



International Civil Aviation Organization

Safety Enhancement Implementation Group

Fourth Meeting (SEIG/4)

(Cairo, Egypt, 23-25 October 2022)

Agenda Item 2: Regional Performance Framework for Safety

**GUIDANCE MATERIAL TO CONDUCT OVERSIGHT TO
ENSURE SAFE TRANSPORT OF DANGEROUS GOODS BY AIR**

(Presented by the Kingdom of Bahrain and the Sultanate of Oman)

SUMMARY

This WP presents guidance material and share best practices to support inspectors of the competent national authorities of ICAO member States intending to address the regulatory, technical and operational aspects of conducting oversight to ensure safe transport of Dangerous goods by air is within prescribed parameters of acceptance and handling by aircraft operators and freight forwarders (hereafter referred to as DG agents). Action by the meeting is described in paragraph 3.

REFERENCES

- ICAO Annex 6 and 18
- ICAO Doc 9284-Technical Instructions for the Safe Transport of Dangerous Goods by Air
- ICAO Doc 9284 Supplement-Technical Instructions for the Safe Transport of Dangerous Goods by Air

1. INTRODUCTION

1.1 The Need: In preparation for the review and development of the MID-RASP 2023-2025 Edition, including the Safety Enhancement Initiatives (SEIs) and their respective actions in line with GASP 2023-2025 to be presented for review to the SEIG/4 scheduled to be held during period 23-25 Oct 2022. G2-SEI-04: A2 is an initiative to enhance State's Oversight capabilities on Dangerous Goods which was preceded by Dangerous Goods (DG) Workshop for State's inspectors jointly conducted by ACAO/ICAO Dangerous Good Webinar held on 8th Nov'2021. The initiative would be achieved by utilising this Working Paper as a reference document to be further developed and expanded upon by member States based on internal framework.

2. DISCUSSION

2.1 In order to have a sustainable development of the aviation industry with a harmonious approach of leaving no country behind in progress made on regulating safe transport of Dangerous goods by air by ICAO member States.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) the SEIs and their respective actions would be further developed upon, in collaboration and as assigned to the Kingdom of Bahrain and the Sultanate of Oman to consolidate the initiative under agenda item G2-SEI-04: A2, of the MID-RASG 2023-2025 Edition;
- b) this WP intends to address the needs of an Inspector assigned to carry out the oversight activities within the realm of safe transport of DG by air for competent authorities of member States. The document would serve as 'ready reckoner' and assist the competent authorities to extrapolate the information and elaborate as necessary based on the DG oversight regime within the State;
- c) this document in conjunction with the **Appendix A** is aimed at providing the outline for guidance to all entities involved in the implementation and oversight of safety controls applied to transport of Dangerous goods by air as set out in ICAO technical Instructions for the safe transport of DG by air (Doc 9284) and the Supplement to the same; and
- d) it is designed with a view to support a harmonised implementation of these controls across all MID-RASP member States of ICAO, wherein participating State shall endeavour to include, but not limited to most of the regulatory parameters as deemed necessary.

ICAO DANGEROUS GOOD
GUIDANCE MATERIAL

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1. GENERAL

1.1 Mandatory

1.1.1 In Pursuance to standards and as necessary by ICAO Annex 18 to the Chicago Convention, each Contracting State shall establish inspection, surveillance and enforcement procedures with a view to achieving compliance with its safe transport of dangerous goods by air regulatory regime. The relevant standards from Annex 18 designed to help the implementation of the air transport of dangerous goods inspection programme and to promote the Inspector's uniform understanding.

1.1.2 The SSP is an integrated set of regulations and activities aimed at improving safety, which includes the critical elements (CEs) of State Safety Oversight (SSO) system and the SSP components. These responsibilities have been integrated in ICAO Annex 19-Safety Management and referred as the State's Safety Management (SM) responsibilities. The aim of the SSP is to combine elements of both prescriptive and performance-based approaches towards management of safety. It is important to implement an SSP in conjunction with the implementation of a Safety Management System (SMS) by service providers. Using SM principles, the relationship between a State and its aviation organization should evolve beyond compliance and enforcement, to a partnership aimed at maintaining or continuously improving safety performance. Therefore, states in order to implement ICAO requirements documented in Annexes 1, 6, 8, 13, 18 and 19 and associated Documents (Doc 9284, Doc 9859, Doc 10102, Doc 9841, Doc 10121, Doc 10147) in the management of Air Cargo Management System including Dangerous Goods aiming to strengthen the oversight process.

1.1.3 Guidance is offered to assist primarily in the inspection of aircraft operators, handling agents and training providers, it further recognises that in some states it is mandatory to conduct inspections on freight forwarding agents and or shippers. This Working Paper outlines the procedures the Dangerous Goods Inspector should follow in conducting his/her duties.

2. DEFINITIONS AND ACRONYMS

2.1 Definitions

2.1.1 The ICAO Annex 18 to the Convention on International Civil Aviation "The Safe Transport of Dangerous Goods by air" and the International Civil Aviation Organisation "Technical Instructions for the Safe Transport of Dangerous Goods by Air" (ICAO TI's) definitions apply.

2.2 Acronyms

- a. "CBTA" means Competency Based Training and Assessment
- b. "DGI" means Dangerous Goods Inspector
- c. "ERAP" means Emergency Response Assistance Plan
- d. "FDG" to be used in Annexes means Finding
- e. "IAEA" means the International Atomic Energy Agency
- f. "IATA" means International Air Transport Association
- g. "ICAO TI" means the current edition of the International Civil Aviation Organisation Technical Instruction for the Safe Transport of Dangerous Goods by Air
- h. "MSDS" means Material Safety Data Sheet
- i. "UN" means United Nations

3. LEGISLATION

3.1 International Regulation

3.1.1 International Civil Aviation Organisation Annex 18 to the Chicago Convention was developed to respond to a demand by Contracting States for an internationally agreed upon set of provisions addressing the safe transport of dangerous goods by air.

3.1.2 The International Civil Aviation Organisation Technical Instructions for the Safe transport of Dangerous Goods by Air contain the detailed technical information needed to support the broad application of provisions of Annex 18 providing a fully comprehensive set of international regulations.

3.1.3 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 ICAO TI by Special Provision A-1, A-2 or A-109), may be specifically authorised for air transport by approval of the appropriate national authority.

3.1.4 The Supplement to the TI provides information to State for the processing of approvals or exemptions. States are encouraged to refer to ICAO Annex 6 Operation of Aircraft, Annex 19 Safety Management, Guidance for Safe Operations Involving Aeroplane Cargo Compartments (Doc 10102), Guidance on a Competency-based Approach to Dangerous Goods Training and Assessment (Doc 10147).

3.2 *National Regulations [SSP Component 1 (State safety Policy, objectives and resources addressing CE 1 Primary aviation legislation, CE 2 specific Operating regulations)]*

3.2.1 ICAO Annex 18 Standards and Recommended Practices for the Safe Transport of Dangerous Goods by air must be established in the state's legislative framework of the civil aviation industry. The law shall have relevant articles or clauses under the relevant law substantiating the enactment and giving powers to the Appropriate National Authority/Competent Authority to establish, maintain, develop and implement such regulations in line with the technical documents mentioned above.

4. DANGEROUS GOODS INSPECTOR CONDUCT AND RESPONSIBILITIES

4.1 *Dangerous Goods Inspector Conduct*

4.1.1 At all times, Inspectors must act in such a manner that speaks well of the Appropriate National Authority and its Inspectors. Every official or company shall be dealt with in an equitable manner. Advice and guidance are frequently sought and must be readily provided in such a manner that public safety and the authority are not compromised.

