchair battery not disconnected
- Wheelchair not secured
- Dangerous goods not on NOTOC
- No NOTOC
- Staff did not provide NOTOC to Crew
- Unsecured dangerous goods
- Radioactive materials miss loaded
- Wet Package
- Dangerous goods loaded in wrong aircraft
- Dangerous Goods not removed
- No ULD Tag
- DG not off loaded
- DG in wrong location

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Chapter 9 Dangerous Goods Accidents and Incidents

9.1 Introduction

9.1.1 Dealing with a dangerous goods accident or incident is a rare occasion. On the other hand dealing with non-compliance is more common. Since a dangerous goods accident or incident is rarely the result of only one failure, taking proper actions when non-compliance is detected will help prevent a dangerous goods accident or incident.

9.2 Dealing with Non-Compliances

9.2.1 On site action / Initial action findings

9.2.1.1 At any time during an audit or inspection it might become apparent that there are deficiencies in the processes in place, resulting in non-compliance. These deficiencies will have different levels of potential seriousness from the trivial to the serious. A deficiency may be an error or an omission in a process and may affect the expected outcome. The root cause of the deficiencies should be established.

9.2.1.2 Examples of deficiencies may be:

- Not completing an acceptance checklist;
- Out of date reference document;
- Incorrect preparation of a consignment for transport;
- The discovery of undeclared dangerous goods;
- Unsecured dangerous goods onboard an aircraft;
- Lack of training of staff; and
- Lack of segregation between dangerous goods and live animals, etc.

9.2.1.3 When a deficiency is identified, a decision should be taken, based on the apparent root cause of the deficiency, as to what is the appropriate action given the circumstances. Other factors should also be considered before taking appropriate action such as previous recorded history of non-compliances and if this is a reoccurrence of a similar non-compliance.

9.2.1.4 In every situation, the non-compliance must be recorded and the organization(s) responsible should be identified. Evidence must be gathered, such as documents, photographs, etc. which can be used to demonstrating the deficiencies to the potential offender(s).

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9.2.1.5 For each identified non-compliance, a corrective action plan should be required from the organization(s) responsible, to be submitted within 30 days. If under a System Management Safety (SMS) System, the corrective action plan should contain the following elements:

- The probable root causes as identified by their investigation;
- The short-term corrective action plan (within 30 days);
- The long term / system wide corrective action plan (more than 30 days); and
- The method they plan to use to verify the effectiveness of corrective action plans (Specifying the frequency and how the documentation will be retained).

9.2.1.6 Once the corrective action is received, it should be reviewed and if acceptable, accepted. No enforcement action should be taken. All proposed corrective action should be recorded for subsequent verification, depending on the severity (follow up). The data obtained should also be kept in a database for subsequent trend analysis. If the corrective action plan is not acceptable or incomplete, it should be returned to the organization(s) responsible for clarification.

9.2.1.7 Prosecution shall be considered in the following circumstances:

- There is death or serious injury to a person which is directly linked to a non-compliance;
- There is serious harm or risk to the environment, human life or health which is directly linked to a non-compliance;
- The alleged offender concealed or attempted to conceal information in relation to the non-compliance;
- The alleged offender knowingly provided false or misleading information or obstructed the Dangerous Goods Inspector in carrying out his or her responsibilities;
- The alleged offender knowingly ignored the provisions of Myanmar Aircraft Rules and MCARs;
- There is continuing or systemic non-compliance; or
- A Direction or Notice of Detention has been deliberately ignored.

9.2.2 Preparation of report and record keeping

9.2.2.1 A report should be produced no longer than 20 days after an audit or inspection. Before commencing the report, all information, documents, etc., should be reviewed to ensure there are no loose ends or outstanding action. Confirm that all non-

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compliances have been identified and recorded on the inspections checklists, as appropriate; confirm action taken or intended to be taken.

- 9.2.2.2 If there was a dangerous goods incident, ensure action is taken as required. Collate all documents, etc., which are relevant to the report. Include in the narrative any non-compliance found which are considered to be errors by other than the operator / handling agent such as an undeclared dangerous goods shipment discovered by the operator. If taking action on an incident, also include brief details of actions to follow.
- 9.2.2.3 For operators / handling agents, produce a letter to confirm the findings and observations. Send the letter to the responsible person in the organization inspected, usually the Dangerous Goods Coordinator.
- 9.2.2.4 For shippers and others organizations, write a letter to the potential offender seeking an explanation; this will usually preclude the possibility of formal investigation due to prejudicial action.

9.2.3 **Follow-up**

- 9.2.3.1 Follow-up action is required to ensure that all non-compliances identified are followed up to a conclusion. The severity of the non-compliance will affect when a follow-up action is required. Some confirmation may be done from the office, such as verifying that amendments to operating manuals have been made; in other situation, an on-site visit will be required.

9.3 **Dealing with Dangerous Goods Incidents, Accidents and Occurrences**

9.3.1 **Introduction**

- 9.3.1.1 Each State must establish procedures for reporting, investigating and compiling information concerning dangerous goods accident and incident which occur on its territory and which involve the transport of dangerous goods originating in or destined for another State.
- 9.3.1.2 Dangerous Goods accidents and incidents need to be recorded and investigated to establish their cause in order to discover, among other things, if the requirements of the Technical Instructions are inadequate or there has been a violation of them.

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9.3.1.2 It is also recommended that each State participate in cooperative efforts with other States concerning violations of dangerous goods regulations with the aims of eliminating such violations.

9.3.2 Reporting of Dangerous Goods Accidents and Incidents

9.3.2.1 As required by the Technical Instructions, “An operator must report dangerous goods accidents or incidents to the authorities of the State of the operator and the State in which the accident or incident occurred in accordance with the reporting requirements of those appropriate authorities”. A suspected violation of the requirements (undeclared or misdeclared dangerous goods) must also be reported to the appropriate authorities of the State of the operator, or the State in which this occurred.