4.2 *Dangerous Goods Inspector Responsibilities*

4.2.1 The Dangerous Goods Inspector is assigned the following responsibilities:

- a) Inspection and certification to ensure training and competence of:
 - I. Freight forwarding agencies based in the state that receive and process dangerous goods for transport by air;
 - II. Ground Handling Agents acting for Operators that transport dangerous goods by air;
 - III. Approved Training Organisations/schools that conduct dangerous goods acceptance courses, initial and recurrent; and
 - IV. Operators registered/based in the state that are involved in the transport of DG.
- b) Approval of DG packing materials suppliers.
- c) Audit of foreign operators to ensure compliance with state legislation.
- d) Investigation of dangerous goods incidents and accidents.
- e) Recommendation for the grant of exemption for the transport of forbidden dangerous goods.
- f) Other duties as directed by the Appropriate National Authority.

4.3 *Dangerous Goods Inspector Training and Qualifications (this section also addresses the CE 4 Qualified technical personnel)*

4.3.1 The dangerous goods inspector applicant should have relevant experience in commercial air transport operations involving dangerous goods based on a competency framework. Dangerous Goods Inspector shall be "qualified" and "current" to perform the task to which they are assigned based on a competency framework:

- a) Minimum professional qualifications shall be established and implemented for each technical position performing safety oversight functions.
- b) Dangerous Goods Inspector is provided with the technical and administrative training necessary for them to effectively fulfil their safety oversight responsibilities.
- c) Dangerous Goods Inspector is provided the opportunity to continually develop their knowledge and skills related to their respective responsibilities.
- d) Dangerous Goods Inspector is provided with the resources required to undertake necessary training.
- e) This includes but is not limited to financial resources.
- f) The necessary training shall include:
 - I. Initial training;
 - II. Recurrent training;
 - III. On Job Training (OJT) and;
 - IV. Specialized and Recommended training
- g) Any determination of the "qualifications" of the Dangerous Goods Inspector shall be based on an assessment of his experience, formal training, OJT or evidence that the task has direct positive transfer of methodology from similar or related tasks. The previous training or experience shall be assessed by the senior Dangerous Goods Inspector/Flight Safety Director.
- h) Dangerous Goods Inspector shall be current and qualified in accordance with the documented CAA and ICAO requirements. Legality is established by assessing whether the previous experience and recency meet the documented CAA requirements.
- i) Recurrent training, also known as refresher or periodic training, covers and reviews elements of the initial training programme and should be scheduled over a cycle of not more than 5-years and depends on the periodicity of the training.

4.3.2 The competency framework for DG inspector should take in consideration the following:

- a) Ethics and values
- b) Communication
- c) Problem solving and decision making
- d) Initiative
- e) Technical expertise
- f) Systems thinking
- g) Risk management
- h) Leadership and teamwork
- i) Critical thinking

5. DANGEROUS GOODS AUDITS AND INSPECTIONS [SSP component 2 state safety risk management and SSP component 3 State Safety assurance (CE 6 Licensing certification, authorization, and/or approval obligations, CE 7 Surveillance Obligations and CE 8 Resolution of safety issues)]

5.1 Oversight Aims

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

5.1.2 The aim of the inspection is to assess the suitability of the organisation and procedures 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 checked to confirm that each knows what is expected of them by the other.

5.1.3 The establishment of inspection procedures will ensure that dangerous goods are transported safely without placing an aircraft or its occupants at risk.

5.2 Annual Surveillance Programme (ASP) and Reporting Procedures

5.2.1 The designated Lead/Senior Inspector or the entity within the Appropriate National Authority's organisation should prepare an Annual Surveillance Programme (ASP) and the DG Inspectors shall carry out the surveillance audits as per the ASP.

5.3 Surveillance

5.3.1 Surveillance is a planned inspection of an approved facility or part thereof, carried out at regular intervals by the Dangerous Goods entity, to ensure adherence to the laid down requirements by approved organizations for continued approval from Appropriate National Authority. The planned inspections should include station facility, base facility and operator's manuals. Guidance material with Checklists/Forms to be used by Dangerous Goods Inspectors while carrying out the surveillance of operators should be prepared aligning the objectives with Appropriate National Authority and is available in ICAO TI Doc 9284 Supplement. Refer to [Annex B](#) as a sample checklist.

5.4 Oversight Methodology

5.4.1 The oversight will be based on the continuous analysis of data collected under the audit and inspection activities. A risk-based approach will be applied to help with the selection and prioritization of quality-related activities, as well as for any other related decision-making needs.

5.4.2 The oversight activities will use historical data or will continue to collect current data to establish benchmarks for the purpose of determining the risk profile of the individual or entity to be audited. This data will be recorded within the Operator's Risk Assessment File such that an accurate record of findings and subsequent mitigation action applied has reduced or eliminated the recognised finding for each certified operator. This risk profile will be used to decide whether any additional oversight activity is to be performed, and its frequency. States may consider the frequency of incidents and the involvement therein.

5.4.3 In addition to audit performance oversight activities, Appropriate National Authority may conduct spot checks (or any other effective means of gathering feedback) to determine stakeholder expectations, levels of satisfaction, and identify ways to improve oversight overall.

5.5 Surveillance Audit Checklist

5.5.1 Dangerous Goods entity shall design and develop Surveillance Audit Checklists for certified operators concerning the acceptance and carriage of Dangerous Goods including those not certified for the carriage of Dangerous Goods as specified in Annex 18, ICAO Technical Instructions and Supplement, IATA Dangerous Goods Regulations. The Surveillance Audit shall be carried out in

line with the checklist and any findings, other than issues not detailed in the checklist shall be treated and reported as 'observations' in the Audit Report.

5.5.2 The surveillance must consist of the below mentioned points:

- a) Inspector shall ensure that the operator has established the required manuals detailing the procedures required for the carriage of dangerous goods by air.
- b) An operator has developed and uses acceptance checklist as an aid to be in compliance with ICAO TI/IATA DGR Manual.
- c) Loading and stowage of Dangerous Goods on an aircraft is in accordance with the provisions of TI/IATA DGR Manual.
- d) Marking, Package, overpack or ULD (Unit Load Device) containing Dangerous Goods shall be inspected for evidence of leakage or damage before being loaded on an aircraft.
- e) Damaged ULDs shall not be loaded on aircraft.
- f) Loading restrictions inside passenger cabin or on flight deck is in compliance with TI/IATA DGR manual.
- g) Separation and segregation of Dangerous Goods is in compliance with TI/IATA DGR manual.
- h) Inspector shall ensure that the operator has ensured a structured provision of information regarding Notification to the pilot-in-command (NOTOC).
- i) Inspector shall ensure that the operator has defined the provision of information in the event of an aircraft accident/incident.
- j) Operators must secure dangerous goods cargo loads and protect the same from being damaged.
- k) Loading of radioactive Materials should be in compliance with TI/IATA DGR Manual.
- l) Packages of Dangerous Goods bearing "Cargo Aircraft Only" label shall be loaded in accordance with the provisions in the TI/IATA DGR manual.
- m) The operator/shipper must retain a copy of the Dangerous Goods transport document and additional documentation as specified in TI/IATA DGR manual.
- n) Inspector must verify the handling responsibilities if operator is availing services of external handling company.
- o) In case if the operator is availing services from subcontractor, it must verify the appropriate documents and operational manuals are provided to the same.
- p) Inspector must ensure that there is an inspection planned for authorized, non-authorized, national and foreign operators.
- q) Inspector must ensure that the passengers are warned as to the types of dangerous goods that they are prohibited or restricted from transporting aboard an aircraft.
- r) In case of radioactive shipments Air Operators/ Airport Operators/ Ground Handling Agencies shall ensure that these shipments are stored only in the area designated area

5.6 Inspection Procedures

5.6.1 Inspections are carried out at cargo facilities, on the apron, in passenger terminals and, occasionally, other places such as security checkpoints, shippers, freight forwarders, packaging manufacturers, at a frequency commensurate with the scale and nature of the operation. In addition, audit of procedure(s) includes visiting operator's or handling agent's premises, as appropriate.

5.7 Frequency of Inspections

5.7.1 The Technical Instructions does not specify the frequency of such inspections. However, the "Manual of Procedures for Operations Inspection, Certification and Continued Surveillance" ([Doc 8335](#)), produced by ICAO, recommends that all significant aspects of the operator's procedures and practices should be inspected at least once every twelve-month period. Consequently, states should consider inspecting all aspects related to dangerous goods of an operator engaged in the carriage of dangerous goods as cargo on an annual basis, as a minimum. Operators choosing not to

transport dangerous goods as cargo may be inspected at a less frequent rate. A judicious application of management of safety risks should be considered.

5.8 How to Plan an Inspection

5.8.1 Before an inspection is started, all information concerning the operator's procedures shall be inspected.

- a) Pre-Inspection: Examine all relevant operator information such as:
 - I. Operator file, or
 - II. Certification file (AOC)
 - III. Operator Manuals
 - IV. Occurrence report/s
 - V. Previous inspection records
 - VI. State Approvals
 - VII. Referral materials
 - VIII. Any other relevant carrier/company information available
- b) Site Inspection: When an inspection is scheduled, adequate notice should be given to advise the operator /handling agent and arrangements made for access to relevant areas. On some occasions, the inspection may be carried out without giving prior notice. However, this may not always be practicable or desirable.
- c) On arrival:
 - I. Inspector should introduce self to the representative of the inspected organisation and or provide a business card or show credentials, as appropriate;
 - II. State purpose of inspection and request name of appropriate person to contact;
 - III. Explain to appropriate person in-charge, reason for inspection and general inspection process;
 - IV. Ensure safety equipment meets carrier/company requirements;
 - V. Arrange for accompaniment of person in charge.

5.9 Results of Inspections (Including Safety Risk Assessment)

5.9.1 The results of a dangerous goods inspection are recorded so as to produce a record of what was seen and noted at the time. The record must be sufficiently comprehensive to identify any deficiencies, since these will need to be identified in a request to the operator to take action to remedy them. The request to the operator should include a time scale for taking remedial action (refer [Annex A](#)). If during an inspection an Inspector discovers a violation, his response will be determined by various factors which will warrant different courses of action.

5.10 Safety risk assessment and hazard identification to transport Cargo, including Dangerous Goods in the cargo compartment

5.10.1 The Dangerous Goods Inspector shall ensure that the operator carrying or not carrying Dangerous Goods (any Cargo) establishes policies and procedures for the transport of items in the cargo compartment, which include the conduct of a specific safety risk assessment. This risk assessment is part of the initial/renewal certification requirements. The risk assessment shall include at least the following:

- a) hazards associated with the properties of the items to be transported;
- b) capabilities of the operator;
- c) operational considerations (e.g. area of operations, diversion time);
- d) capabilities of the aeroplane and its systems (e.g. cargo compartment fire suppression capabilities);
- e) containment characteristics of unit load devices;
- f) packing and packaging;

- g) safety of the supply chain for items to be transported; and
- h) quantity and distribution of dangerous goods items to be transported

5.10.2 The CAA inspector shall ensure that the risk assessment provided by the Air operator is covering the above-mentioned items during the evaluation as well as the following:

- a) Clear understanding of hazards and their related consequences;
- b) Identification of hazards exist at all levels in the organization and for specified item transported;
- c) Consideration should be taken to the class of Dangerous Goods frequently transported;
- d) Special consideration to lithium batteries, undeclared dangerous Goods and COMAT;
- e) Consequences of the hazards identified: smokes, fumes, fire;
- f) Fire class attached to the type of fire in relation to the materials that are involved;
- g) Source of fuel and potential ignition sources such as Lithium batteries;
- h) Heat or ignition source, oxygen or oxidizing agent to be considered;
- i) The subsequent consequences of the fire must also be considered in the risk mitigation process.

Note: ICAO DOC 10102 provides additional guidelines in this context

6. ESTABLISHMENT OF DANGEROUS GOODS TRAINING PROGRAMME (CE 6 Licensing certification, authorization, and/or approval obligations, CE 7 Surveillance Obligations)

6.1 Introduction

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

6.1.2 The employer must establish and maintain a Dangerous Goods training programme for personnel performing any function described in the state's Guidance material to the aviation industry of the state.

6.1.3 The employer must establish and maintain a Dangerous Goods training programme for personnel who may not perform any function described in this WP but do perform functions related to the movement of cargo, baggage, passengers or mail. The aim of the programme is to ensure personnel are competent to perform functions aimed at preventing undeclared Dangerous Goods are not permitted from being carried on an aircraft.

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

6.1.4 All operators must establish a Dangerous Goods training programme regardless of whether or not they are approved to transport Dangerous Goods as cargo.

6.1.5 Training courses may be developed and delivered by or on behalf of the employer.

7. OBJECTIVE OF DANGEROUS GOODS TRAINING

7.1 Training as per need

7.1.1 The employer must ensure that personnel are competent to perform any function for which they are responsible prior to performing any of these functions. This must be achieved through

training and assessment commensurate with the functions for which they are responsible. Such training must include:

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

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

7.1.3 Personnel must be trained to recognize the hazards presented by Dangerous Goods, to safely handle them and to apply appropriate emergency response procedures as per ERM.

7.1.4 Upon successful completion of the dangerous goods training, a person shall be able to:

- a) Fully understand and differentiate between shipper's and operator's responsibilities;
- b) identify all dangerous goods which are:
- c) forbidden for air transport; or
- d) permitted as cargo in accordance with the Technical Instructions; or
- e) excepted from the requirements of the Technical Instructions.
- f) identify the nine classes of dangerous goods by their principal criteria;
- g) extract the relevant information from the List of Dangerous Goods and apply it;
- h) comprehend and apply the packing instructions;
- i) properly mark and label a dangerous goods package and verify that the marking or labelling requirements have been met;
- j) complete a dangerous goods transport document and verify that the information provided thereon complies with the Technical Instructions.
- k) using an acceptance checklist, correctly accept or reject a shipment;
- l) comprehend and apply the separation and segregation requirements;
- m) comply with the requirements for providing the pilot-in-command
- n) with the pertinent information on the dangerous goods on board the aircraft;
- o) recognize and apply the appropriate State and/or Operator variations; and
- p) apply relevant customized emergency procedures as per ERM.

7.2 Recurrent Training and Assessment

7.2.1 Personnel must receive recurrent training and assessment within 24 months of previous training and assessment to ensure that competency has been maintained. However, if recurrent training and assessment is completed within the final three months of validity of the previous training and assessment, the period of validity extends from the month on which the recurrent training and assessment was completed until twenty-four (24) months from the expiry month of that previous training and assessment.

Note: An example would be the following: If recurrent training is required by the end of May 2023, then any training occurring between March 2023 and the end of May 2023 will result in a new recurrent training date of May 2025.

7.3 Training and Assessment Record

7.3.1 The employer must maintain a record of training and assessment for personnel.

7.3.2 The record of training and assessment must include:

- a) Name of the individual;
- b) The month of completion of the most recent training and assessment;
- c) A description, copy or reference to training and assessment materials used to meet the training and assessment requirements;
- d) The name and address of the organization providing the training and assessment; and
- e) Evidence which shows that the personnel have been assessed as competent.

7.3.3 Training and assessment records must be retained by the employer for a minimum period of thirty-six (36) months from the most recent training and assessment completion month and must be made available upon request to personnel or the Appropriate National Authority's inspectors.

7.3.4 The training records for the CBTA approach shall be as per state regulations.

7.4 Approval of Training Programmes using the CBTA Approach

7.4.1 Dangerous Goods training programmes for operators shall be approved by the Appropriate National Authority in accordance with the Civil Aviation regulations.

7.4.2 Training providers are certified as per state regulations.

7.4.3 A safe and efficient air transport system is dependent upon a competent workforce. ICAO has recognized that this can be achieved through the implementation of a competency-based approach to training and assessment. The Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO Doc 9284, "Technical Instructions") require that employers ensure personnel are competent to perform any function for which they are responsible prior to performing it. A competency-based approach to training and assessment is an effective way to ensure this requirement is met;

7.4.4 The applicable regulation/s of the state shall require operators involved in the transport of Dangerous Goods to train their employees using the competency-based training and assessment approach prior the mandated date 1st January 2023;

7.4.5 The next section provides guidance in implementing a competency-based approach to dangerous goods training and assessment for personnel involved in the transport of cargo, mail, passengers and baggage by air.