9.3.2.2 When a report is received of a dangerous goods accident or incident it must be verified as quickly as possible to confirm that all relevant details have been reported. If any details are missing, the reporter is to be asked to supply them as soon as they are available. A review will be undertaken of all information currently available in order to establish what action needs to be taken. If it is decided that no action needs to be taken or action is not possible, the record is annotated to show this. The review will aim to establish whether or not the incident is regarded as serious (i.e.: there is evidence of non-compliance with the Technical Instructions such that there was a potentially unsafe situation) or not serious (e.g.: misunderstanding of the requirements but not resulting in a potentially unsafe situation).

9.3.2.3 The aims of investigating a dangerous goods accident and incident are to establish its potential seriousness and determine the cause so that action can be taken to prevent a recurrence. Also, any other State from which, or through which, the dangerous goods travelled needs to be notified quickly of all relevant details, particularly if it seems likely that persons in that State may have been exposed to the dangerous goods.

9.3.2.4 To aid the reporting of dangerous goods accidents and incidents by operators, a recommended form for reporting is included.

<p>An example of a report form is attached APPENDIX 9-1 - “Dangerous Goods Occurrence Report”</p>

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9.3.3 Investigating of Dangerous Goods Accidents and Incidents

9.3.3.1 As required by Annex 18, with the aim of preventing the recurrence of dangerous goods accidents and incidents, each State shall establish procedures for investigating and compiling information concerning such accidents and incidents which occur on its territory and which involve the transport of dangerous goods originating in or destined for another State.

9.3.4 Dangerous Goods Accident

9.3.4.1 The State in which a dangerous goods accident occurs must forward a notification of the accident with a minimum of delay and by the most suitable and quickest means available to:

- a) the State of Origin;
- b) the State of Registry; and
- c) the State of the Operator.

9.3.4.2 A dangerous goods accident is a very serious occurrence and may involve air accident investigators. If there has been a dangerous goods accident any request for information or assistance from other organisations must be dealt with immediately. Any request from another State for details about the dangerous goods on board an aircraft involved in an accident in that State must also be dealt with immediately.

9.3.4.3 The State in which a dangerous goods accident occurs, involving goods originating in or destined for another State must institute an investigation into the circumstances of the accident.

9.3.4.4 If it becomes known or is suspected that dangerous goods were a causative factor in an aircraft accident, any dangerous goods investigation will need to be coordinated with the air accident investigation.

9.3.4.5 There is information on the recording and investigation of dangerous goods accidents in the Supplement to the Technical Instructions.

9.3.5 Dangerous Goods Incident

9.3.5.1 The State in which a dangerous goods incident occurs, involving goods originating in or destined for another State must transport out an investigation into the circumstances of the incident such as is considered appropriate to its seriousness.

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- 9.3.5.2 Preliminary enquiries will be made to establish what has happened, who is involved and what evidence is available. The enquiries will identify if the incident warrants investigation by professional investigators with the aim of securing evidence for prosecution. If professional investigation is not justified or not possible (e.g.: all evidence needed is not available), a detailed investigation has still to be carried out. This has to be thorough, to confirm the cause and identify the organisations or individuals responsible for the incident.
- 9.3.5.3 When making preliminary enquiries it has to be determined whether the dangerous goods in their current state are a danger to persons. If they are, arrangements must be made to make them safe or dispose of them as quickly as possible, using expert assistance. If an investigation is to be made of the dangerous goods, it is essential that personal safety be taken into account, since many dangerous goods have the potential to cause permanent injury. Protective clothing must be worn, including gloves and goggles. Although it is important to confirm identification of the dangerous goods, this should not be done if in order to do so there is a risk of personal injury.
- 9.3.5.4 On completion of an investigation into a serious incident, a report will be produced outlining the details of the incident, the findings of the investigation and recommended action. The report will be reviewed to determine what further action has to be taken. If the investigation shows that the requirements of the Technical instructions were inadequate or to prevent the recurrence of similar incidents, a report of the incident must be forwarded to ICAO and to the other States concerned. For import consignments, a copy of the report must be sent to the State of Origin and any other State involved. For export consignments, if the report has evidence of wrongdoing such that penalty action is justified against those responsible, this must be initiated.
- 9.3.6 **Cooperation between States in the investigation of DG Accidents and Incidents**
- 9.3.6.1 Annexes 18, Chapter 11.2 recommend that Contracting States should participate in cooperative efforts with other States concerning violations of dangerous goods regulations, with the aim of eliminating such violations. It is envisaged that cooperative efforts include coordination of investigations and enforcement action, exchanging information and joint inspections.
- 9.3.6.2 States need to cooperate in the investigation of occurrences in order to establish what has happened, take remedial action if required and deal with any violator.

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They need to show that they are in joint control of dealing with the response to the occurrence so that a suspected violator cannot try to exploit any situation where one enforcing agency takes a different or more lenient view of an investigation than the other. Cooperation between States is needed to ensure all the relevant information about an occurrence is identified, so that correct decisions can be made as to the measures needed to deal with it and prevent any recurrence. Cooperation is also needed to ensure that where a violator is identified, it is possible to take penalty action no matter in which State the violator is situated.

9.3.6.3 Wherever possible, States should liaise and cooperate with other States on a regular basis, so that the members of the enforcing agencies know the persons to contact in the event of an occurrence and who they would be dealing with in any investigation.