7.4.6 The Appropriate National Authority may utilise the Attachment B of Part S-7 of Chapter 8 of ICAO TI (Doc 9284) Supplement as a checklist to document and approve DG training programmes.

8. COMPETENCY BASED TRAINING AND ASSESSMENT (CBTA) APPROVAL PROCESS

8.1 Application for Approval

8.1.1 An application to grant an approval for establishment of a Dangerous Goods Training Programme shall be made to the Appropriate National Authority following the road map set in the state regulations as established/amended.

8.1.2 The application shall be accompanied by the Dangerous Goods Training Manual or equivalent and shall include, in addition to any other relevant information, the following details:

- a) Name of the training organization;
- b) Functions of personnel to be trained (as mentioned in this guideline and the Appropriate National Authority provided tool).
- c) Particulars of the classroom/virtual/CBT/Online this facilities and training aids;
- d) Description of the training materials to be used to meet the training requirements.

- e) Names, qualifications and experience of the senior Instructor and other Instructors;
- f) Maximum number of participants to be enrolled in a class; and
- g) The frequency at which the course is likely to be conducted;

Note: The application form should be published on the Appropriate National Authority's website

8.2 Documentation Evaluation: Dangerous Goods Training Manual or Equivalent

8.2.1 The application form shall be submitted with the supported Documents such as the training manual. The Dangerous Goods Training Manual, (hereinafter Manual) shall, in addition to any other relevant information, contain the following chapters, namely:

- a) Introduction
- b) State's legal regime on carriage of dangerous goods by air
- c) Categories/Functions of personnel to be trained
- d) Qualifications and experience of the instructors
- e) Course Objective
- f) Course Structure/Methodology
- g) Course Contents
- h) Course Schedule/outline
- i) Lesson Plan
- j) Assignments/Exercises
- k) Model Examination Papers (3 sets)
- l) Course Evaluation
- m) Specimen Certificate
- n) Maintenance of Training Records
- o) Instructor Qualification and maintenance

8.2.2 The terms to be used in the Manual shall be in line with those defined in the Technical Instructions and the state Civil Aviation regulations.

8.2.3 A system shall be developed to review and revise the Manual so as to incorporate the amendments, as and when issued, to the provisions of Annex 18 to the Chicago Convention, the Technical Instructions (Doc. 9284 AN/905), the state regulations and the state variation/s (if any), and any other related document. A copy of the Manual so revised shall be submitted to the Appropriate National Authority immediately for concurrence/approval.

Note: The Compliance check list (once established) shall be used by the operators to submit all phases regarding the CBTA.

8.3 Instructor Qualifications and Competencies

8.3.1 To teach effectively, an instructor would need to demonstrate many competencies, and personnel who are nominated/allocated to take up instructing duties should be adequately trained. For competency-based training, the instructors would specifically require:

- a) To instruct on the basis of the training plan and associated training materials. The training plan details the structure and order of the training, which is directly linked to the requirements of the assessment plan.
- b) To understand the merits of and provide timely and continuous feedback on trainee performance. Feedback is an important component of learning that helps the trainees to progress towards the interim and final competency standards. Feedback may be positive to reinforce desirable performance, or it may be information about how a trainee's performance differs from the standard. Feedback should be supportive and timely, and trainees should finish each session with a clear understanding of what they need to do to progress.

c) To use the adapted competency model to identify the root cause(s) of performance related challenges/lags. The adapted competency model, particularly the performance criteria, helps the instructor to analyse a trainee's performance and identify which competencies have not yet been fully mastered. For example, a trainee is routinely becoming overloaded and as a result starts to make poor control decisions. The instructor could easily begin by focusing exclusively on correcting the poor control decisions, however, with the aid of the adapted competency model, the instructor may consider identifying a wider number of possible performance issues that could be the root cause affecting the trainee's performance, including, but not limited to the following:

- I. the trainee's failure to make use of the tools and equipment that increase efficiency;
- II. the trainee putting too much focus on the use of the tools and equipment and thereby digressing or not focussing enough upon the situation;
- III. the trainee is not fully familiar with the standard procedures and is spending significant amount of time to think and work out the modalities of what to do; and/or
- IV. the trainee is not taking appropriate action to ensure that demand does not exceed capacity.

If the instructor in the above example focusses only on correcting the trainee's control actions when in reality the problem is incompetent use of the tools available to increase efficiency, the problem is likely to persist, and very slow progress will be made.

d) To recognize the challenges associated with instructing and diagnosing deficiencies in the cognitive processes, it is not possible to observe what a trainee is thinking, so it is difficult to monitor the development of competencies such as situational awareness, problem-solving and decision-making, etc.

e) At best, the instructor can observe the trainee's performance and infer from the outcomes that the trainee's strategies, problem-solving and planning are effective. However, without any further exploration of the trainee's thinking, it is also possible that the observed outcomes were achieved by chance. To address this challenge, instructors may ask their trainees to explain their control plan prior to carrying it out, their reasons for performing certain actions, or their priorities at a particular moment in time. Of course, the instructor should recognize when it is appropriate to ask these questions and when it would distract the trainees from their tasks.

f) The instructor should also recognize that the questions must be appropriate for the phase of training being conducted, for example, it is unlikely that the questions asked of new trainees who have just started their first training at a unit would be the same as the questions asked of experienced personnel who are undertaking conversion training onto a new system. If it is not possible to ask these questions during the training session, the instructor should save these discussions for the debriefing afterwards. Getting insight into how the trainee is thinking will help the instructor to diagnose if a problem with competencies needs to be addressed.

g) To manage issues related to attitude, it is usually identified in the adapted competency model and elaborated in the evidence guide. Instructors should use the evidence guide to identify attitudinal issues. They should be able to employ the appropriate technique(s) to support trainees in acquiring or adjusting attitudes (e.g. coaching, mental fitness).

8.3.2 Approval of Instructor, the training providers shall submit an application (Application for Training programme approval) a copy of instructor curriculum vitae (CV) and training record with

current Dangerous Goods Regulations certificate in the applicable category commensurate with his/her training delivery along with the training skills certificate.

8.3.3 The approval process shall comprise of the following:

- a) **Step 1:** Application and submission of the documentation required;
- b) **Step 2:** Evaluation of the application and documentation submitted;
- c) **Step 3:** Demonstration by the instructor a lecture under the supervision of the Appropriate National Authority Inspectors or designated personnel;
- d) **Step 4:** Issuance of Approval letter/certificate.

8.3.4 The instructor conducting the Dangerous Goods training must have the following qualifications:

- a) For all categories of dangerous goods, the instructor must hold current certification in DGR CAT 6 and IATA Professional Skills for Dangerous Goods Instructors training.
- b) For Category 6 Instructor, a minimum of five (5) years working experience in Air cargo operations, with a minimum of three (3) years in acceptance, handling and loading of dangerous goods including providing the NOTOC (Notification to the Captain) to the flight crew of an aircraft. Member states can establish their own Instructor qualification criteria based on the national competency matrices.
- c) Category 6 Instructor who is not in compliance with requirement under section 8.3.4(b), shall undertake a practical familiarization in acceptance, handling and loading of dangerous goods including providing the NOTOC (Notification to the Captain) to the flight crew of an aircraft under a senior DGR Category 6 DGR instructor and experienced operations staff. The content and duration of the practical familiarization shall be documented and submitted to Appropriate National Authority for approval.
- d) Instructors shall demonstrate Dangerous Goods Regulations adequate technical knowledge in the category/job function related to his/her training responsibilities and instructional skills to Appropriate National Authority officials.
- e) The dangerous goods instructors shall undergo a simulated or a practical activity every three (3) years in the function related to his/her training responsibilities.