9.3.6.4 If there has been no contact with a State and it is necessary to report an occurrence to them, contact details for the aviation agencies throughout the world can be asked to:

Secretary, Dangerous Goods Panel
International Civil Aviation organization
999 University Street
Montreal, Quebec
Canada, H3C 5H7
TELEX: 05-24513
E-MAIL: krooney@icao.int

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Chapter 10 Exemptions and Approvals

10.1 Introduction

10.1.1 The difference between an “exemption” and an “approval” can be understood by refereeing to the definitions in Annex 18 to the Convention on International Civil Aviation, The Safe Transport of Dangerous Goods which defines them as follow:

“Exemption. An authorization, other than an approval, granted by an appropriate national authority providing relief from the provisions of the Technical Instructions.”

“Approval. An authorization granted by an appropriate national authority for:

- a) the transport of dangerous goods forbidden on passenger and/or cargo aircraft where the Technical Instructions state that such goods may be carried with an approval; or*
- b) other purposes as provided for in the Technical Instructions.*

Note.— In the absence of a specific reference in the Technical Instructions allowing the granting of an approval, an exemption may be sought.”

10.1.2 In the Technical Instructions, approvals are required for the following circumstances:

- when dangerous goods are shipped under special provisions A1 or A2;
- when shipping infected live animals,
- etc.

10.1.3 The Technical Instructions provides for States to grant exemptions to enable the transport by air of dangerous goods which may not be permitted in normal circumstances or in conditions which are different to those prescribed in the Instructions. Such exemptions may only be granted in instances of extreme urgency, when other forms of transport are inappropriate or when full compliance with the Technical Instructions is contrary to the public interest.

10.1.4 The following is offered as guidance to States to determine whether these criteria have been met:

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10.1.4.1 **Extreme urgency.**

10.1.4.1.1 In deciding whether the transport is urgent, States should consider why it is important for a consignment to reach its destination quickly or why it has been necessary to make an application at short notice. Dangerous goods may need to be transported because of:

- humanitarian relief;
- environmental relief;
- pestilence;
- national or international security;
- saving of life (e.g. rescue); and
- limited availability at destination.

10.1.4.1.2 Applications based on commercial reasons only should not be viewed as urgent and carriage by other forms of transport should also be considered.

10.1.4.2 **When other forms of transport are inappropriate.**

10.1.4.2.1 Whilst carriage by other forms of transport may be possible, States should evaluate a risk analysis which should include consideration of:

- **Length of journey.** Transport by other forms may result in an unrealistic journey time and could affect the viability of the dangerous goods;
- **Infrastructure.** The availability of other forms of transport may be limited;
- **Security.** The comprehensive security provisions of the air mode may reduce the possibility of unlawful interference (theft, etc.);
- **Routing.** Transport by air may result in a reduced risk of exposure of the public to the dangerous goods in the event of an incident or accident. The risk of piracy may also be significantly reduced;
- **Cost.** The cost of carriage by other forms of transport may be economically unreasonable. However, the decision to grant an exemption should not be based on cost alone.

10.1.4.3 **When full compliance with the Technical Instructions is contrary to the public interest**

10.1.4.3.1 For example:

- medical applications;
- new technologies; and
- Enhancements in safety.

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10.2 Request for an exemption

10.2.1 When a State is approached for an exemption it is suggested that, if it is appropriate, at least the following information should be supplied before consideration is given to granting an exemption:

- the reason why it is essential the article or substance must be carried by air;
- a statement why the applicant believes the proposal (including any safety control measures specified by the applicant) will achieve a level of safety equivalent to that provided by these Instructions;
- proposed proper shipping name, classification and UN number with full supporting technical data;
- the proposed packaging;
- quantity to be carried;
- any special handling required and any special emergency response information;
- name and address of shipper and consignee;
- the airports of departure, transit and destination and the proposed dates of transport; and
- details of the operator including aircraft type, flight numbers, etc.

An example of an application form for an exemption is attached APPENDIX 10-1 – “Application for Approval or Exemption to Transport Dangerous Goods under special circumstances”
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10.3 Evaluation of an Exemption Request

10.3.1 When granting an exemption, an overall level of safety in transport that is at least equivalent to the level of safety provided by the Technical Instructions must be achieved. In determining an equivalent level of safety, the following should be considered:

- **A review of the applicable regulatory provisions.** This includes the identification of specific provisions that will not be met, thus requiring a determination that an equivalent level of safety has been achieved;
- **A review of any potential increased risk to safety or property that may result from deviating from the provisions in question and identification of the measures considered necessary or appropriate to address that risk.** This should include substantiation with applicable analysis or an evaluation demonstrating that the proposed additional measures will

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achieve a level of safety that is at least equal to that required by the Technical Instructions;

- **A thorough review and risk assessment to identify and evaluate potential risks in transport.** This may include a risk analysis addressing failure modes and effects, a systems safety evaluation, and an explanation of the measures imposed to ensure each risk factor has been evaluated, in order to provide an appropriate level of safety;

10.3.2 When appropriate, **risk mitigation factors and a safety analysis** may be based on analogy to requirements in place for technologies posing similar risks in order to ensure safety and regulatory consistency.

10.4 Issuing an Exemption

10.4.1 When an exemption is to be issued by a State it is suggested that, if appropriate, the following items should be considered to be the minimum requirements to be applied in connection with that exemption:

- Notification should be provided to the authorities at the relevant airports within that State;
- The packing method to be used should, where possible, be as shown in the supplementary dangerous goods list. The packaging to be used should provide a level of safety at least equivalent to that which is needed in order to meet the applicable requirements of Parts 4 and 6 of the Technical Instructions; and
- copies of the relevant exemption documents should be attached to the dangerous goods transport document which accompanies the goods.

10.4.2 When a State grants an exemption it should contain, as a minimum, the following:

- the UN number, proper shipping name and the classification of the goods;
- the packaging and quantity applicable;
- any special handling required and any special emergency response information;
- name and address of shipper and consignee;
- the airports of departure, transit and destination and the proposed dates of transport; and
- The duration of the validity of the exemption, this normally should not exceed a period of two years from the date of issue.