8.3.5 In addition to the above prior to the approval, for conducting the Competency Based Training and Assessment Dangerous Goods Training which shall be in force on 1st January'2023 instructor shall have the following qualifications:

- a) Competency based Training Instructors shall demonstrate "advanced" proficiency level related to the functions they are dealing with according to the Level of Proficiency in Terms of Competency Factors;
- b) Trainee Dangerous Goods instructor using Competency Based Training and Assessment Dangerous Goods Training shall undergo the following process:
 - I. Observation: Observe a course in the same function to be approved for, with a senior instructor;
 - II. Interaction: Prepare a course in the same function to be approved for with a senior instructor; and
 - III. Lead: Conduct, lead and establish a full training and assessment program for functions to be considered in his qualification.

8.3.6 To maintain their qualification, dangerous goods instructors shall comply with the following:

- a) Instructors delivering initial and recurrent dangerous goods training shall at least every 24 months deliver two (2) training courses as a minimum, the training conducted shall be in the function/category in which he has been approved;

- b) or in the absence of point mentioned above, attend a recurrent training in the function/category in which the instructor has been approved.

8.3.7 The process determined in accordance with state regulatory mandates (qualification of instructor) shall be documented in the Training manual and subject to approval by the Appropriate National Authority.

8.3.8 Evidence of all the above-mentioned requirements shall be provided.

9. CERTIFICATION OF FREIGHT FORWARDERS & DG AGENTS (CE 6 Licensing certification, authorization, and/or approval obligations, CE 7 Surveillance Obligations)

9.1 Application

9.1.1 Freight Forwarders, acting on behalf of a shipper and located in and operating from the state, shall be certified by the Appropriate National Authority for the handling of dangerous goods.

9.1.2 Ground Handling Agencies, acting on behalf of an operator and located in and operating from the state, shall also be certified by the Appropriate National Authority for the handling of dangerous goods.

Note: The certification process for Freight Forwarders and Ground Handling Agencies may be the responsibility of another entity within the regulatory framework of the state and is included here for ready reference of the Inspector's information only. Should an audit be requested, it shall be conducted by an Inspector from the designated office of the Appropriate National Authority and recommendations for issuance/non-issuance made to the licence issuing entity.

9.1.3 The requirements for the issue of a certificate are as follows:

- a) An application to be submitted for DG certification on Appropriate National Authority's Form/process or enclosing copies of current training certificates of at least two staff members and a cheque of payment for the annual fee (if any);
- b) Absence of any previous offence which could have led to the revocation of the certificate.
- c) Sufficient staff possessing current DG training certificate (ab-initio or biennial refresher) issued by the Appropriate National Authority approved DG training facility.
- d) Clearance of any discrepancies identified during an inspection of the agency by the Appropriate National Authority;
- e) Unless already procured, the agency must obtain or shall have access to;
 - I. State Regulations
 - II. ICAO Technical Instructions for the Transport of Dangerous Goods by Air (current edition); or
 - III. IATA DG Regulations (current edition).

9.2 List of Appropriate National Authority Certified Agencies

9.2.1 Freight forwarding and ground handling agencies which meet the certification requirements of this section shall be placed on Appropriate National Authority's Certified DG Agencies List.

9.2.2 Freight forwarding and ground handling agencies which have licence/permission/certification suspended or revoked due to incident/ accident involvement are removed from the listing until investigation is over.

9.2.3 Freight forwarding and ground handling agencies which fail either of the following conditions are removed from the listing until such time they comply with the requirements.

- a) maintain the minimum number of required DG trained staff members; or
- b) do not renew their DG Acceptance Certificate;

9.2.4 The Appropriate National Authority may wish to maintain this list but will amend the listing based on recommendation from the licence issuing authority (after audit) to either add or remove an agency from it.

9.2.5 The amended list is then sent to all airport/s, air Cargo warehouse operators/handlers and Ground Handling Agencies with a covering letter.

9.2.6 The affected freight forwarding, and ground handling agency is informed in writing of its addition/deletion from the listing.

Note: Inspectors may wish to maintain a copy of this list in coordination with the issuing authority.

10. CONSIGNMENT INSPECTION AT CARGO FACILITIES (Package and Documents)

10.1 General

10.1.1 The aim of checking consignments of dangerous goods is to determine that, as far as can be ascertained from an external check, the packages and their associated documents comply with the requirements; it also aims to determine, as far as possible, that associated documentation (e.g., air waybill, shipper's declaration, acceptance check list, written notification to commander) meets all applicable requirements.

10.1.2 A consignment inspection consists of a package inspection and a documents inspection. Consignment inspections are carried out, also to determine whether or not the operators/handling agent's procedures are being followed. Inspections are carried out in the operator's or handling agent's premises and after the dangerous goods have been accepted for transport or whilst they are still in the care of the operator or handling agent.

10.1.3 Both export and import consignments are to be inspected, with the added 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 made into how it was offered for transport and accepted in the state in which it has been found.

10.1.4 Import consignments are also to be checked, 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 loaded on an aircraft.

10.1.5 If a consignment inspection is part of an in-depth inspection, check there are procedures in place that are suitable for handling dangerous goods, given the nature and scale of the operation, including recurrence of training, acceptance procedures, notices at cargo acceptance points, loading procedures and provision of information (manuals, NOTOC, emergency response guidance).

10.1.6 When an inspection is scheduled, adequate notice should be given to advise the operator/handling agent and arrangements made for access to relevant areas. In certain cases, the inspection may be carried out without giving prior notice as an Ad-hoc oversight/quality control measure. However, this may not always be practicable or desirable. If the inspection is unannounced, the senior most official on duty responsible for operational functions should be contacted and informed of the inspection. It should be confirmed which consignments are available for inspection and, if necessary, a final decision be made on what will be checked.

10.2 Package Inspection

10.2.1 A package inspection comprises of a visual inspection of the external appearance of all the packages of dangerous goods currently held by the operator or handling agent, irrespective of whether they are due for transport or have been transported, providing they are still in the operator's or handling agent's custody.

10.2.2 The inspection will check that the marking and labelling requirements have been met, that the type of packaging used is permitted and of the correct specification, for radioactive material packages the radiation level and that the packages are, or would appear to have been, in a safe and acceptable state for transport by air.

10.3 Document Inspection

10.3.1 A document inspection is to determine, as far as possible, that a dangerous goods consignment meets all applicable requirements. Information is contained in several documents and to transport the same a thorough check is necessary to cross referring the same with each other is necessary.

10.3.2 Where the operator or handling agent has stored packages of dangerous goods within their premises, the associated documents are to be checked. Wherever there is no package available for inspection, a check of all relevant DG transport documents shall suffice. The method is to look at the documents of every consignment that was carried during a specific period. For export consignments, the documents that need to be inspected are as follows:

- a) The Air Waybill;
- b) The Dangerous Goods Transport Document (Shipper's Declaration);

Note: The purpose of inspecting the Air Waybill, Dangerous Goods Transport Document and other documents relating to a consignment is to ensure that they have been completed correctly and that, as far as can be ascertained, the correct classification and method of packing was used.

- c) The Acceptance Check List;

Note: The Acceptance check list is inspected to establish that the operator or handling agent uses a form or other system which allows for completion by the acceptance clerk, either manually or mechanically, and that consignments of dangerous goods were accepted in accordance with the requirements or that any errors were correctly identified.

- d) The Notification to Captain/Commander (NOTOC);

Note: The Notification to Captain/Commander (NOTOC) is checked to establish that all the required information was given, that the form was correctly signed and that the loading /stowage requirements were met.

- e) Other documents relating to a consignment that may assist in assessing it.

11. RAMP INSPECTION (LOADING AND STOWAGE)

11.1 General

11.1.1 Ramp inspections take place on or adjacent to an aircraft and sometimes, also in a warehouse/freight shed prior to loading, with the aim of checking that the operator has prepared the DG consignment for loading and or loaded the aircraft according to the principles of the Technical Instructions, including the training for the crew (both flight and cabin crew, if appropriate), that all required manuals/staff instructions, etc., are on board and up-to-date and that any necessary approvals/exemptions are being carried and the conditions on them have been complied with.

11.1.2 A ramp inspection is likely to comprise primarily with confirming that loading and stowage of dangerous goods meet the requirements of ICAO Technical Instructions.

11.2 Loading and Stowage

11.2.1 An inspection on loading and stowage includes ensuring that dangerous goods are adequately secured to prevent movement during the flight, as well as to ascertain that any radioactive material has been stowed as per the required and duly maintained segregation distances and that any cargo aircraft only dangerous goods are on the main deck and accessible on a freighter aircraft as per the requirements of the Technical Instructions; and that toxic or infectious substances are not in close proximity to live animals (AVI) or foodstuffs (EAT).

11.3 Training of Crew

11.3.1 An inspection on training for flight crew and cabin crew consists of talking and or interviewing the crew in the form of representative selection from the group asking for details of their last training, with open ended questions such as when it was and who carried it out. Subsequently, the names of crew members interviewed should be recorded and the operator should be advised to provide the details of their training records.

11.3.2 The training inspection should also confirm that both flight and cabin crew understand what actions to take in the event of emergencies whilst the aircraft is in flight, as required by the Technical Instructions.

12. PASSENGER INFORMATION INSPECTION (WARNING NOTICES)

12.1 General

12.1.1 The Technical Instructions requires that the operator (or his handling agent) provide information for passengers about the types of dangerous goods forbidden from transporting aboard aircraft. This information must consist of notices, warning passengers of the prohibition on dangerous goods in baggage, to be prominently displayed and in sufficient numbers so that passengers see them during their normal progression through departure procedures.

12.1.2 The aim of inspecting information provided for passengers is to ascertain those operators (or their agents) are providing such information. The method of inspecting notices is to check those areas in terminals where the operator (or his handling agent) issues tickets, checks in passengers and assembles them to board an aircraft.

12.1.3 The inspection should confirm that notices are at the required places (check-in desks, ticket sales desk and operator-maintained aircraft boarding areas including websites). Notices should be conspicuous and in sufficient number so as to be seen by passengers during their normal progression through the check in procedures through to departure.

12.1.4 The method of inspecting warning material in or with tickets is to ask to look at passenger's tickets or during the web based online check-in portals to be demonstrated by the operator. Passengers must be assured that the inspection concerns operator's responsibilities and in no way directly involves them.

Note: With e-ticketing the terms and conditions for the carriage of dangerous goods should be part of the purchase arrangement.

13. APPROVAL TO CARRY DANGEROUS GOODS & EXEMPTION IN SPECIAL CIRCUMSTANCES

13.1 Conditions and Special Provisions

13.1.1 Whilst the Civil Aviation Authority or the Appropriate National Authority of the state issues a general approval to freight forwarders, handling gents and foreign air operators, one off

approvals or exemptions for the transport of certain classes of dangerous goods which are normally forbidden on passenger aircraft and/or cargo aircraft may be issued by the Appropriate National Authority. Those dangerous goods are identified in Table 3-1 of the ICAO TI by Special Provision A-1, A-2 or A-109 and may include the carriage of:

- a) Transportation of Arms, Ammunition and Explosives
- b) Transport of Forbidden Dangerous Goods
- c) Radioactive Material

13.1.2 The state may offer to propose as a rule that the operator shall inform the Appropriate National Authority of their intention before transportation of dangerous goods by air, by sending an application/letter/email for an authorisation to transport Dangerous Goods in special circumstances. The Technical Instructions make a distinction between exemption and approval and define them as:

- a) **Exemption:** An authorisation issued by the appropriate authority providing relief from the provisions of the Instructions
- b) **Approval:** An authorisation issued by the appropriate authority for:
 - I. transport of those entries in the dangerous goods list which are forbidden on passenger aircraft and/or cargo aircraft and to which Special Provision A1, A2 or A109 has been assigned; or
 - II. other purposes as specified in the Technical Instructions Supplement under chapter 1 of S-1.

13.1.3 In case of extreme urgency or when other form of transport is inappropriate or full compliance with the prescribed requirements is contrary to the public interest, the Appropriate National Authority may grant exemptions as per the provisions provided that in such cases every effort shall be made to achieve an overall level of safety in transport which is equivalent to the level of safety provided by the state regulations. For over-flight, if none of the criteria for granting an exemption are relevant, an exemption may be granted based solely on whether it is believed that an equivalent level of safety in air transport has been achieved. The applicant will need to demonstrate that an "equivalent level of safety" can be achieved and the approval or exemption must contain whatever conditions are necessary to ensure that level of safety, in addition to any conditions which the Technical Instructions identifies as being required on any approval or exemption.

13.1.4 Any conditions on other approvals or exemptions granted by other States concerned in the flight are be reflected on the approval or exemption granted, in order to avoid conflicting requirements. The approvals or exemptions are usually valid for short periods, for a single flight or short series of flights, although if the need arises, they can be granted for longer periods of time. The Technical Instructions contains a system of granting approvals for the carriage of some dangerous goods which are forbidden in normal circumstances on either passenger aircraft or both passenger and cargo aircraft. This system permits these goods on aircraft with an approval granted by the State of Origin.

13.1.5 The approval can only be granted if the method of packing and the quantity per package is in accordance with that set down in the Technical Instructions or the Supplement to the Technical Instructions and these conditions need to be stated on the document of approval which is issued. These approvals are usually valid for short periods, for a single flight or short series of flights, although if the need arises, they can be granted for longer periods of time. After an approval or exemption has been granted, circumstances may arise when all or some of the conditions on it are no longer valid and a variation may be needed; this will vary that part of the original approval or exemption which has changed. Only if some time has elapsed since the original approval, etc., was granted or there is a major difference between what was originally requested and what is now sought is a complete reissue of it to be considered.

14. DANGEROUS GOODS ACCIDENTS AND INCIDENTS (SSP Component 2 State Safety Risk Management)

14.1 Introduction

14.1.1 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.

14.1.2 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.

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

14.2 Reporting of Dangerous Goods Accidents and Incidents

14.2.1 As required by the ICAO 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 authorities”. A suspected violation of the requirements (undeclared or mis-declared dangerous goods) must also be reported to the appropriate authorities of the State of the operator, or the State in which it occurred.

14.2.2 When a report is received of a dangerous goods accident or incident it must be checked as quickly as practicably possible to confirm that all relevant details have been reported. If any details are missing, the reporter should be asked to provide them as soon as they are available.

14.2.3 A review will be undertaken of all information currently available in order to establish what action needs to be taken. Wherever a decision has been made that the situation does not necessitate any further action or action is not possible at that stage, the record is annotated to show the same. 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).

14.2.4 The aim of investigating a dangerous goods accident and incident is to establish its potential seriousness and determine the cause so that action can be taken to prevent a recurrence. Moreover, 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.

14.2.5 To aid the reporting of dangerous goods accidents and incidents by operators please refer to Part S-7, Chapter 4 of ICAO TI (Doc 9284) Supplement. A sample [DG Accident/Incident Reporting Form](#) is hereby made available by the participating states of (Kingdom of Bahrain and the Sultanate of Oman) responsible for this WP, for the benefit of member states, which may be utilised to encourage the Operators to report.

14.3 Investigating of Dangerous Goods Accidents and Incidents

14.3.1 As required by Annex 18, with the aim of preventing the recurrence of dangerous goods accidents and incidents, Appropriate National Authority 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.

14.4 *Dangerous Goods Accident*

14.4.1 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 organizations 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.

14.4.2 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.

14.4.3 If it becomes known or is suspected that dangerous goods were a causative factor in an aircraft accident, any dangerous goods investigation shall be coordinated with the air accident investigation team.

14.4.4 The recording and investigation of dangerous goods accidents as detailed in the Supplement to the Technical Instructions, Part S-7.4 shall be observed at all times.

14.5 *Dangerous Goods Incident*

14.5.1 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.

14.5.2 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 still needs to be carried out. The process shall be thorough, to confirm the cause and identify the organizations or individuals responsible for the incident.

14.5.3 When making preliminary enquiries it must be determined whether the dangerous goods in their current state are a danger to persons. If the above is established, arrangements must be made to either make them safe, or dispose them of 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 harm/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.