10.4.3 A copy of the exemption must be provided to the operator concerned.

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- 10.4.4 The responsibility for obtaining the above exemption may rest with a State or with the operator or with the shipper, depending on States' national procedures. Generally, the applicant for an exemption should be the party for whom the responsibilities are most relevant, e.g. when an exemption is granted for dangerous goods which are forbidden under normal circumstances, it may be most appropriate for the shipper to apply. However, the exemption must address all affected parties. Irrespective of who is responsible, the operator must be in possession of confirmation that all the required exemptions have been obtained prior to accepting the goods for shipment.
- 10.4.5 Usually an exemption should cover a single occasion, but it may be necessary to issue exemptions to cover multiple occasions and/or multiple shippers.
- 10.4.6 An exemption must not be granted for any dangerous goods indicated as forbidden under any circumstance, as described in the Technical instructions.
- 10.4.7 Where dangerous goods are forbidden on both passenger and cargo aircraft, consideration should ordinarily only be given to carriage on cargo aircraft.
- 10.4.8 Transport on a passenger aircraft should only be considered in exceptional circumstances.
- 10.4.9 Where an exemption or approval is required from more than one State, it is usually most appropriate for the State of Origin to grant the initial exemption because they may have greater awareness of the shipper and the terms and conditions under which the dangerous goods will be shipped. However, there may be circumstances where another State concerned might be better placed to grant the initial exemption.
- 10.4.10 If a States grant an exemption from the prohibition to transport lithium metal batteries on passenger aircraft as per special provision A201, the Authorities issuing the exemption must provide a copy to the Chief of the Cargo Safety Section within three months via email at CSS@icao.int, via facsimile at +1 514-954-6077 or via post to the following address:

Chief, Cargo Safety Section
International Civil Aviation Organization
999 University Street
Montréal, Quebec
CANADA H3C 5H7

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Dangerous Goods Inspector Manual

Chapter 11 Passenger Public Awareness Programme

11.1 Introduction

11.1.1 Each State must insure that information is promulgated in such manner that passengers are warned as to the types of dangerous goods they are prohibited or restricted from transporting aboard an aircraft.

11.1.2 In addition to the mandatory information that must be promulgated by operators, State should encourage all agencies involved in air transport to assist in raising the level of public awareness of the risks of dangerous goods in air transport.

11.2 Awareness Plan Achievement

11.2.1 A Dangerous Goods Awareness Plan should be designed to increase public knowledge in the safe transport of dangerous goods. Providing information to the travelling public may be achieved through the assistance of all agencies involved in air transportation.

11.3 Avenues of Communication

11.3.1 Several avenues of communication are available to assist States in raising the level of public awareness of the risks of dangerous goods in air transportation. Such as:

- Travel agents;
- Tour operators;
- Airport authorities;
- Air operators;
- Sports Associations;
- Outdoors Association;
- Publication in newspapers;
- Magazines;
- Trade publications;
- Newsletters;
- Websites;
- Exhibits at trade shows; and
- Conferences.

Dangerous Goods Inspector Manual

11.3.2 Passenger public awareness devices

11.3.2.1 There are number of devices that may be used to convey easy to understand information to the public regarding restrictions or prohibitions associated with the transport of dangerous goods in passenger transport-on and checked baggage or on the person.

11.3.2.2 Example of Passenger public awareness devices are listed below:

- Posters;
- Brochures;
- Display cabinet;
- Electronic/social media and applications;
- Handouts;
- Websites;
- Information articles; and
- Advisory bulletin.

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Dangerous Goods Inspector Manual

APPENDIXES

- APPENDIX “4-1” - “Application for an Authorization to Transport Dangerous Goods as cargo under normal circumstances”
- APPENDIX “4-2” - “Operations Manual’s Dangerous Goods Segment”
- APPENDIX “4-3” - “Application for Approval of Dangerous Goods Training Programs”
- APPENDIX “4-4” - “Dangerous Goods Training Programs Approval Letter”
- APPENDIX “9-1” - “Dangerous Goods Occurrence Report”
- APPENDIX “10-1” - “Application for Approval or Exemption to Transport Dangerous Goods under special circumstances”
- APPENDIX “X” - “Dangerous Goods Operator / Cargo /Shipper /Freight forwarder/ Passenger Terminal and Ground Handling Inspection Checklist and Report”.

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APPENDIX 4-1
Application for an Authorization to Carry Dangerous Goods as Cargo

Instruction:

1. The form once completed should be returned to the Authority.
2. Failure to complete this form in full may result in a delay in processing the application.
3. The issuing of this form does not in itself constitute an authorization to carry dangerous goods.
4. Throughout this form the term "operator" refers specifically to that so identified in question 1.2.

1. General Information

1.1 Is this application for: INITIAL AUTHORIZATION RENEWAL

1.2 Full legal name of the operator:

1.3 Operating/Trading Name (if different from above):

1.4 Name of the person within the operator with overall responsibility for the transport of dangerous goods by air:

1.5 Address for the person in 1.4:

1.6 Contact numbers for the person in 1.4:

1.6.1 Telephone number: _____

1.6.2 Facsimile number: _____

1.6.3 E-mail address: _____

2. Dangerous Goods Operations

2.1 Classes of dangerous goods

- | | | | |
|----------------------------------|---------------------------------------|---------------------------------------|----------------------------------|
| <input type="checkbox"/> Class 1 | <input type="checkbox"/> Class 4 | <input type="checkbox"/> Division 6.2 | <input type="checkbox"/> Class 9 |
| <input type="checkbox"/> Class 2 | <input type="checkbox"/> Class 5 | <input type="checkbox"/> Class 7 | |
| <input type="checkbox"/> Class 3 | <input type="checkbox"/> Division 6.1 | <input type="checkbox"/> Class 8 | |

2.2 Types of Operations

- Domestic destinations International destinations

APPENDIX 4-1
Application for an Authorization to Carry Dangerous Goods as Cargo

- | | |
|--|--|
| <input type="checkbox"/> Year-round operation | <input type="checkbox"/> Seasonal operation |
| | From: _____ To: _____ |
| <input type="checkbox"/> Aeroplane | <input type="checkbox"/> Helicopter |
| <input type="checkbox"/> Land-base | <input type="checkbox"/> Water-base |
| <input type="checkbox"/> Passenger and cargo | <input type="checkbox"/> Cargo aircraft only |
| <input type="checkbox"/> Combi-operation | <input type="checkbox"/> Medical evacuation operations |
| <input type="checkbox"/> Scheduled passenger
and cargo operations | <input type="checkbox"/> Charter operations |
| <input type="checkbox"/> Transport of company
materials | <input type="checkbox"/> Transport of post |

Applicant's Name: _____ Date: _____

Signature: _____



APPENDIX 4-2
Operations Manual's Dangerous Goods Segment

Name of Air Operator		Date
Name and Title of Dangerous Goods Coordinator		
Telephone	Fax	E-mail

For each of the item listed on the left, indicate in which manual the information is located as well as a precise reference.

No.	Information provided to the employees	S	U	N/O	N/A	Page & Paragraph
1	General Restrictions					
1.1	Types of dangerous goods operations. <ul style="list-style-type: none"> • Aeroplane or/and helicopter operations • International operations • Carrying dangerous goods as cargo • Carrying dangerous goods in mail 					
2	Dangerous Goods Coordinator					
2.1	Contact information for the operator Dangerous Goods Coordinator.					
3	Applicable Regulations					
3.1	The applicable regulations and documents.					
4	Aircraft Specific					
4.1	The location and the numbering system of cargo compartments.					

APPENDIX 4-2
Operations Manual's Dangerous Goods Segment

4.2	Instructions on the loading restrictions.					
4.3	Maximum quantity of dry ice permitted in each compartment.					
4.4	Maximum sum of transport indexes for radioactive material permitted in each compartment.					
5	Training					
5.1	The operator's Training Records.					
5.2	States which employees require training.					
5.3	The frequency of recurrent training.					
5.4	Approved by the Authority.					
6	Passenger Handling					
6.1	Dangerous goods are permitted and not permitted in passenger or crew baggage or on the person.					
6.2	Procedures to prevent Spare batteries for portable electronic devices containing lithium metal or lithium ion cells.					

APPENDIX 4-2
Operations Manual's Dangerous Goods Segment

6.3	Acceptance procedures for passengers and baggage.					
6.4	Information on the types of dangerous goods which a passenger is forbidden to transport aboard an aircraft.					
7	Stores Company Material (COMAT) Shipment					
7.1	Procedure for COMAT.					
7.2	Responsible / qualified person to prepare dangerous goods COMAT for transport.					
8	Acceptance Procedures					
8.1	Procedures for accepting / rejecting dangerous goods cargo.					
8.2	Procedures for handling rejected dangerous goods in cargo.					
8.3	Procedures for accepting general cargo not permitted.					
8.4	Procedures for and the form of promulgating information to those offering dangerous goods or cargo for transport.					

APPENDIX 4-2
Operations Manual's Dangerous Goods Segment

9	Retention of Documents					
9.1	Procedure for documents retained.					
10	Ground Handling					
10.1	Procedures for storing cargo in the course of air transportation, other than on the aircraft.					
10.2	Procedures for replacing lost, detached or illegible safety marks on packages, overpacks, freight or unit load devices.					
10.3	Procedures for loading / unloading dangerous goods onto or from and aircraft.					
11	Load Planning					
11.1	Procedures for load planning (including preparation of NOTOC where applicable).					
12	Emergency Procedures					
12.1	Emergency response information is available and where the pilot-in-command/other crew members can find it.					

APPENDIX 4-2
Operations Manual's Dangerous Goods Segment

12.2	Pilot-in-command is to report emergencies involving dangerous goods.					
12.3	How the NOTOC is accessed during an emergency.					
12.4	Procedures for managing a dangerous goods incident/accident on the ground.					
12.5	Procedures for managing misdeclared or undeclared dangerous goods.					
12.6	Describes the procedures to follow when reporting undeclared or misdeclared dangerous goods as cargo or mail.					
12.7	Procedures to follow when reporting dangerous goods in passenger / crew baggage.					
12.8	Procedures to follow when reporting dangerous goods incidents / accidents.					
12.9	Procedures to follow when reporting dangerous goods dangerous goods are discovered to have been carried without information having been provided to the pilot-in command.					

APPENDIX 4-2
Operations Manual's Dangerous Goods Segment

12.10	In the event of an aircraft accident or serious incident, the operator must have a procedure to provide information without delay to emergency service responders about dangerous goods on board.					
--------------	---	--	--	--	--	--

COMMENTS:	
OVERALL RESULT: SATISFACTORY / UNSATISFACTORY	INSPECTOR SIGNATURE: NAME: DATE:



APPENDIX 4-3
Application for Approval of Dangerous Goods Training Program

Instruction:

1. The form once completed should be returned to the Authority .
2. Failure to complete this form in full may result in a delay in processing the application.
3. The issuing of this form does not in itself constitute an approval of the training program.