14.5.4 Upon completion of an investigation of a serious incident, a report shall 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 ICAO 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 in transfer or transit of such DG. For export consignments, if the report has evidence of wrongdoing such that penalty action is justified against those responsible, this must be initiated.

14.6 *Recording of Dangerous Goods Accidents and Incidents*

14.6.1 A record is to be maintained of all reported dangerous goods accidents and incidents. The aim is for the record to be kept in such a way that all relevant details are included for each accident and incident, so as to provide a permanent record of all reportable accidents and incidents, to allow for a review to establish the cause, to facilitate reporting to other involved States and to allow analysis to establish weaknesses in the requirements or trends. The record can be used also to establish if a

particular shipper, operator, agent, etc., is involved in numerous reported incidents and presents a valid justification for an in-depth investigation.

14.6.2 Details of an accident or incident are to be entered into the record as soon as possible, even if initially few details are known; it is to be up-dated as additional information becomes available. The record will indicate when all action on an accident or incident is complete, and a review made at regular intervals to identify any outstanding action. Past records are not destroyed but may be archived, providing they can be retrieved if the need arises.

14.7 Cooperation between States in the investigation of DG Accidents and Incidents (SSP component 4 State Safety promotion: internal and External communication and dissemination of safety information)

14.7.1 Annexe 18, Section 11.2 recommends 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.

14.8 The Aims of Cooperation between States

14.8.1 States need to cooperate in the investigation of occurrences in order to establish what has happened, take remedial action if required and deal with an entity responsible for the violation.

14.8.2 States need to demonstrate that they are jointly in control of 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.

14.8.3 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.

14.8.4 Cooperation is also needed to ensure that where a violator is identified, it is possible to take action, notwithstanding the State where the entity responsible for the violation is situated and penalties could be imposed.

14.9 Liaison and Cooperation between States

14.9.1 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. A list of National Authority for DG by Air is available through this [link](#).

14.9.2 If no contact has been established with other member States and it is necessary to report an occurrence to them, assistance of ICAO may be sought in this regard:

International Civil Aviation organization
Dr. Katherine Rooney
Chief, Cargo Safety Section
E-mail: CSS@icao.int

15. PASSENGER PUBLIC AWARENESS PROGRAMME

15.1 Introduction

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

15.1.2 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.

15.2 Awareness Plan Achievement

15.2.1 A Dangerous Goods Awareness Plan should be designed to increase public knowledge in the safe transport of dangerous goods.

15.2.2 Providing information to the travelling public may be achieved through the assistance of all agencies involved in air transportation.

15.3 Avenues of Communication

15.3.1 Several avenues of communication are available to assist States in raising the level of public awareness of the risks of transport of dangerous goods by air. This could be achieved through the following:

- a) Travel agents
- b) Tour operators
- c) Airport authorities
- d) Aircraft operators
- e) Sports Associations
- f) Outdoor Associations
- g) Publication in newspapers
- h) Magazines
- i) Trade publications
- j) Newsletters
- k) Websites
- l) Exhibits at trade shows
- m) Conferences.

15.4 Passenger Public Awareness Devices

15.4.1 There are number of methods 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 carry-on and checked-in baggage or on the person. Some passenger-public awareness methods/tools are as follows:

- a) Posters
- b) Brochures
- c) Display cabinets
- d) Electronic media
- e) Handouts
- f) Websites
- g) Information articles
- h) Advisory bulletin.

15.5 Availability of Materials for Passenger Public Awareness Programme

15.5.1 The ICAO Technical Instructions Supplement, Appendices to Part S-8 illustrates some examples of material that may be used for a passenger public awareness programme. Some industry websites also cater to the passenger awareness information and are also available from ICAO Dangerous Goods Panel Secretary. The artwork for some of the above methods is available with ICAO, alternatively for further information the State may contact:

Dr. Katherine Rooney
Chief, Cargo Safety Section
E-mail: CSS@icao.int

16. SOURCE OF ADDITIONAL INFORMATION

16.1 Introduction

16.1.1 Each State should participate in cooperative efforts with other Appropriate National Authorities concerning the transport of dangerous goods with the aim of eliminating violations of the regulations as other regulations might have an impact on the safe transport of Dangerous Goods by air. Cooperative efforts could include joint inspections, technical liaisons, exchange of information and joint meeting and conferences. Participation by the industry stakeholders and other regulatory bodies is paramount. Appropriate information that could be exchanged includes safety alerts, bulletins or advisory, incident reports, and educational/outreach materials suitable for public dissemination.

16.2 Cooperation

16.2.1 Please refer to [14.7](#) , [14.8](#) and [14.9](#) for international cooperation between states.

16.3 Objectives

16.3.1 Participation towards development of recommendations for amendments to ensure implementation within the state's regulations governing Dangerous Goods.

16.3.2 To develop and approve documentary requirements and procedures for the handling and processing of dangerous goods.

16.3.3 Providing for a forum allowing member airlines to exchange and develop information specific to the transport of dangerous goods contained in company material (COMAT) with regular meetings at regular intervals, as appropriate, between the participating agencies, wherein inter-alia, the promotion of an open dialogue with operators throughout the state to ensure safe and compliant operations should be encouraged.

16.3.4 Implementing a strategy for effective dangerous goods training standards within the state based on industry best practice for operators, Ground Handling Agents (GHA) and freight forwarders

16.3.5 Developing checklists and other tools to be used in establishing "proof of compliance" checks for dangerous goods safety standards in accordance with the state regulations and ICAO Technical Instructions.

16.4 Dangerous Goods Websites

16.4.1 Appropriate National Authority should endeavour to provide updated information to the industry pertaining to state specific requirements regarding authority and or limitations using a public website:

- a) Overview of Appropriate National Authority for Safe Transportation of Dangerous Goods and associated programme
- b) Provisions for dangerous goods carried by passengers focussed upon public awareness.
- c) National regulations on the transportation of dangerous goods by air
- d) Relevant and applicable amendments to regulatory documents
- e) Newsletter and necessary additional information (e.g. safety bulletins etc.)
- f) Links to ICAO, IATA and or other dangerous goods related websites (government, associations, industry).
- g) A set of Frequently Asked Questions and Answers

- h) List of contacts either of Government contacts or resources associated with the industry within the state.
- i) Dangerous goods primer addressing the following areas:
 - I. Dangerous goods definitions
 - II. Training
 - III. Classification, proper shipping names and UN numbers
 - IV. Quantity limitations
 - V. Packaging standards
 - VI. Marking and labelling
 - VII. Documentation

17. ANNEXES (SAMPLE CHECKLISTS: FREIGHT FORWARDERS AND CARGO AGENTS)

17.1 Annex - A

DGR Inspection LOG														
Sl. No.	Freight Agency / Aircraft Operator	Phone	Mobile	email	Contact Person	Expiry Date	Proposed Inspection Date	Actual Inspection Date	Report date	Corrective Action Deadline	Revisit date	PPM Benchmark (Working days)	Actual PPM	Remarks
										Minor observations & Recommendations given 7 days.				Revised SOP provided on (date)

17.2 Annex - B

State/ICAO TI / IATA DGR Standard Identifier	Audit Questions	Compliance (Quote Relevant State Act/Regulation or Document Reference) *	Compliant	Non-Compliant	Not Applicable	Comments
Company name:						Date:
Documentation						
	Is the agency an IATA or FIATA authorized member?	Confirm with authorised and valid Commercial Registration				

State/ICAO TI / IATA DGR Standard Identifier	Audit Questions	Compliance (Quote Relevant State Act/Regulation or Document Reference) *	Compliant	Non-Compliant	Not Applicable	Comments
	Do you use a checklist to ascertain whether DG articles/substances are correctly classified, packed, marked, labelled and documented?	<i>Provide at least two completed checklists for two different shipments to ensure the same.</i>				
	Please provide a copy of the most recent Shipper Declaration for Dangerous Goods held by your agency.	<i>Ensure the Shipper's Declaration provides all the necessary information, and it is current, sensibly filled.</i>				
	Is the agency in possession of the state regulations and guidance material for DG?	<i>Discuss & confirm by asking for a copy of the publication or awareness about the same</i>				
	Determine if the Operations Manual is available to company personnel as required.	<i>A copy of the operations manual or the SOP for handling any eventuality</i>				
	Determine if the airway bill procedures are in compliance with the appropriate regulations.	<i>Cross examine with DGD</i>				
	Determine if the Shipper's Declaration completion procedures are in compliance with the appropriate regulations.	<i>Cross examine with checklist and AWB</i>				
	Determine if a reporting system exists to identify undeclared or misdeclared dangerous goods.	<i>Ask staff about DG Reporting Form</i>				
	With regard to Undeclared or Misdeclared articles falling into one of the DG categories, would you make a report?	<i>Ask the nominated staff, in a brief interview</i>				
	Review dangerous occurrence reports, where applicable.	<i>Awareness about the reporting form</i>				
	Determine that copy of the applicable regulations are available.	<i>A copy of the IATA DGR current edition</i>				

State/ICAO TI / IATA DGR Standard Identifier	Audit Questions	Compliance (Quote Relevant State Act/Regulation or Document Reference) *	Compliant	Non-Compliant	Not Applicable	Comments
	Review manual and determine if there have been any amendments to the dangerous goods section of the company operations manual.	<i>Check for amendments included with the Operations manual and or SOP.</i>				
	Identify any outstanding Audit Findings respecting the last audit. (PRE)	<i>Verify from the last audit report</i>				
Nominated Person						
	Is the PoC for the agency duly trained to accept and process DG?	Ask the Point of contact or nominated staff.				
	Please state the supplier(s) of packaging materials used for the movement of DG:	<i>Verify the name of the third-party supplier and ensure that appropriate packaging material is being used.</i>				
	Have you ever been asked to transport forbidden articles or substances by air?	<i>Supply the procedure of transportation, documentation and third-party name.</i>				
	Explain in detail how you would determine whether a substance is to be classified as 'Dangerous Goods'	<i>Ensure adequate information is supplied; staff must be knowledgeable regarding classification and labelling.</i>				
	Is the agency involved in handling and transportation of radioactive materials? (W/H)	<i>Verify if training includes radioactive and if the facility can accommodate radioactive materials.</i>				
	Who in your agency Inspect the <i>Shipper Declaration</i> ?	<i>Provide detailed information of why that person is credible.</i>				
	Does your agency provide the <i>Shipper's Letter of Instruction</i> in which a statement is made by the shipper pertaining to the nature of the goods being shipped?	<i>Supply a current letter of instruction and documentation of the usage. Provide nominated staff member credentials.</i>				

State/ICAO TI / IATA DGR Standard Identifier	Audit Questions	Compliance (Quote Relevant State Act/Regulation or Document Reference) *	Compliant	Non-Compliant	Not Applicable	Comments
	Has sufficient information regarding procedures for handling and transporting Dangerous Goods been made available to your employees?	<i>Bestow that information and procedures. Ask if employees have received any information regarding the matter.</i>				
Packaging and Labelling						
	Please state the supplier(s) of packaging materials used for the movement of DG:	<i>Verify the name of the third-party supplier and ensure that appropriate packaging material is being used.</i>				
	Determine the capability of the carrier to replace lost or stolen safety marks.	<i>Adequate stock of labels in custody of the agent, ask for samples</i>				
Training						
	Is your training current? - Documentation?	<i>Procure copies of certificate/training nominations.</i>				
	Who provides staff training? (TRNG)	<i>Appropriate National Authority /host state's approval for Training Organisation. Check</i>				
	Are they an accredited training establishment? (TRNG)	<i>Establish whose accreditation is being given.</i>				
	Is the training subject to a competency test?	<i>Ask the staff the type of tests undergone.</i>				
	Are any records kept?	<i>If internal training is being conducted ask for training records.</i>				
	Are you able to produce certification of training?	<i>Establish the same with documentary evidence.</i>				
	Verify that trained employees are able to produce certificates of Training upon request. (TRNG)	<i>Copy of certificates as evidence to be collected</i>				
	Determine that the certificate of training contains the required Information.	<i>Cross check in conjunction with 1st & 4th Question in this section</i>				

State/ICAO TI / IATA DGR Standard Identifier	Audit Questions	Compliance (Quote Relevant State Act/Regulation or Document Reference) *	Compliant	Non-Compliant	Not Applicable	Comments
	Determine that the company has a record of training for trained Employees on file.	<i>Verify with training plans or programmes current fiscal year</i>				
	What action would you take in the event of the shipper being unable to provide you with a PROPER SHIPPING NAME and/or UN number? – Please explain	<i>Provide detailed information of the procedures and if possible, supply copies of rejected shipments regarding same issue.</i>				
	On average, state the most common DG item(s) accepted by your agency?	<i>Present sufficient information and references of the most common DG item.</i>				
	Determine if the company's acceptance procedures are in compliance with the regulations.	<i>Verify the awareness of the IATA DGR acceptance rules</i>				
	Is your staff properly trained to react professionally in the event of an emergency, which may be defined as a spillage, leakage or fire etc.? (W/H)	<i>Emergency Response measures as per ERAP or HSE manual of the organisation</i>				
	List the categories of staff that receive Dangerous Goods training, e.g. DRIVER/PACKER/WAREHOUSEMAN etc.	<i>Cross check compliance with DG Training Manual or IATA DGR Table 1.5 A or Appendix H</i>				
	Does the company's dangerous goods' training programme match the Appropriate National Authority approved programme?	<i>Ask for Training plan for the organisation</i>				
	Determine if the company has the Appropriate National Authority approved dangerous goods training programme.	<i>Verify the same in compliance with IATA Table 1.5A</i>				
	Determine if the training programme reflects all regulatory or Operational amendments.	<i>If internal training is provided, verify the lesson plans with evidence</i>				

State/ICAO TI / IATA DGR Standard Identifier	Audit Questions	Compliance (Quote Relevant State Act/Regulation or Document Reference) *	Compliant	Non-Compliant	Not Applicable	Comments
Warehouse						
	Is the Warehouse certified by the Civil Defence Fire and Emergency standards	<i>Request for the copy of the certificate and check validity</i>				
	Does your agency have separate storage facilities solely for dangerous goods?	<i>Can the current facility accommodate DG and if not, there must be a separate facility that can do so? Provide Layout of the Facility that holds DG.</i>				
	Are there sufficient numbers and types of Fire Extinguishers available near the storage area?	<i>Check the expiry dates of all extinguishers.</i>				
	Is there a spillage and leakage kit available?	<i>Check the condition and expiry date for validity. Or any other method of containment?</i>				
	If the agency is involved in handling, storage and transportation of radioactive materials?	<i>Verify if the warehouse the facility to accommodate radioactive materials.</i>				
	At your cargo acceptance point, are there notices prominently displayed relating to information regarding the transportation of Dangerous Goods?	<i>Confirm display of DG posters or declaration notifications.</i>				
	Does the warehouse have segregation table displayed, safety signage in close proximity to the DG Storage area	<i>Verify visually and ask the DG PoC</i>				
	Determine if untrained personnel, who are handling offering for transport and transporting, are appropriately supervised.	<i>Monitor staff in person and observe</i>				
	List the categories of staff that receive DG training, e.g. DRIVER/PACKER/WAREHOUSEMAN etc.	<i>Interview the staff handling DG at the warehouse</i>				

State/ICAO TI / IATA DGR Standard Identifier	Audit Questions	Compliance (Quote Relevant State Act/Regulation or Document Reference) *	Compliant	Non-Compliant	Not Applicable	Comments
	Are emergency instructions or ERAP included?	<i>Verify that the emergency procedures are listed and are being carried out and collect copies of emergency procedures or ERAP</i>				
	Verify the company has the proper measures to address incidents related to DG in place.	<i>Emergency Response measures as per ERAP or the HSE manual of the organisation</i>				

-END-