Name of Operator	Date submitted
Title of training program	
Type of submission <input type="checkbox"/> Initial Submission <input type="checkbox"/> Amendment	Prior Approval Number (if applicable)
Type of program <input type="checkbox"/> Initial <input type="checkbox"/> Recurrent <input type="checkbox"/> Initial and Recurrent <input type="checkbox"/> Other (specify)	How the training is to be delivered <input type="checkbox"/> Classroom Delivery <input type="checkbox"/> Computer Based Training (CBT) <input type="checkbox"/> Other (specify)
<p style="text-align: center;">Category of personnel who will use the training program</p> <input type="checkbox"/> 01 - Shippers and persons undertaking the responsibilities of shippers <input type="checkbox"/> 02 - Packers <input type="checkbox"/> 03 - Staff of freight forwarders involved in processing dangerous goods <input type="checkbox"/> 04 - Staff of freight forwarders involved in processing cargo or mail (other than dangerous goods) <input type="checkbox"/> 05 - Staff of freight forwarders involved in the handling, storage and loading of cargo or mail <input type="checkbox"/> 06 - Operator's and ground handling agent's staff accepting dangerous goods <input type="checkbox"/> 07 - Operator's and ground handling agent's staff accepting cargo or mail (other than dangerous goods) <input type="checkbox"/> 08 - Operator's and ground handling agent's staff involved in the handling, storage and loading of cargo or mail and baggage <input type="checkbox"/> 09 - Passenger-handling staff <input type="checkbox"/> 10 - Flight crew members, loadmasters, load planners and flight operations officers/flight dispatchers <input type="checkbox"/> 11 - Crew members (other than flight crew members) <input type="checkbox"/> 12 - Security staff who are involved 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 <p style="text-align: center;">Operators not carrying dangerous goods as cargo or mail</p> <input type="checkbox"/> 13 - Operator's and ground handling agent's staff accepting cargo or mail (other than dangerous goods) <input type="checkbox"/> 14 - Operator's and ground handling agent's staff involved in the handling, storage and loading of cargo or mail (other than dangerous goods) and baggage <input type="checkbox"/> 15 - Passenger handling staff <input type="checkbox"/> 16 - Flight crew members, loadmasters, load planners and flight operations officers/flight dispatchers <input type="checkbox"/> 17 - Crew members (other than flight crew members)	

APPENDIX 4-3
Application for Approval of Dangerous Goods Training Program

Please ensure that;

- Every page is identified with a page number, a date and a revision number.
- There is a list of effective pages
- All the applicable training references are inscribed on the “Training Program Reference” column of the form. If the topic is not applicable “N/A” should be inscribed.
- All student handouts exams, answer sheet, correctors and marking details are included.
- The passing grade is mentioned.
- A copy of all audio-visual (transparencies, PowerPoint & movies) is included (if applicable)
- If the program is a Computer Base Training (CBT), submit either the scenario or a copy of the computer program.

APPENDIX 4-3
Application for Approval of Dangerous Goods Training Program

	Aspects of transport of dangerous goods by air with which they should be familiar, as a minimum	S	U	N/O	N/A	Page & Paragraph
1.0	General Philosophy					
1.1	General applicability					
1.2	Definition of Dangerous Goods					
1.3	State and Operator Variations					
1.4	Unit of Measurements					
2.0	Limitation of Dangerous Goods on Aircraft					
2.1	Dangerous goods Forbidden for Transport by Air under any circumstances					
2.2	Exceptions for Dangerous Goods of the Operator					
2.3	Transport of Dangerous Goods by Post					
2.4	Dangerous Goods in Excepted Quantities					
2.5	Dangerous Goods in Limited Quantities					
3.0	General Requirements for shippers					
3.1	General					
3.2	General provision for Class 7					
3.3	Information to employees					
3.4	Training					
3.5	Salvage packaging					
3.6	Empty packaging					
3.7	Mixed packing					
4.0	Classification					
4.1	Classes and divisions					
4.2	Complete List of Classes, divisions and definitions					
4.3	Packing Groups					
4.4	UN Numbers and Proper shipping name					
4.5	Classification of Substances and Articles with Multiple Hazards					
4.6	Transport of samples					
5.0	List of Dangerous Goods					
5.1	Arrangement of the Dangerous Goods List					
5.2	Method of using the Dangerous Goods List for articles or substances specifically listed by name					

APPENDIX 4-3
Application for Approval of Dangerous Goods Training Program

5.3	Mixtures and solution containing one or more dangerous substances					
5.4	Forbidden dangerous goods entries in the Dangerous Goods List					
5.5	Special provision entries in the Dangerous Goods List					
5.6	Quantity Limitations for types of aircraft					
5.7	Dangerous goods in limited quantities					
5.8	Dangerous goods packed in excepted quantity					
6.0	Packing requirements					
6.1	General packing requirements					
6.2	Types of packaging					
6.3	Marking of packaging other than inner packaging					
6.4	Different substances packed together					
6.5	Overpacks					
6.6	Packing Instructions					
6.7	Use of the packing instructions in conjunction with the Dangerous Goods List					
7.0	Labelling and marking					
7.1	Package markings					
7.2	Labelling					
7.3	Overpacks					
7.4	Handling Labels					
8.0	Dangerous goods transport document and other relevant documentation					
8.1	Dangerous goods transport document					
8.2	Certification					
8.3	Air Waybill information					
8.4	Additional documentation for other than radioactive material					

APPENDIX 4-3
Application for Approval of Dangerous Goods Training Program

9.0	Acceptances procedures					
9.1	General inspection requirements before acceptance					
9.2	Inspection for documentation, retention of document, marking, labelling, no leakage and integrity is not compromised					
9.3	Special Responsibilities – Infectious Substances					
9.4	Acceptance Checklist					
9.5	Cargo Acceptance Procedures					
9.6	Undeliverable consignments of radioactive material					
10.0	Recognition of undeclared dangerous goods					
10.1	Provision to aid recognition of undeclared dangerous goods					
11.0	Storage and loading procedures					
11.1	Loading restrictions on the flight deck and on passenger aircraft					
11.2	Loading of incompatible dangerous goods and segregation					
11.3	Loading of packages containing liquid dangerous goods					
11.4	Loading and securing of dangerous goods					
11.5	Damaged Packages of dangerous goods					
11.6	Visibility of marking and labels					
11.7	Replacement of labels					
11.8	Identification of unit load devices containing dangerous goods					
11.9	Handling and Loading of Radioactive Material					
11.10	Loading of magnetized materials					
11.11	Loading of dry ice					
11.12	Loading of UN2211, polymeric beads, expandable or UN3314, plastics moulding compound					
11.13	Handling of self-reactive substances and organic peroxides					
11.14	Handling and loading of intermediate bulk containers (IBCs)					
11.15	Inspection for damage or leakage					
11.16	Damaged or leaking packages of radioactive material contaminated packaging					

APPENDIX 4-3
Application for Approval of Dangerous Goods Training Program

12.0	Pilot's notification					
12.1	Information to Pilot-in-Command					
12.2	Information by Pilot-in-command in case of In-Flight Emergency					
12.3	Information by Operator in case of an Aircraft Accident or Incident (When dangerous goods are on board)					
13.0	Provisions for passengers and crew					
13.1	Information to passengers					
13.2	Passenger check-in procedures					
13.3	List of general descriptions to aid recognition of undeclared dangerous goods					
13.4	Dangerous goods carried by passengers or crew					
14.0	Emergency procedures					
14.1	Definition of dangerous goods accident and incident					
14.2	Reporting of dangerous goods accidents and incidents					
14.3	Reporting of undeclared or misdeclared dangerous goods					
14.4	Reporting of dangerous goods occurrences					
14.5	Information by the operator in case of an aircraft accident or incident					
14.6	Emergency response information					

Note: The dangerous goods activities of the operator and individual employee(s) will dictate the amount of information needed in the training curriculum and the duration of the training program

Declaration and Signature

The information given in this application form is correct to the best of my knowledge and belief.

Applicant's Name: _____ Date: _____

Signature: _____

APPENDIX 4-3
Application for Approval of Dangerous Goods Training Program

COMMENTS:	
OVERALL RESULT: SATISFACTORY / UNSATISFACTORY	INSPECTOR SIGNATURE: NAME: DATE:



APPENDIX 4-4
Dangerous Goods Training Programs Approval Letter

DATE

AIR OPERATOR
ADDRESS

Attention: **NAME**
TITLE

Subject: **Approval of Air Operator Dangerous Goods Training Program for**
“SPECIFY STAFF”

NAME,

The Transport of Dangerous Goods Training Program prepared by **AIR OPERATOR** and submitted for initial and recurrent training of **“SPECIFY STAFF”**, has been evaluated pursuant to the requirements of Part 1, Chapter 4 of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air by reference from **MCAR Part 1 , MCAR Part 8 ,** and it has been determined that the submitted program meets all the requirements.

In accordance with **MCAR Part 1 and MCAR Part 8** in reference to ICAO Technical Instructions Part 1;4.1.2, the **STATE OF AUTHORITY** hereby approves **AIR OPERATOR** dangerous goods training programs. The registration number of this approval is **2017-XXXX**.

This approval is only valid from DD/MM/YY to DD/MM/YY .

This Approval shall have effect from the date hereof until varied, suspended or revoked.

If you require any additional information please contact the undersigned.

Yours truly,

SIGNATURE

NAME
TITLE
DCA, Myanmar



APPENDIX 9-1
Dangerous Goods Occurrence Report

DANGEROUS GOODS OCCURRENCE REPORT

1. Operator:		2. Date of occurrence:		3. Local time of occurrence:	
4. Flight date:		5. Flight no:			
6. Departure airport:		7. Destination airport:			
8. Aircraft type:		9. Aircraft registration:			
10. Location of occurrence:		11. Origin of the goods:			
12. Description of the occurrence, including details of injury, damage, etc (if necessary continue on the reverse of this form):					
13. Proper shipping name (including the technical name):				14. UN/ID no (when known):	
15. Class/division (when known):		16. Subsidiary risk(s):	17. Packing group	18. Category, (class 7 only)	
19. Type of packaging:	20. Packaging specification marking:		21. No of packages:	22. Quantity (or transport index, if applicable):	
23. Reference no of Air Waybill:					
24. Reference no of courier pouch, baggage tag, or passenger ticket:					
25. Name and address of shipper, agent, passenger, etc:					
26. Other relevant information (including suspected cause, any action taken):					
27. Name and title of person making report:				28. Telephone no:	
29. Company:				30. Reporters ref:	
31. Address:				32. Signature:	
				33. Date:	

APPENDIX 9-1
Dangerous Goods Occurrence Report

Description of the occurrence (continuation):

NOTES

1. Any type of dangerous goods occurrence must be reported, irrespective of whether the dangerous goods are contained in cargo, mail or baggage.
2. A dangerous goods accident is an occurrence associated with and related to the transport of dangerous goods which results in fatal or serious injury to a person or major property damage. For this purpose serious injury is an injury which is sustained by a person in an accident and which: (a) requires hospitalisation for more than 48 hours, commencing within 7 days from the date the injury was received; or (b) results in a fracture of any bones (except simple fractures of fingers, toes or nose); or (c) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or (d) involves injury to any internal organ; or (e) involves second or third degree burns, or any burns affecting more than 5% of the body surface; or (f) involves verified exposure to infectious substances or injurious radiation. A dangerous goods accident may also be an aircraft accident; in which case the normal procedure for reporting of air accidents must be followed.
3. A dangerous goods incident is an occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods, not necessarily occurring on board an aircraft, which results in injury to a person, property damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardises the aircraft or its occupants is also deemed to constitute a dangerous goods incident.
4. This form should also be used to report any occasion when undeclared or misdeclared dangerous goods are discovered in cargo, mail or unaccompanied baggage or when accompanied baggage contains dangerous goods which passengers or crew are not permitted to take on aircraft.
5. An initial report, which may be made by any means, must be despatched within 72 hours of the occurrence, to the Authority of the State (a) of the operator; and (b) in which the incident occurred, unless exceptional circumstances prevent this. This occurrence report form, duly completed, must be sent as soon as possible, even if all the information is not available.
6. Copies of all relevant documents and any photographs should be attached to this report.
7. Providing it is safe to do so, all dangerous goods, packaging, documents, etc, relating to the occurrence must be retained until after the initial report has been sent to the Dangerous Goods State Authority and they have indicated whether or not these should continue to be retained.



APPENDIX 10-1
Application for Approval or Exemption to
Transport Dangerous Goods under special circumstances

Note - This form applies to requests to carry dangerous goods where they do not comply with the normal requirements of the Technical Instructions. If there is insufficient space to list all items, they can be listed on a separate sheet. Application should be made at least 10 days before the date of the flight on which the dangerous goods are to be carried and should be submitted to the DCA Myanmar.

Instruction:

1. The form once completed should be returned to the DCA Myanmar.
2. Failure to complete this form in full may result in a delay in processing the application.
3. The issuing of this form does not in itself constitute an authorization to carry dangerous goods.

1. Applicant Details

Name:		Telephone	
Organization:		Fax:	
		Email:	

2. Shipper (if different from applicant)

Name:		Telephone	
Organization:		Fax:	
		Email:	

3. Consignee (if different from applicant)

Name:		Telephone	
Organization:		Fax:	
		Email:	

4. The reason why it is essential the article or substance must be carried by air

5. Details of the Dangerous Goods

UN number	Proper shipping name	Class / Division and Compatibility Group	Packing Instruction	Number of package	Type of package	Net quantity (total)	Gross weight (total)

APPENDIX 10-1
Application for Approval or Exemption to
Transport Dangerous Goods under special circumstances

6. Operational Details

Operator:		Flight number(s):	
Airport of departure:		Airport of destination:	
Date of flight:		AWB number:	

7. Additional Information

Applicant's Name: _____ Date: _____

Signature: _____

5. Inspector's comment

<i>Name and Title of Inspector</i>	Signature	Date
Telephone	Fax	E-mail



APPENDIX "X"

Dangerous Goods Operator / Cargo / Shipper / Freight Forwarder / Passenger Terminal & Ground Handling Inspection Checklist and Report

Name of Operator		Date
Name and Title of Dangerous Goods Coordinator		
Telephone	Fax	E-mail

Location		
Name of Facility		Telephone
Address of Facility		Fax
Name and Title of Contact Person		
Telephone	Fax	E-mail
Type of Operation		
<input type="checkbox"/> Cargo	<input type="checkbox"/> DG Carry Operator	<input type="checkbox"/> DG Non Carry Operator
<input type="checkbox"/> Ground Handling	<input type="checkbox"/> Shipper	<input type="checkbox"/> Freight Forwarder
<input type="checkbox"/> Passenger Terminal	<input type="checkbox"/> Others	

APPENDIX “X”

Dangerous Goods Operator / Cargo /Shipper / Freight Forwarder / Passenger Terminal & Ground Handling Inspection Checklist and Report

		S	U	N/O	N/A
	Training Programme				
1.	DCA Approved				
2.	Current				
3.	Recurrent within 24 months				
4.	Training Record				
	Acceptance of DG				
1.	Acceptance Person				
2.	Manual for Acceptance staffs				
3.	NOTOC				
4.	Documents retained period				
5.	Provision of information				
	Storage, Handling and Loading of DG				
1.	Segregation procedure for leaking and damaging before and after Loading				
2.	Removal of damage or leaking package				
3.	Written or printed information to PIC				
4.	NOTOC with sign for confirmation of no damage and leaking				
5.	One copy to pilot for information				
6.	Emergency response guide (red book)				
	Passenger Check -in				
1.	Airline policy - carrying DG for passenger and crew				
2.	Provision of information to passenger and crew				
3.	Staff of check-in on behalf of operator (training required)				
	Reporting of Dangerous Goods Incident / Accident / Undeclared/Misdeclared/Hidden				
1.	Procedure for occurrence				
2.	Reporting of DG Accident/ Incident/ Occurrence/ Undeclared/Miss declared /Hidden to DCA				
	Training Record				
1.	Staff Training				
2.	Check – in Staff Training				
	Document / Manual				

APPENDIX "X"

**Dangerous Goods Operator / Cargo / Shipper / Freight Forwarder / Passenger
Terminal & Ground Handling Inspection Checklist and Report**

1.	Emergency Procedure				
2.	ICAO TI				
3.	IATA				
4.	DCA Approved				
	Transport Document				
1.	Air Waybill				
2.	Shipper DDG				
3.	Type Certificated of class 7				
4.	Packaging design certificate Class 7 (if applicable)				
5.	Atomic Energy Department Approval				
	Equipment and Tools				
1.	Straps for securing DG				
2.	Spare label for packing/Labels				
3.	ID tag for Unit load device				
4.	Packaging				
5.	Absorbent Materials				
6.	Cushioning Materials				

APPENDIX "X"

**Dangerous Goods Operator / Cargo / Shipper / Freight Forwarder / Passenger
Terminal & Ground Handling Inspection Checklist and Report**

COMMENTS:

OVERALL RESULT:
SATISFACTORY / UNSATISFACTORY

INSPECTOR SIGNATURE:
NAME:
DATE: