

Civil Aviation Authority of Nepal

Guideline on Competency-Based Training and Assessment (CBTA) for the Transport of Dangerous Goods by Air

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Civil Aviation Authority of Nepal
Flight Safety Standards Department
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Dangerous Goods Regulations Competency Based Training and Assessment Guideline

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Foreword

A safe and efficient air transport system relies fundamentally on a competent and well-trained workforce. Recognizing this, the International Civil Aviation Organization (ICAO) has emphasized the implementation of a **competency-based approach to training and assessment (CBTA)** as the most effective method to ensure personnel are capable of performing their assigned functions safely and efficiently.

The **Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284)** require that employers ensure all personnel are competent before performing any function for which they are responsible. A competency-based approach provides the tools to achieve this by clearly defining the **knowledge, skills, and attitudes (KSA)** required for each function and by establishing measurable standards for training and assessment.

This guideline provides comprehensive guidance for 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. It is designed to support employers, training organizations, and regulators in developing training programmes that are effective, verifiable, and aligned with international best practices, including ICAO's **Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868)**.

The benefits of a competency-based approach are significant. It enables personnel to reach their highest potential, ensures a basic level of competence is achieved, supports continuous learning, emphasizes practical performance over mere testing, integrates all relevant KSA, and ensures a sufficient number of qualified instructors. Competent personnel reduce operational costs, prevent delays, and—most importantly—mitigate safety risks associated with the transport of dangerous goods.

Function-specific training is essential. Personnel must be trained commensurate with the functions they perform, not simply their job title. In smaller operations, personnel may need to be trained across multiple functions, whereas in larger operations, training may focus on specific responsibilities. The depth and level of training should always correspond to the operational requirements and criticality of each function.

This guideline is intended to assist all stakeholders in implementing CBTA in compliance with **CAAN Dangerous Goods Handling Regulations (DGHR)** and ICAO requirements, ultimately strengthening the safety, efficiency, and reliability of air transport in Nepal.

I encourage all employers, training organizations, and personnel involved in dangerous goods operations to adopt the principles outlined in this guideline and to integrate competency-based training as an integral part of their safety and operational culture.


(Mr. Deo Chandra Lal Karn)
Director General
Civil Aviation Authority of Nepal



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DEFINITIONS AND ABBREVIATIONS

Definitions

For the purpose of this guideline, the following definitions shall apply:

- a) **Competency:**
A combination of **skills, knowledge, and attitudes** required to perform a task or duty to the prescribed standard under specific operational conditions.
- b) **Competency-Based Training and Assessment (CBTA):** A training and assessment approach that focuses on the **performance outcomes** necessary to perform specific job functions effectively, rather than on the duration or frequency of training. It emphasizes the **achievement and demonstration of competence**.
- c) **Dangerous Goods (DG):** Articles or substances which are capable of posing a **risk to health, safety, property or the environment** and which are classified according to the **ICAO Technical Instructions (Doc 9284)**.
- d) **Dangerous Goods Function:** A specific activity or task performed by personnel that directly or indirectly relates to the **safe transport of dangerous goods by air**, including preparation, acceptance, handling, loading, storage, or oversight.
- e) **Assessment:**
The process of **collecting and evaluating evidence** to determine whether an individual's performance meets the defined **competency standards**.
- f) **Competency Standard:** A statement of the **expected performance level** for a given task, expressed in terms of observable behaviours and measurable outcomes.
- g) **Observable Behaviour:** A visible or measurable action that demonstrates the individual's competence in performing a specific task or applying specific knowledge.
- h) **Job Function Group:** A category of personnel defined by the **IATA Dangerous Goods Regulations (DGR) Table 1.5.A**, representing similar roles and responsibilities related to the transport of dangerous goods.
- i) **Training Specification:** A document that defines the **purpose, objectives, scope, and regulatory requirements** of a training programme, including the identification of target personnel, job functions, and assessment criteria.
- j) **Training Needs Analysis (TNA):** A systematic process used to identify the **training requirements** of personnel based on their job functions, operational context, and regulatory obligations.
- k) **Assessor:**
A qualified individual authorized by the organization or CAAN to conduct **performance assessments** and determine whether personnel meet the required competency standards.
- l) **Instructor:**
A person qualified and authorized to deliver training in accordance with the approved **training specification** and the organization's CBTA programme.
- m) **Training Organization:** An organization approved by CAAN to develop, deliver, and assess dangerous goods training programmes under the CBTA framework.



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- n) **National Authority:** The **Civil Aviation Authority of Nepal (CAAN)** or any delegated entity authorized to oversee compliance with national and international regulations governing the transport of dangerous goods by air.
- o) **Performance Criteria:** The specific **indicators and measures** used to evaluate whether the trainee has demonstrated competence.
- p) **Proficiency Check:** An evaluation or test conducted to verify an individual's **continued competence** in performing assigned tasks, typically as part of recurrent training or periodic assessment.
- q) **Validation:**
The process of confirming that a training and assessment system **achieves its intended purpose**, ensuring that the outcomes meet both regulatory and operational requirements.



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Abbreviations

Abbreviation	Full Form
ATO	Approved Training Organization
CAAN	Civil Aviation Authority of Nepal
CBTA	Competency-Based Training and Assessment
DG	Dangerous Goods
DGHR	Dangerous Goods Handling Regulations
DGR	Dangerous Goods Regulations (IATA)
ICAO	International Civil Aviation Organization
NOTOC	Notification to Captain
PANS-TRG	Procedures for Air Navigation Services — Training (Doc 9868)
SMS	Safety Management System
TI	Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284)
TNA	Training Needs Analysis

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I CHAPTER ONE – INTRODUCTION

1.1. GENERAL

This guideline has been developed by the Civil Aviation Authority of Nepal (CAAN) to provide guidance and a framework for the development, implementation, and oversight of competency-based training and assessment (CBTA) programmes for personnel involved in the transport of dangerous goods by air, including those handling cargo, mail, passengers, and baggage.

Recognizing that the operational, regulatory, and organizational environments among air operators, ground handling agents, and training organizations in Nepal may differ, this document does not prescribe a single, uniform training programme.

Instead, it provides a set of generic principles, methodologies, and tools that may be adapted and customized to meet the specific operational requirements of individual organizations, while ensuring compliance with:

- The ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284),
- The Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868), and
- The CAAN Dangerous Goods Handling Regulations (DGHR).

This guideline is intended to assist approved training organizations, operators, and regulatory inspectors in designing, conducting, and evaluating competency-based dangerous goods training programmes in accordance with the ICAO competency framework.

1.1.1. SCOPE AND APPLICABILITY

1.1.1.1. This guideline applies to all organizations and personnel involved in the transport of dangerous goods by air within or under the oversight of the Civil Aviation Authority of Nepal (CAAN). It covers the development, implementation, and continuous improvement of competency-based training and assessment (CBTA) programmes related to dangerous goods handling, processing, and oversight.

1.1.1.2. The provisions of this guideline are applicable to the following entities:

- a) Air operators engaged in commercial or non-commercial air transport of cargo, passengers, or mail;
- b) Ground handling agents, freight forwarders, and cargo service providers; Approved training organizations (ATOs) conducting dangerous goods training;
- c) Maintenance organizations (AMOs) and aerodrome operators handling dangerous goods; and
- d) CAAN inspectors and designated personnel responsible for the surveillance and oversight of dangerous goods operations.

1.1.1.3. This guideline should be read in conjunction with:

- The Civil Aviation Authority of Nepal Dangerous Goods Handling Regulations (DGHR);



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- The ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284);
- The Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868);
- The ICAO Competency-Based Training and Assessment Framework (Doc 10147); and
- The IATA Dangerous Goods Regulations (DGR), as an industry best practice reference.

1.1.1.4. The guidance contained herein is intended to support the State’s obligation to ensure that all personnel performing dangerous goods functions are trained and assessed as competent, in accordance with ICAO Annex 18 and Part 1, Chapter 4 of the Technical Instructions.

1.1.2. OBJECTIVES

1.1.2.1. The primary objectives of this guideline are to:

- a) Establish a standardized framework for the development and implementation of competency-based training and assessment for dangerous goods personnel in Nepal;
- b) Ensure that training programmes are aligned with ICAO and CAAN requirements, focusing on the knowledge, skills, and attitudes necessary to perform job functions safely;
- c) Facilitate the transition from traditional recurrent training to a competency-based approach, emphasizing performance outcomes rather than training duration;
- d) Promote harmonization and consistency in the training, assessment, and qualification of dangerous goods personnel across all sectors of the aviation industry; and
- e) Support continuous safety improvement through effective assessment, feedback, and monitoring of training outcomes.

1.1.2.2. By applying these principles, organizations will be able to:

- Identify specific job functions and the corresponding competencies required;
- Design targeted training programmes that address operational needs;
- Conduct valid assessments that confirm the ability of personnel to perform their duties safely; and
- Maintain records and oversight processes demonstrating continued compliance and competence.

1.1.3. Responsibilities

1.1.3.1. Airline Operators & Ground Handling Agents

- a) Develop and implement CBTA programmes for personnel in functions 7.1A – 7.10J of the ICAO TI.
- b) Maintain training records and submit training programme details for CAAN approval.
- c) Ensure subcontracted ground handling agents comply with this Guideline.

1.1.5.2 Shippers and Freight Forwarders



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- a) Ensure staff involved in preparing, documenting, or offering dangerous goods for air transport are trained and competent.
- b) Establish CBTA training in partnership with ATOs or in-house (with CAAN approval).

1.1.5.3 Approved Training Organisations (ATOs)

- a) Design CBTA-compliant dangerous goods training programmes approved by CAAN.
- b) Employ qualified instructors and assessors trained in CBTA methodology.
- c) Ensure training delivery and assessments are documented and auditable.

1.1.5.4 Civil Aviation Authority of Nepal (CAAN)

- a) Approve CBTA training programmes of operators, handling agents, shippers, freight forwarders, and ATOs.
- b) Conduct oversight through inspections, audits, and performance monitoring.
- c) Provide advisory circulars and updates in line with ICAO provisions.

1.1.4. Documentation & Record Keeping

Each organisation shall maintain records of:

- a) Training plans and syllabi
- b) Assessment methods and results
- c) Instructor/assessor qualifications
- d) Training records of each individual (minimum **3 years**)

1.1.5. Transition Plan

Existing category-based training remains valid until its expiry.

From **1 March 2026**, all recurrent or new DGR training must be conducted under the CBTA approach.

1.1.6. Enforcement

Failure to comply with this Guideline may result in suspension or withdrawal of approvals, penalties, or other enforcement actions under CAAN regulations.

1.2. COMPETENCY-BASED TRAINING AND ASSESSMENT (CBTA) CONCEPTS

1.2.1. Goal

The goal of competency-based training and assessment is to develop and maintain a competent and safety-oriented workforce by providing focused, performance-based training aligned with actual job functions.

CBTA identifies the competencies that personnel must demonstrate to perform their duties safely and effectively, determines the most efficient training strategies to achieve these competencies, and establishes valid and reliable assessment methods to confirm competency achievement.



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This approach ensures that dangerous goods training is practical, outcome-oriented, and tailored to specific roles, promoting both compliance and safety performance in accordance with national and international standards.

1.2.2. Competency

1.2.2.1. Definition

A competency is a measurable dimension of human performance that can reliably predict successful job performance. It is demonstrated through observable behaviours that integrate the knowledge, skills and attitudes (KSA) necessary to perform assigned tasks effectively under defined operational conditions.

1.2.2.2. Competency Standard

A competency standard represents the minimum acceptable level of performance required when determining whether a person is competent to perform a specific task. Training and assessment programmes approved by the Civil Aviation Authority of Nepal (CAAN) shall ensure that all personnel achieve and maintain competency standards corresponding to their assigned dangerous goods functions. Employers are responsible for ensuring that employees' competencies are sustained through recurrent training, assessment and continuous Knowledge refers to the information and understanding required to perform tasks correctly and make sound decisions in the workplace. It enables personnel to interpret procedures, apply rules, and solve problems effectively. performance monitoring.

1.2.3. Knowledge, Skills and Attitudes (KSA)

1.2.3.1. General

Developing and maintaining the knowledge, skills and attitudes (KSA) required to perform dangerous goods functions is a fundamental element of a competency-based training and assessment (CBTA) system. KSA form the basis for observable and measurable behaviours that demonstrate an individual's ability to perform tasks safely, effectively and in compliance with applicable regulations.

1.2.3.2. Knowledge

Knowledge may include:

- **Declarative knowledge** – facts, concepts and data (e.g. nine classes of dangerous goods);
- **Procedural knowledge** – application of methods, steps and regulatory requirements (e.g. completing the Shipper's Declaration for Dangerous Goods);
- **Strategic knowledge** – understanding when and how to apply knowledge in varying operational contexts (e.g. determining if a shipment is compliant);
- **Adaptive knowledge** – ability to generalize, innovate and apply knowledge to new or unfamiliar situations.



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1.2.3.3. Skills

Skills represent the practical abilities required to perform a task or action accurately and efficiently. They may include:

- **Motor skills** – physical actions and coordination needed to handle, inspect, or mark dangerous goods packages;
- **Cognitive skills** – mental processes such as reasoning, problem-solving, analysis and decision-making;
- **Metacognitive skills** – self-regulation and awareness of one’s learning or performance, including monitoring comprehension and evaluating task completion.

1.2.3.4. Attitudes

Attitudes reflect the behavioral disposition, values, and mindset that influence an individual’s performance and approach to safety and compliance. Positive safety attitudes promote teamwork, responsibility, vigilance and adherence to regulatory requirements. Demonstrating the right attitude means understanding how to behave appropriately in operational situations, particularly under stress or ambiguity.

1.2.3.5. Examples of KSA Applicable to Dangerous Goods Personnel

Dimension	Examples
Knowledge	<ul style="list-style-type: none">• Classes and divisions of dangerous goods• Information required on the Dangerous Goods Transport Document• Components of an acceptance checklist
Skills	<ul style="list-style-type: none">• Identifying whether a material or article is dangerous goods• Completing and verifying dangerous goods documentation• Inspecting packages to determine compliance for transport by air
Attitudes	<ul style="list-style-type: none">• Commitment to safety and regulatory compliance• Asking relevant questions to detect undeclared dangerous goods• Appreciating feedback and adapting when procedures are unclear or unavailable

1.2.3.6. Proficiency and Application

Different dangerous goods tasks require different levels of KSA proficiency, depending on the complexity, criticality, and autonomy involved in task performance.

Employers shall establish performance criteria and proficiency levels appropriate to the job function to determine:



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- the depth of knowledge and skill required for each role;
- the training emphasis needed to address identified risks; and
- the assessment methods necessary to verify and maintain competency.

Knowledge, skills and attitudes should evolve with experience, feedback and practice, enabling personnel to assume greater responsibility and perform more complex functions within the organization's dangerous goods framework.

Proficiency can be divided into four levels. Introductory, basic, intermediate, and advance, and applied to individual tasks involved in the function(s) that an employee is assigned to.

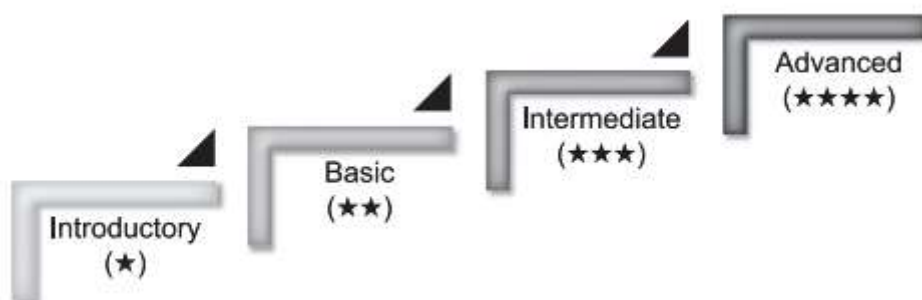
Introductory (★): covers general knowledge or understanding of basic concepts and techniques.

Basic (★★): delivers competency that is sufficient for an individual to carry out simple work activities, most of it routine and predictable. Guidance or assistance from an expert may be required from time to time.

Intermediate (★★★): comprises of complex or critical activities in a non-routine context which enables a person to work autonomously and solve problems without special assistance.

Advanced (★★★★): covers complex technical and professional activities in a wide variety of contexts which allows the personnel to provide advice. Dangerous goods training course instructors shall have acquired this level of proficiency on the tasks or functions that they will instruct prior to delivering such course(s).

Levels of Proficiency



1.2.4. Principles of Competency-Based Training and Assessment

A competency-based approach to dangerous goods training and assessment emphasizes measurable performance outcomes and ensures that personnel can perform their assigned functions safely, efficiently, and in compliance with applicable regulations.



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The following principles form the foundation of **the** CAAN Competency-Based Training and Assessment (CBTA) framework for Dangerous Goods:

- a) **Defined Competencies:** All relevant competencies required for each dangerous goods role or function are clearly identified, documented, and aligned with the organization's operational needs and regulatory requirements.
- b) **Alignment of Competencies, Training and Assessment:** A direct and explicit relationship is maintained between defined competencies, training objectives, on-the-job performance expectations, and assessment methods.
- c) **Observable and Assessable Competencies:** Competencies are designed such that they can be effectively trained, observed, and assessed consistently across a range of operational environments and contexts.
- d) **Achievement of Competency Standards:** Trainees are recognized as competent only when they have successfully demonstrated performance that meets or exceeds the established competency standards.
- e) **Shared Understanding:** All stakeholders—including the employer (e.g. shipper, freight forwarder, ground handling agent, or operator), instructor, trainee, training organization, and the Civil Aviation Authority of Nepal (CAAN)—share a common understanding of the defined competency standards and expected outcomes.
- f) **Performance Criteria:** Clear, measurable, and objective performance criteria are established for assessing competence, ensuring transparency and fairness in the evaluation process.
- g) **Validity and Reliability of Evidence:** Evidence collected during the assessment process must be valid (directly related to the competency being measured) and reliable (consistent across different assessors and conditions).
- h) **Assessor Calibration:** Instructors and assessors must maintain calibration of their judgements to achieve a high degree of inter-rater reliability and consistency in competency evaluations.
- i) **Multiple Observations:** Competency assessments must be based on multiple observations of performance across varying operational situations and contexts to ensure consistency and completeness of demonstrated competence.
- j) **Integrated Performance:** To be deemed competent, an individual must demonstrate an integrated performance of all required competencies—combining knowledge, skills, and attitudes—to the specified standard applicable to their job function.

1.2.5. ICAO Competency Framework, Adapted Competency Model and Task List

1.2.5.1. General Concept

Traditional approaches to training design often rely on breaking down job functions into discrete tasks, each associated with specific objectives, training content, and assessment elements. While this task-based approach is systematic, it presents limitations—particularly in complex and evolving operational environments—where it may not be feasible to train and assess every possible task individually. Moreover, a trainee may demonstrate the ability to perform isolated tasks without necessarily being competent in the overall job function.



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The competency-based training and assessment (CBTA) approach addresses this limitation by focusing on competencies as transferable attributes that enable personnel to perform effectively across a range of tasks and situations. In this approach:

- The purpose of training and the tasks associated with that purpose are first identified.
- A limited number of core competencies are then defined to encompass the knowledge, skills, and attitudes required to perform those tasks.
- Tasks and activities are incorporated into the training programme only insofar as they facilitate, develop, or assess specific competencies.

Each task may involve multiple competencies, and a single competency may apply to numerous tasks across different operational settings. Specific tasks can therefore be used as practical means to develop and assess competencies, while a deficiency in a particular competency may explain poor performance of a task.

A generic, high-level task list representing typical functions performed by dangerous goods personnel is provided in Chapter 4 of this guideline. Employers and training organizations should use this list as a reference tool when developing training specifications tailored to their operational environment.

As required by the Technical Instructions (Doc 9284), the training and assessment record should clearly indicate the specific task(s) and sub-task(s) for which competency has been demonstrated. This ensures traceability, accountability, and verification that personnel have completed appropriate training and assessment relevant to their job function.

1.2.5.2 Competency Framework and Adapted Model

A competency model serves as a structured means of defining what personnel must be able to do, by identifying and describing the competencies necessary for a given role and providing clear performance criteria for each.

The International Civil Aviation Organization (ICAO) has developed generic competency frameworks for various aviation disciplines, as contained in the Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868) and other ICAO documentation.

Building upon this foundation, an ICAO Competency Framework for Dangerous Goods Personnel is provided in Chapter 3 of this guideline. This framework outlines the typical competencies required to perform the dangerous goods functions and tasks listed in Chapter 4.

Employers and training providers are encouraged to adapt this framework to reflect their own:

- Regulatory environment (as prescribed by CAAN and ICAO);
- Operational and technical characteristics; and
- Organizational structure and roles.

The resulting adapted competency model becomes the basis for developing and implementing competency-based training and assessment programmes for dangerous goods personnel.



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Guidance on the development process for such adapted competency models—including workflow, task mapping, and competency specification—is provided in Chapter 2 of this document.

1.3. DEVELOPING COMPETENCY-BASED TRAINING AND ASSESSMENT

1.3.1. General

The development of a competency-based training and assessment (CBTA) programme requires a structured and systematic approach to ensure that training outcomes are relevant, effective, and measurable. This process is guided by the principles of Instructional Systems Design (ISD), which provides a logical sequence for identifying training needs, designing learning solutions, developing materials, implementing delivery, and evaluating effectiveness.

1.3.2. Instructional Systems Design (ISD) Approach

Several recognized ISD models can be applied to develop competency-based training and assessment programmes. Among these, the Analyse–Design–Develop–Implement–Evaluate (ADDIE) model is the most widely accepted and serves as a foundation for all ISD methodologies.

The **ADDIE model** provides a clear, cyclical framework comprising five key phases:

- a) **Analyse:** Identify training needs, operational requirements, target audience, and performance gaps;
- b) **Design:** Define learning objectives, competencies, assessment strategies, and instructional methods;
- c) **Develop:** Produce training materials, tools, and assessment instruments;
- d) **Implement:** Deliver training and conduct assessments in accordance with the designed plan; and
- e) **Evaluate:** Measure training effectiveness, validate competency achievement, and identify areas for improvement.

1.3.3. Application to Dangerous Goods Training

For the purpose of implementing a competency-based training and assessment system for dangerous goods personnel, the ICAO competency framework (refer to Chapter 3) shall serve as the baseline reference for defining required competencies.

Using the ADDIE model, organizations and training providers can design and develop dangerous goods CBTA programmes that are:

- Aligned with CAAN Dangerous Goods Handling Regulations (DGHR) and ICAO Technical Instructions (Doc 9284);
- Consistent with the Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868); and
- Adaptable to each employer’s specific operational, regulatory, and organizational environment.



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1.3.4. Guidance for Implementation

Detailed guidance on the design and implementation of dangerous goods CBTA programmes—using the ICAO competency framework in conjunction with the ADDIE model—is provided in Chapter 2 of this guideline. This includes workflows, competency mapping, assessment planning, and evaluation methods to ensure personnel are trained and assessed as competent in accordance with CAAN and ICAO requirements.

1.4. ROLES AND RESPONSIBILITIES IN A COMPETENCY-BASED APPROACH TO TRAINING

1.4.1. General Responsibility

1.4.1.1. Employers

Employers play a central role in the development, implementation, and maintenance of an effective competency-based training and assessment (CBTA) programme. Each employer is responsible for ensuring that all personnel involved in the transport of dangerous goods by air are trained and assessed as competent before performing any assigned function, in accordance with CAAN Dangerous Goods Handling Regulations (DGHR) **and the** ICAO Technical Instructions (Doc 9284).

A CBTA programme should include key elements such as:

- Training design methodology and framework;
- Initial, recurrent, and refresher training;
- Competency-based assessment processes;
- Instructor and assessor qualifications and competencies;
- Maintenance of accurate training and assessment records; and
- Continuous evaluation and improvement of training effectiveness.

Employers must ensure that the training design establishes clear and traceable links between defined competencies, learning objectives, assessment methods, and course materials used during delivery.

1.4.1.2. Analysis of Target Population

Before designing or implementing a training programme, employers must conduct a target population analysis to understand the characteristics of their intended trainees. This analysis should identify:

- Existing knowledge, skills, and attitudes (KSA) already possessed by the trainees;
- Preferred learning styles and methods that best support skill acquisition; and
- Social, cultural, and linguistic factors that may influence training delivery and comprehension.

The target audience may include a mix of newly recruited and experienced personnel, with variations in age, technical background, and operational exposure. Understanding these factors ensures that the training is appropriately designed, inclusive, and effective.



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Employers must also take into account all domestic and international regulatory requirements, including those prescribed by **CAAN**, **ICAO**, and **IATA**, when defining training objectives and developing course content.

1.4.1.3. Use of Third Parties and Training Providers

Employers may engage third-party training providers or approved training organizations (ATOs) to deliver competency-based dangerous goods training. This approach is often suitable for employers lacking the internal resources to design and deliver training in-house.

However, when selecting a third-party provider, employers must ensure that:

- The training content fully addresses the specific competency requirements relevant to their operations;
- The training outcomes align with CAAN's competency standards; and
- The assessment process verifies that personnel are competent before performing their assigned functions.

While third parties may deliver or assess training on behalf of the employer, the ultimate responsibility for ensuring personnel competence remains with the employer. Training delegation does not transfer regulatory accountability.

1.4.1.4. Coordination with the Regulator

Employers must maintain close coordination with the Civil Aviation Authority of Nepal (CAAN) during the development and approval of their competency-based training and assessment programmes. This ensures that CAAN's regulatory requirements, national standards, and oversight expectations are incorporated at every stage of training design and implementation.

1.4.2. Regulator (Civil Aviation Authority of Nepal – CAAN)

1.4.2.1. General Oversight Role

The Civil Aviation Authority of Nepal (CAAN), as the national aviation regulator, is responsible for ensuring that all organizations involved in the transport of dangerous goods by air comply with the Civil Aviation Requirements (CARs), Dangerous Goods Handling Regulations (DGHR), and the ICAO Technical Instructions (Doc 9284).

CAAN's oversight role extends to the approval, monitoring, and evaluation of dangerous goods competency-based training and assessment programmes (CBTA) implemented by operators, ground handling agents, freight forwarders, and other relevant entities.

1.4.2.2. Regulatory Functions and Responsibilities

CAAN shall:

- a) Establish and maintain national regulatory provisions requiring employers to ensure personnel performing dangerous goods functions are trained and assessed as competent before performing such functions;



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- b) Provide guidance and criteria for the development, validation, and approval of CBTA programmes consistent with ICAO and IATA frameworks;
- c) Review and approve training organization manuals, syllabi, and assessment tools to verify compliance with the CAAN DGHR;
- d) Maintain a system for initial and recurrent oversight audits, including evaluation of training quality, instructor qualifications, and assessment reliability;
- e) Ensure that records of training and assessment are retained and accessible for regulatory review;
- f) Encourage a consistent understanding and implementation of competency standards among all stakeholders — including employers, training providers, and assessors;
- g) Promote the standardization and calibration of assessors' judgments, ensuring high inter-rater reliability across organizations;
- h) Support the continuous improvement of training programmes through regular evaluation, feedback, and regulatory updates;
- i) Facilitate the recognition and mutual acceptance of CBTA programmes between CAAN and other States or international organizations, where applicable; and
- j) Take appropriate enforcement action when a training organization or employer fails to maintain compliance or demonstrate competency assurance.

1.4.2.3. Coordination and Collaboration

CAAN should foster close collaboration with:

- **Employers and training providers**, to ensure that CBTA programmes align with operational needs and competency requirements;
- **ICAO and IATA**, to stay updated on international best practices and regulatory developments; and
- **Other States or regulatory bodies**, to promote harmonized standards and mutual recognition of competency-based training.

1.4.2.4. Continuous Improvement and Data-Driven Oversight

CAAN should establish a mechanism for periodic review of CBTA outcomes, using data from audit findings, incident reports, and feedback from employers and trainees. This evidence-based approach ensures that national dangerous goods training standards remain current, effective, and aligned with the evolving risk environment of air transport operations.

1.4.3. Instructor and Assessor

1.4.3.1. General Responsibilities

Instructors and assessors play a critical role in the successful implementation of competency-based training and assessment (CBTA) for dangerous goods personnel. They are responsible for ensuring that training and assessments are delivered effectively, that competencies are developed to the required standard, and that assessment outcomes are valid, reliable, and accurately recorded.

1.4.3.2. Roles and Duties



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Instructors are responsible for:

- a) Delivering training in accordance with the approved **course syllabus** and training plan;
- b) Facilitating learning through instruction, demonstrations, coaching, and feedback;
- c) Ensuring that trainees understand the knowledge, skills, and attitudes (KSA) required for their assigned tasks;
- d) Creating a supportive learning environment that accommodates different learning styles, experience levels, and language or cultural considerations;
- e) Monitoring trainee progress and providing remedial guidance when required; and
- f) Maintaining training records for each trainee in accordance with CAAN requirements.

Assessors are responsible for:

- a) Conducting assessments to verify that trainees meet the **established competency standards**;
- b) Using multiple assessment methods and observations to ensure **validity and reliability** of competency judgments;
- c) Recording assessment outcomes accurately and maintaining documentation in accordance with CAAN regulations;
- d) Calibrating judgments with other assessors to ensure **inter-rater reliability**; and
- e) Providing constructive feedback to trainees to support continuous improvement and skill development.

1.4.3.3. Qualification and Competency Requirements

Instructors and assessors must:

- Possess relevant operational experience in dangerous goods handling;
- Demonstrate expertise in the subject matter and familiarity with CAAN and ICAO regulatory requirements;
- Be trained in adult learning principles, instructional techniques, and competency-based assessment methods;
- Maintain currency of knowledge and skills through recurrent training, practice, and professional development; and
- Understand the **ADDIE framework** and the organization's CBTA workflows to effectively link training and assessment to competency standards.

Note: Refer detail Instructor qualification as prescribed in DGHR, CAAN

1.4.3.4. Calibration and Continuous Improvement

To ensure consistency and reliability:

- Assessors must participate in regular calibration exercises to align assessment decisions and interpretations of competency standards;



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- Feedback from instructors, trainees, and employers should be used to continuously improve instructional methods and assessment practices;
- Instructors and assessors should maintain records of professional development and assessment calibration activities to support regulatory oversight.

This section ensures that instructors and assessors are competent, accountable, and aligned with CAAN CBTA requirements, supporting the overall integrity of the dangerous goods training programme.

1.4.4. Trainee / Personnel Responsibilities

1.4.4.1. General Responsibility

Trainees are the central participants in a competency-based training and assessment (CBTA) programme. They are responsible for actively engaging in the training process, demonstrating the required knowledge, skills, and attitudes (KSA), and achieving the established competency standards prior to performing dangerous goods functions.

1.4.4.2. Roles and Duties

Trainees are expected to:

- a) **Participate actively** in all required training activities, including classroom instruction, practical exercises, simulations, and on-the-job learning opportunities;
- b) **Prepare for training** by reviewing course materials, completing pre-course assignments, and familiarizing themselves with applicable regulations and procedures;
- c) **Demonstrate competency** through performance on assessments, applying knowledge and skills correctly, and exhibiting the appropriate attitudes in accordance with regulatory and operational requirements;
- d) **Seek clarification and feedback** from instructors and assessors whenever there is uncertainty about tasks, procedures, or compliance requirements;
- e) **Maintain a professional attitude** that reflects a commitment to safety, regulatory compliance, and teamwork; and
- f) **Maintain personal training records** where required and ensure documentation of completed training and assessments is accurate and up to date.

1.4.4.3. Continuous Learning and Development

Competency is not a one-time achievement. Trainees are responsible for:

- Engaging in recurrent or refresher training as prescribed by the employer and CAAN regulations;
- Applying lessons learned to daily operational activities; and
- Identifying opportunities for personal skill enhancement to meet evolving operational and regulatory requirements.

This ensures that all personnel are actively accountable for their own learning and performance, supporting the integrity and effectiveness of the employer's CBTA programme under CAAN oversight.



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1.4.4.4. Training Delivery Methods and Techniques

To ensure effective training delivery methods and techniques for the dangerous goods handling training program, Employers shall undertake the following steps:

- a) **Training Delivery Methods:** The training delivery methods shall be chosen based on the specific job roles of the personnel involved in the handling of dangerous goods and their accessibility. Delivery methods shall be of following types as specified in the table.
- Instructor Led Training
 - Computer Based Training
 - E-Learning

Table 1-1: Dangerous Goods Computer Based / E-Learning Training		
	Initial	Recurrent
	Applicable to personnel performing the function in tables 7.1A to 7.10J	Applicable to personnel performing the function in tables 7.1A to 7.10J
Instructor Led	Mandatory	Optional
Classroom	Optional	Optional
Virtual	Optional	Optional

- b) **Visual Aids:** Classroom shall avail to use visual aids such as diagrams, charts, and videos to facilitate learning and comprehension of the material covered in the training program.
- c) **Continuous Feedback:** Employer shall provide continuous feedback to the learners throughout the training program to ensure that they are meeting the learning outcomes and assessment criteria.
- d) **Monitor and Evaluate:** Employer shall monitor and evaluate the effectiveness of the training delivery methods and techniques through regular feedback from learners and instructors and make necessary adjustments to improve the training program.

1.4.4.5. Initial, Recurrent and Upon Absence Training and Assessment

Dangerous goods initial and recurrent training are required by the regulations:

- (a) **Initial training** shall be provided prior to a person performing their functions related to the transport of cargo or managing passenger and baggage; effectively and unless



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otherwise required by the regulator/ authorities, it refers to the first time a trainee receives dangerous goods instructions according to their function or a new function if gaps have been identified.

- (b) **Recurrent training** shall be provided within 24 months of previous training to ensure knowledge is current. However, if recurrent training is completed within the final 3 months of validity of previous training, the period of validity extends from the month on which the recurrent training was completed until 24 months from the expiry month of that previous training.
- (c) **Upon Absence:** Following Table shall be adhered for training of staff upon their duration of absence:

Table 1-2: Actions Based on the Duration of Absence	
Duration of Absence	Action
Up to 3 months	Employees shall be provided with regulatory, or business requirements changes or updates and ensure their understanding of these changes.
Between 3 and 12 months	In addition to the above, practical assessment shall be taken for example: demonstration or simulation. Employer shall provide a brief observation report for the employee with any identified gaps to be filled and with information to be complemented in order to reach the currently required competency again.
More than 12 months	Initial training program

1.4.5. Summary of Roles & Responsibilities

Role	Key Responsibilities
Employer	<ul style="list-style-type: none"> Define training objectives based on job functions. Design and develop CBTA programmes linking competencies, learning objectives, assessment, and course materials. Analyse target population (KSA, learning styles, operational context). Ensure compliance with domestic and international regulations. Select and manage third-party training providers if applicable.- Liaise with CAAN for programme approval and compliance verification.



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Role	Key Responsibilities
Regulator (CAAN)	<ul style="list-style-type: none"> • Approve CBTA programmes, training materials, and assessment tools. • Monitor and audit training organisations and employers. • Establish competency standards and performance criteria. • Ensure assessor calibration and evaluation of training effectiveness. • Facilitate standardization, guidance, and international harmonization.
Instructor / Assessor	<ul style="list-style-type: none"> • Deliver training in accordance with approved syllabus. • Facilitate learning and provide feedback. • Conduct competency assessments and document results. • Maintain currency of subject matter expertise and instructional skills. • Participate in calibration exercises to ensure assessment reliability.
Trainee / Personnel	<ul style="list-style-type: none"> • Actively participate in training activities. • Prepare for training and complete assignments. • Demonstrate required KSA and meet competency standards. • Seek guidance and feedback as needed. • Engage in continuous learning and recurrent training. • Maintain personal training records as required.

This table clearly delineates responsibilities and helps all stakeholders **understand their role in achieving a competent workforce** for the safe transport of dangerous goods.

1.5. RELATIONSHIP BETWEEN COMPETENCY-BASED TRAINING AND ASSESSMENT AND SAFETY MANAGEMENT

1.5.1. Safety as a Strategic Objective

Safety is ICAO's primary strategic objective and forms the foundation of all aviation activities. Annex 19 of the Chicago Convention contains Standards and Recommended Practices (SARPs) dedicated to safety management.

The foundation of safety management is established through:

- State Safety Programmes (SSP) implemented by States; and
- Safety Management Systems (SMS) implemented by service providers, including operators of aeroplanes and helicopters authorized for international commercial air transport.

An operator's SMS addresses all aviation activities related to the safe operation of aircraft, including the carriage of dangerous goods. States may also recommend that other entities in



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the air transport chain—such as freight forwarders and ground handling agents—implement SMS, and entities may voluntarily adopt such systems.

1.5.2. Integration of Competency-Based Training with SMS

Effective SMS implementation requires that personnel:

- Understand the safety philosophy of their organization;
- Apply a disciplined and standardized approach to safety management; and
- Possess the necessary competencies to perform their assigned functions within the SMS framework.

Competency-based training and assessment (CBTA) ensures that personnel acquire the knowledge, skills, and attitudes (KSA) required to support SMS objectives. Other entities involved in the dangerous goods transport chain should also be encouraged to implement similar competency-focused safety measures.

1.5.3. Training as a Critical Defence in Accident Prevention

The Swiss-Cheese Model of Accident Causation (see ICAO Safety Management Manual, Doc 9859, paragraph 2.3) illustrates that aviation systems are protected by multiple layers of defences. Accidents typically occur only when successive layers fail, combining active conditions (immediate unsafe actions or omissions) and latent conditions (pre-existing system vulnerabilities).

Training is identified in Doc 9859 as one of the three main groups of defences in aviation. Deficiencies in training are considered latent conditions, which may contribute to accidents if not addressed. Competency-based training directly mitigates such risks by ensuring personnel are capable and competent in performing their functions.

1.5.4. Continuous Improvement

Continuous improvement is central to both safety management and CBTA. Training programmes should:

- Utilize data from multiple sources, including operational feedback, audits, incidents, and regulatory oversight;
- Address deficiencies in training and assessment; and
- Be integrated with the SMS continuous improvement cycle where applicable, ensuring that enhancements in training directly support organizational safety performance.

This section emphasizes the direct link between competency-based training, personnel competence, and the overall safety management system, reinforcing CAAN's mandate for safe and compliant dangerous goods operations.



2 Chapter Two - DEVELOPMENT AND IMPLEMENTATION OF COMPETENCY-BASED DANGEROUS GOODS TRAINING AND ASSESSMENT PROGRAMMES

2.1 General

This chapter provides a step-by-step guide for organizations intending to establish competency-based training and assessment that is specific to their environment and requirements. It makes use of the ICAO competency framework and the ADDIE (analyse, design, develop, implement and evaluate) instructional design model.

2.2 COMPONENTS OF A COMPETENCY-BASED TRAINING AND ASSESSMENT PROGRAMME

The goal of competency-based dangerous goods training and assessment is to provide a competent workforce for the safe and efficient transport of dangerous goods by air. The following components, which are illustrated in Figure 2-1, are essential to achieving this goal:

- a) a training specification that describes the purpose of training, the task list and the requirements that must be fulfilled when designing the training;
- b) a competency model adapted from the ICAO competency framework for a given role;
- c) an assessment plan providing the process and tools for gathering valid and reliable evidence at different stages during training;
- d) a training plan describing the training required to achieve the competencies. It includes but is not limited to a syllabus (including KSA, milestones, lesson plans and schedules); and
- e) training and assessment materials and human, material and organizational resources needed to implement training and assessment plans.

2.2.1 The remainder of this chapter focuses on the development of these components through the ADDIE instructional design model.

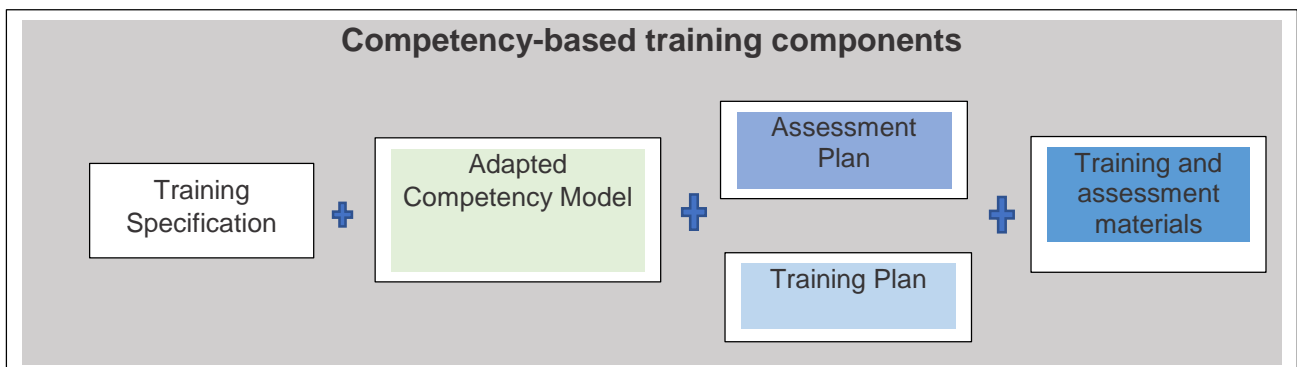


Figure 2-1. Competency-based training components

2.3 BUILDING A COMPETENCY-BASED DANGEROUS GOODS TRAINING AND ASSESSMENT PROGRAMME USING THE ADDIE MODEL

2.3.1 General



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The ADDIE Model is a widely recognized framework used by instructional designers and training developers to create effective and structured training programs. It comprises five key phases: Analysis, Design, Development, Implementation, and Evaluation.

In the context of PANS-TRG, these phases are referred to as “workflows,” as illustrated in *Figure 2-2*. The following section provides a detailed explanation of the first two workflows — ANALYSE and DESIGN — which form the foundation of the training system development process, along with a general overview of the subsequent three workflows — DEVELOP, IMPLEMENT, and EVALUATE.

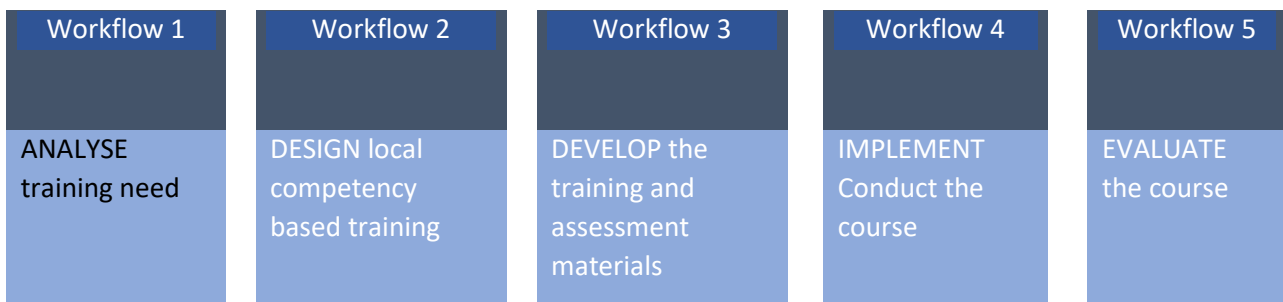


Figure 2-2. Competency-based training and assessment workflows

2.3.2 Workflow 1 — Analyse training need

2.3.2.1 Analysis Phase — Training Needs Identification

The first phase in developing and implementing a competency-based training programme is to identify the specific training needs relevant to the employer’s operational environment and organizational requirements. This process, known as a Training Needs Analysis (TNA), ensures that the training is directly aligned with the functions, risks, and responsibilities of the personnel involved.

Figure 2-3 provides a detailed overview of this workflow.

- The output of the analysis phase is a Training Specification, which defines:
- The purpose and objectives of the training;
- The operational, technical, regulatory, and organizational requirements to be met during the design of the programme.

To ensure that the training specification is sufficiently detailed, PANS-TRG recommends addressing a series of guiding questions (refer to *PANS-TRG, Chapter 2, Attachment C*). While some of these questions are tailored for flight training, the majority are equally applicable to Dangerous Goods (DG) training programmes.



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Table 2-1: Suggested Functions task list and training Period

Task List	CBTA DGR Task List (Function)	Previous Categories	Course	Duration (Days)	
				Initial	Recurrent
Personnel responsible for preparing dangerous goods consignment (Shippers and persons undertaking the responsibilities of shippers, Packers)	7.1 A	1,2	Dangerous goods regulation for preparing DG consignments		
Personnel responsible for processing and accepting dangerous goods consignment (Staff of freight forwarders involved in processing dangerous goods)	7.3 C	3,6	Dangerous goods regulation for processing and accepting DG consignments	5 days (40 hours)	3 days (24 hours)
Personnel responsible for processing or accepting dangerous goods presented as general cargo or mail (Operator's and ground handling agent's staff accepting cargo or mail (other than dangerous goods))	7.2 B	4,7,13	Dangerous goods regulation for processing and accepting General Cargo	2 days (12 hours)	1 day (6 hours)
Personnel responsible for handling/loading/unloading cargo at warehouse and aircraft (Staff of freight forwarders, Operator's and ground handling agent's staffs involved in the handling, storage and loading of cargo or mail and baggage at warehouse/aircraft)	7.4 D	5,8,14	Dangerous goods regulation for handling/ loading/ unloading	2 days (12 hours)	1 day (6 hours)
Personnel responsible for accepting passenger and crew, baggage, managing boarding area and direct passenger contact at an airport (Passenger handling staff)	7.5 E	9,15	Dangerous goods regulation for Passenger handling personnel	2 days (12 hours)	1 day (6 hours)
Personnel responsible for planning of aircraft loading	7.6 F	10	Dangerous goods regulation for load master and load planner	2 days (12 hours)	1 day (6 hours)
Flight crew members	7.8 G	10,16	Dangerous goods regulation for flight crew members	2 days (12 hours)	1 day (6 hours)
Flight operations officers and flight dispatchers	7.8 H	11,17	Dangerous goods regulation for flight operations officers and flight dispatchers	2 days (12 hours)	1 day (6 hours)
Cabin crew (Crew members other than flight crew members)	7.9 I	11,17	Dangerous goods regulation for cabin crew members	2 days (12 hours)	1 day (6 hours)
Personnel responsible for screening of passengers and crew and their baggage, cargo and mail (Security staff who are involved with the screening of passengers and crew and their baggage and cargo or mail)	7.10 J	12	Dangerous goods regulation for security screening personnel	2 days (12 hours)	1 day (6 hours)



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2.3.2.2 Task List Development

As part of the analysis phase, a comprehensive task list must be developed. This list identifies the tasks and sub-tasks typically performed by personnel handling dangerous goods functions.

A generic task list is provided in *Chapter 4* of this manual, accompanied by a flowchart in the Appendix that illustrates the sequence and interrelation of these tasks.

Employers are encouraged to adapt and customize the generic task list to accurately reflect the specific duties and operational practices of their personnel and organizational context.

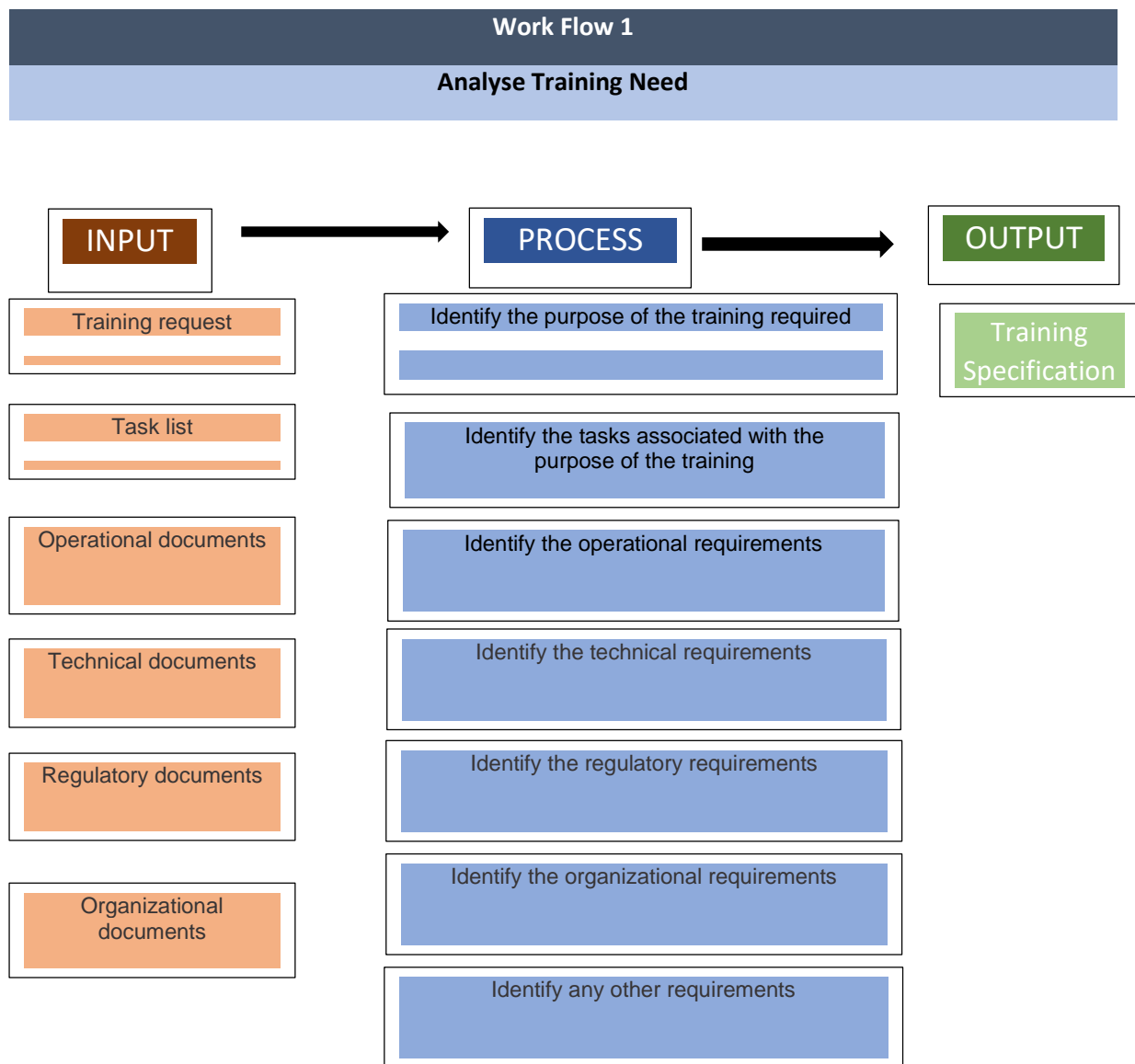


Figure 2-3. Workflow 1 — Analyse training need



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2.3.3 Workflow 2 — Design of Local Competency-Based Training and Assessment

2.3.3.1 Design Phase

The second phase in the development and implementation of a local competency-based training and assessment programme is the Design Phase. This stage builds upon the training specifications developed during Workflow 1 (Analysis Phase) and focuses on creating the structure and methodology for effective training and assessment.

The design process involves the following key steps:

- Establishing an adapted competency model** that aligns with the training specifications identified during Workflow 1;
- Designing an assessment plan** to evaluate and verify the competence of trainees against defined performance criteria; and
- Designing a training plan** that outlines the methods, materials, and delivery approach required for effective training implementation.

Figures 2-4 and 2-5 illustrate this workflow in two parts:

- **Part 1 (Figure 2-4):** Design of the adapted competency model
- **Part 2 (Figure 2-5):** Design of the assessment and training plan

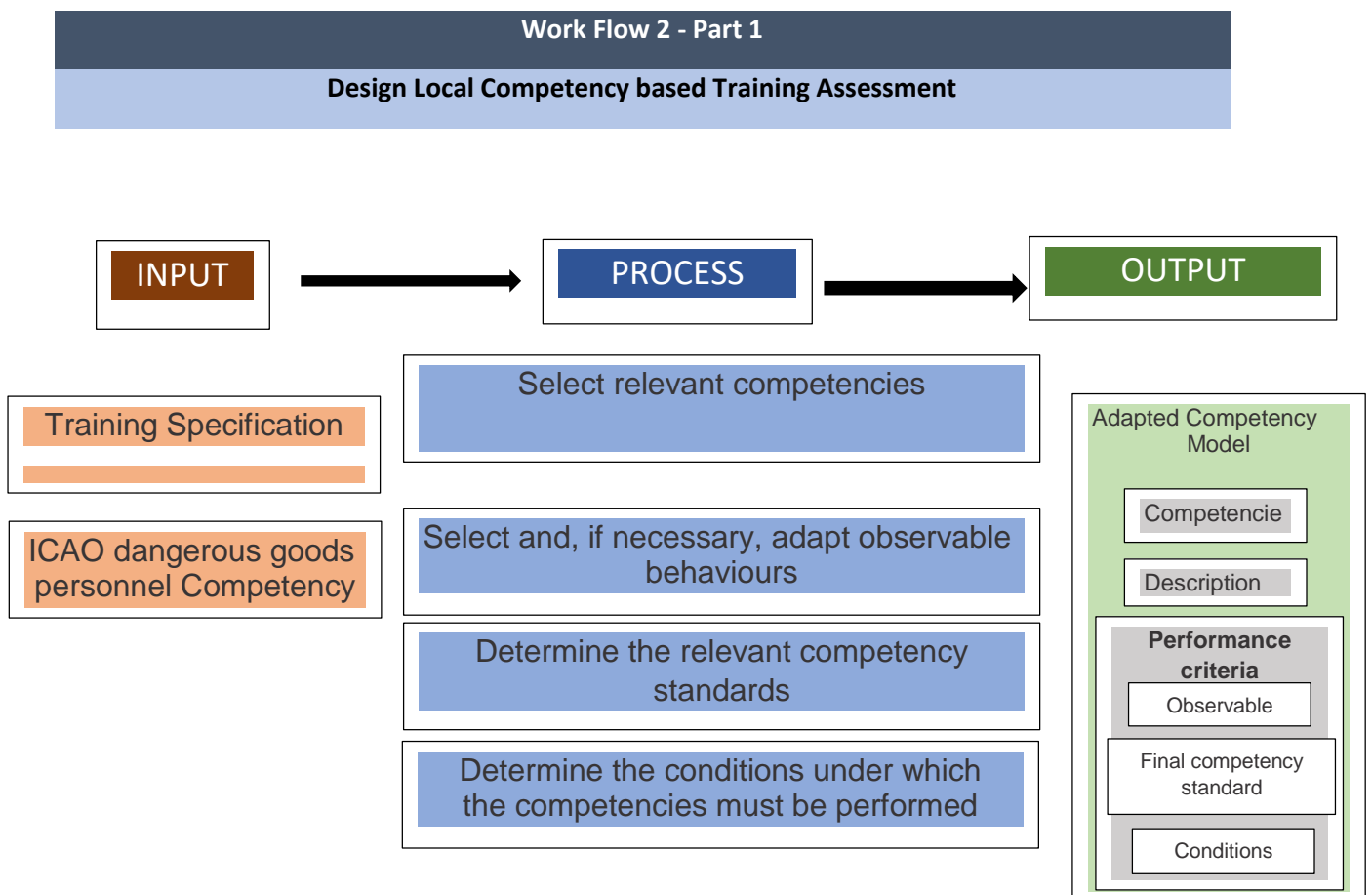


Figure 2-4. Workflow 2, Part 1 — Design local competency-based training and assessment



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2.3.3.2 Designing the Adapted Competency Model

2.3.3.2.1 Overview

The Dangerous Goods Competency Model should be adapted from the generic ICAO competency framework provided in *Chapter 3* to meet the specific organizational and operational competency requirements identified during the training specification phase. This adaptation ensures that the model reflects the unique characteristics of the employer's environment and supports the development of personnel competence in dangerous goods handling.

The adapted competency model should include the following key elements (refer to *Table 2-1* as a sample template):

a) List and Description of Competencies

The model should contain a comprehensive list of the competencies required and a description of each. The generic ICAO competency framework outlines the core competencies typically necessary to perform the dangerous goods tasks identified in the task list developed during **Workflow 1 (Analysis Phase)**.

While most adapted models will contain similar competencies, organizations may need to add, remove, or modify certain competencies to align with their operational practices, organizational structure, or regulatory obligations.

b) Performance Criteria for Assessing Competency

1. **Observable Behaviours** Each competency should be supported by a set of observable behaviours that clearly demonstrate the expected level of performance. The ICAO generic framework provides a detailed list of such behaviours, which may be selected, adapted, or expanded to suit the organization's specific operational context.
2. **Competency Standards and Conditions** Each observable behaviour must be assessed against defined competency standards and assessment conditions. These standards ensure compliance with applicable rules, procedures, and regulations, as described in relevant documents such as national requirements, ICAO Technical Instructions, and operator or ground handling manuals. In certain cases, specific standards may be established for particular behaviours to address unique organizational or regulatory requirements.

2.3.3.2.2 Environmental and Operational Conditions

When defining competency standards, it is important to consider the specific environmental and operational conditions under which performance will be demonstrated. These may include:

- The nature and complexity of the tasks performed;
- The tools, systems, or equipment available; and
- The degree of supervision, support, or assistance that a trainee may expect from an instructor or assessor.

Accounting for these factors ensures that the competency standards realistically reflect the operational environment and provide a valid basis for performance assessment.

2.3.3.2.3 Progressive Instructor Involvement

At the initial stages of training, trainees typically receive active coaching and direct instruction to build foundational competence. As trainees advance and demonstrate greater confidence and capability, the instructor's role should become progressively less directive. During the final



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stages of training, the instructor primarily observes performance, providing occasional feedback or intervening only when safety or compliance could be compromised. Accordingly, the final competency standard should specify that the trainee is capable of performing tasks independently and effectively, without the need for instructor assistance.

2.3.3.2.4 Interim Competency Standards

To support a progressive learning pathway, it may be necessary to define interim competency standards. These interim benchmarks provide measurable milestones that allow instructors and trainees to monitor progress, identify areas for improvement, and ensure steady advancement toward the final competency standard. They also facilitate structured feedback and targeted reinforcement throughout the training process.

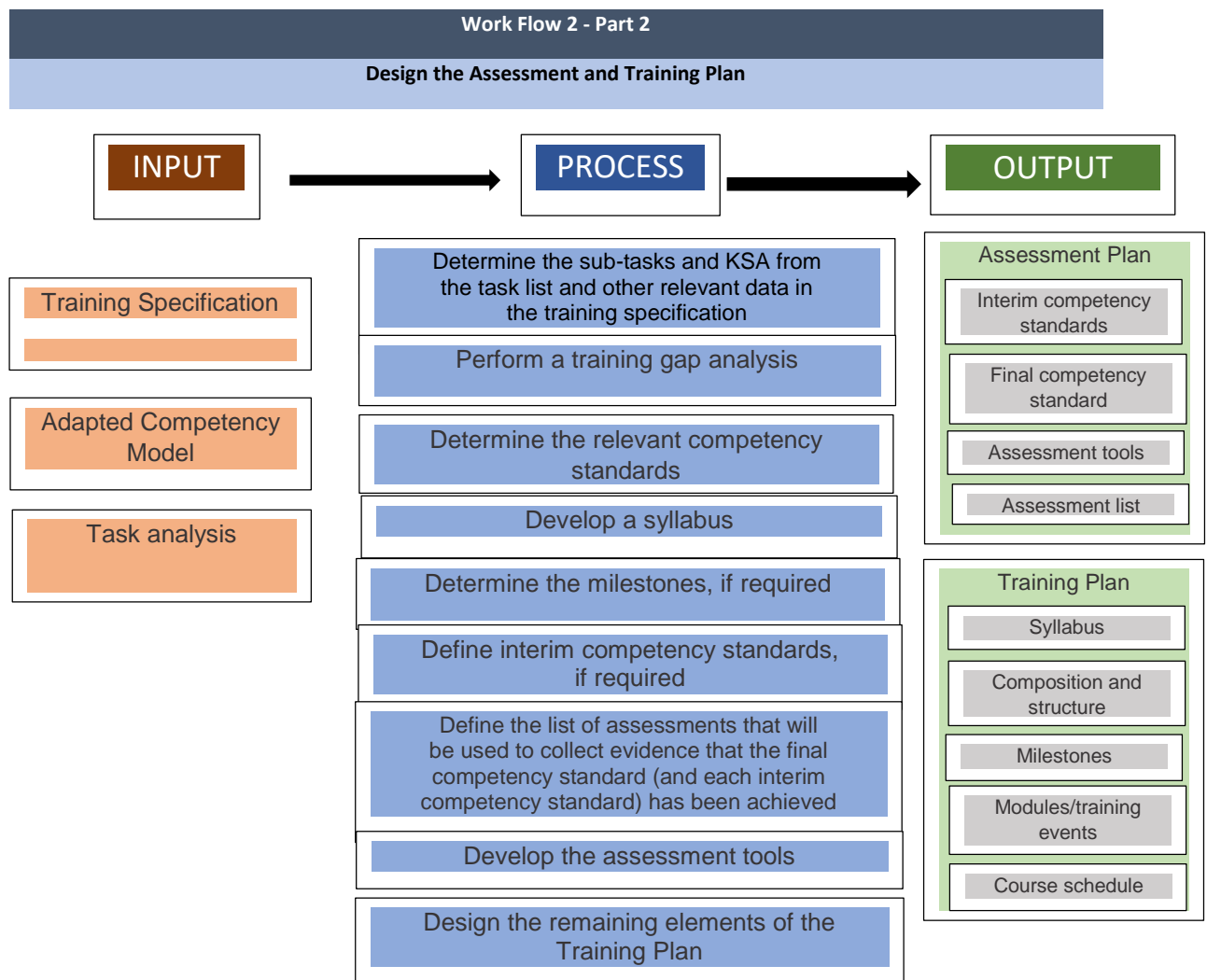


Figure 2-5. Workflow 2, Part 2 — Design the assessment and training plans

2.3.3.3 Designing the Assessment and Training Plan

2.3.3.3.1 Overview

The assessment and training plan forms the foundation for developing and implementing an effective competency-based training and assessment programme. It ensures that training is



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systematically aligned with the adapted competency model developed under Workflow 2, Part 1, and provides a structured framework for both delivering training and assessing competence.

This phase focuses on:

- Designing an assessment plan to evaluate the competence of personnel; and
- Designing a training plan that supports the achievement of the defined competency standards.

2.3.3.3.2 Designing the Assessment Plan

The assessment plan defines how competency will be measured, verified, and documented. It outlines the methods, tools, and conditions under which the assessment will take place, ensuring objectivity, fairness, and alignment with regulatory requirements.

Key elements of an effective assessment plan include:

- a) **Assessment Objectives** – Identifying what competencies will be assessed and the expected performance outcomes.
- b) **Assessment Methods** – Selecting appropriate methods such as direct observation, simulation, oral questioning, written tests, or practical exercises. These methods should allow trainees to demonstrate both knowledge and skill-based performance.
- c) **Assessment Criteria** – Establishing clear standards based on observable behaviours, performance measures, and competency standards developed earlier.
- d) **Assessment Conditions** – Defining the operational context, equipment, and level of support under which assessments will be conducted to ensure validity and consistency.
- e) **Assessor Qualifications** – Ensuring that assessments are conducted by qualified and competent assessors who are familiar with both the operational environment and the competency framework.
- f) **Recording and Reporting** – Establishing procedures for documenting results, maintaining assessment records, and providing feedback to trainees for continuous improvement.

2.3.3.3.3 Designing the Training Plan

The training plan provides the blueprint for delivering structured learning that develops the competencies defined in the adapted model. It should translate the training specifications and competency requirements into a practical and implementable training programme.

The training plan should include the following components:

- a) **Training Objectives** – Defining the purpose of the training, desired learning outcomes, and alignment with operational needs.
- b) **Training Content** – Identifying the topics, modules, and learning materials required to achieve the defined competencies.
- c) **Training Methods** – Selecting suitable instructional methods, such as classroom instruction, e-learning, practical exercises, demonstrations, or on-the-job training, depending on the complexity of the task and the learning environment.



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- d) **Training Resources** – Listing the necessary tools, equipment, facilities, and reference materials to support effective training delivery.
- e) **Instructor Qualifications** – Ensuring instructors possess the technical expertise, instructional skills, and regulatory knowledge necessary to deliver Dangerous Goods training effectively.
- f) **Training Schedule** – Establishing the duration, sequencing, and pacing of training sessions to facilitate progressive learning and competency development.
- g) **Evaluation and Feedback Mechanisms** – Incorporating ongoing evaluation of trainee progress, post-training feedback, and opportunities for reinforcement and retraining, if required.

2.3.3.3.4 Integration of Assessment and Training

To ensure effectiveness, the training and assessment plans must be integrated. Assessment outcomes should continuously inform training delivery, allowing instructors to adjust methods or provide targeted support where gaps in competence are identified.

This integration ensures that the training remains dynamic, learner-focused, and performance-driven, ultimately leading to the sustained competence of personnel in dangerous goods handling operations.

Table 2-2: Adapted Competency Model for Dangerous Goods Personnel (Generic Task List 1–7)

Competency Unit	Description	Competency Elements	Performance Criteria	Knowledge and Skills	Evidence Required
DG-1: Classify Dangerous Goods	Ability to correctly classify articles and substances as dangerous goods in accordance with ICAO Technical Instructions and IATA DGR.	1.1 Identify articles or substances that meet DG criteria. 1.2 Determine the correct Proper Shipping Name, UN Number, Class/Division, and Packing Group. 1.3 Identify applicable special provisions or exceptions.	– Classification is accurate per DGR criteria.– Correct PSN, UN number, and class/division applied.– Special provisions properly referenced.	– IATA DGR Section 3 (Classification).– UN numbering and hazard identification system.– Use of DGR lists and special provisions.	– Written classification test.– Practical identification exercises.– Instructor observation.
DG-2: Prepare Dangerous Goods Shipment	Competence to prepare DG packages and documentation for air transport.	2.1 Select correct packaging type and quantity limits. 2.2 Mark and label packages correctly. 2.3 Complete the Shipper’s Declaration for Dangerous Goods (DGD).	– Packaging and labeling meet DGR requirements.– Documentation accurate and complete.– Errors identified and corrected prior to acceptance.	– DGR Sections 5–8 (Packing, Marking, Labeling, Documentation).– Packaging Instructions and operator variations.– Responsibilities of shipper and acceptance staff.	– Review of prepared DG packages.– Completed DGD sample.– Observation of preparation process.
DG-3: Process and Accept Dangerous Goods Cargo	Ability to perform DG acceptance checks using approved	3.1 Apply operator acceptance checklist. 3.2 Verify packaging, marking, and labeling against documentation.	– Acceptance checklist correctly applied.– Non-compliances identified and recorded.– NOTOC	– DGR 9.1–9.8 (Acceptance procedures).– Rejection and notification requirements.–	– Simulated acceptance exercise.– Correctly completed checklist and



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	checklists and procedures.	3.3 Identify and reject non-compliant consignments. 3.4 Prepare and distribute NOTOC.	completed and distributed accurately.	Record-keeping procedures.	NOTOC.– Supervisor assessment.
DG-4: Manage Cargo Pre-loading	Ability to ensure safe storage, segregation, and loading of DG cargo before aircraft loading.	4.1 Store DG in compliance with segregation rules. 4.2 Verify compatibility and stowage category. 4.3 Coordinate with flight operations and load control. 4.4 Secure DG to prevent movement or damage.	– Storage, segregation, and coordination meet operator procedures.– Cargo secured and positioned as per aircraft limitations.– Safety measures followed at all times.	– DGR Chapter 9 (Handling).– Segregation and stowage requirements.– Aircraft loading limitations and trim sheet basics.– PPE and ramp safety.	– On-the-job observation.– Review of NOTOC and load sheet.– Performance check during handling.
DG-5: Accept Passenger and Crew Baggage	Ability to detect, refuse, and report dangerous goods in passenger and crew baggage.	5.1 Identify hidden DG in baggage or carry-on items. 5.2 Apply restrictions and exemptions for lithium batteries, aerosols, etc. 5.3 Refuse and report prohibited items.	– Passenger baggage screened according to DGR Table 2.3.A.– Passengers advised on DG restrictions.– Prohibited items refused and documented.	– DGR Section 2 (Limitations).– Hidden DG recognition.– Passenger and crew notification requirements.– Reporting procedures.	– Observation during check-in or gate screening.– Role-play or scenario assessment.– Review of baggage incident reports.
DG-6: Transport Cargo and Baggage Containing DG	Competence to safely handle and transport DG during ground and airside operations.	6.1 Transport DG securely using correct equipment. 6.2 Prevent exposure to heat, vibration, or impact. 6.3 Manage DG emergencies or spills during transport. 6.4 Complete and retain DG transport records.	– DG handled per operator procedures and safety standards.– Proper PPE and containment tools used.– Emergency response actions taken correctly.	– Handling and transport procedures.– Emergency response guide and containment methods.– Reporting and record-keeping.	– OJT observation.– Participation in DG emergency drill.– Review of incident/transport logs.
DG-7: Collect and Analyze Safety Data	Ability to collect, record, and analyze DG-related safety data in support of SMS and continuous improvement.	7.1 Gather and record safety reports, incidents, and near misses related to DG handling. 7.2 Identify hazards and contributing factors. 7.3 Communicate safety information to the appropriate department. 7.4 Recommend preventive or corrective actions.	– Safety data collected accurately and promptly.– Reports analyzed for trends or recurring issues.– Corrective actions proposed or implemented.	– Safety Management System (SMS) principles.– DG occurrence reporting requirements (Annex 18 & DGR 9.6).– Hazard identification and risk assessment methods.– Data analysis and feedback process.	– Review of submitted safety reports.– Participation in safety review meetings.– Observation of reporting compliance and corrective follow-up.



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2.3.4 Workflow 3 — Develop Training and Assessment

2.3.4.1 Overview

The Development Phase is the third workflow in the competency-based training and assessment (CBTA) process. In this phase, the materials, tools, and resources required for the delivery of training and the conduct of assessments are created, refined, and validated.

The development process translates the design outputs—including the training and assessment plans—into practical, ready-to-use products that ensure consistent delivery and reliable evaluation of competence.

2.3.4.2 Key Objectives

The objectives of the Development Phase are to:

- Develop and validate training materials and supporting resources;
- Develop or adapt assessment tools aligned with the defined competencies and performance criteria;
- Ensure that all materials are technically accurate, regulatory compliant, and operationally relevant; and
- Pilot or test materials to confirm their effectiveness and usability before full implementation.

2.3.4.3 Development of Training Materials

Training materials should be created based on the training plan and competency model designed in Workflow 2. These materials must facilitate learning, promote engagement, and ensure alignment with the established competency standards.

Training materials may include:

- **Instructor guides** outlining lesson content, delivery sequence, key learning points, and assessment checkpoints;
- **Trainee manuals or workbooks** containing structured content, activities, and reference materials;
- **Presentations, videos, or e-learning modules** designed to enhance understanding and engagement;
- **Practical exercise guides or simulation scenarios** for developing task-specific competencies; and
- **Reference documents** such as regulatory texts, operational manuals, and emergency response procedures.

All materials should be reviewed by **subject matter experts (SMEs)** to ensure accuracy, consistency, and compliance with the **ICAO Technical Instructions** and relevant **national regulations**.



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2.3.4.4 Development of Assessment Tools

Assessment tools are designed to measure whether trainees have achieved the required competencies. These tools should be directly linked to the performance criteria, observable behaviours, and competency standards established in the adapted model.

Assessment tools may include:

- **Observation checklists** for evaluating on-the-job or simulated performance;
- **Written examinations** for assessing knowledge and comprehension;
- **Scenario-based exercises** or **case studies** for evaluating decision-making and application of procedures; and
- **Practical demonstrations** to verify skill proficiency and safety awareness.

Each tool should include clear guidance for assessors on:

- The assessment method and conditions;
- The expected performance outcomes; and
- The criteria for determining competence or non-competence.

Prior to implementation, all assessment instruments should undergo validation and testing to ensure fairness, reliability, and objectivity.

2.3.4.5 Relationship Between the Adapted Competency Model and the Assessment and Training Plans

2.3.4.5.1 Alignment With the Training Specification

The training specification developed in Workflow 1 forms the foundation for both the adapted competency model and the training and assessment plans.

- The task list developed during the analysis phase guides the selection of observable behaviours from the generic competency framework in Chapter 3.
- The operational, technical, regulatory, and organizational requirements identified in the training specification support the development of the conditions and performance standards associated with each competency and observable behaviour.

2.3.4.5.2 Link Between the Task List, Training Plan, and Assessment Plan

The same task list and requirements are used to design the training plan. The training plan is intended to prepare trainees to demonstrate competence during the assessment, in line with the adapted competency model.

The adapted competency model, together with the training plan, serves as the basis for building the assessment plan, ensuring that assessment activities accurately evaluate the required competencies.



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2.3.4.5.3 Composition of the Training Syllabus

The syllabus within the training plan consists of:

- Training objectives derived from the tasks and sub-tasks; and
- The underlying knowledge, skills, and attitudes (KSA) needed to perform those tasks.

The required KSA are determined using:

- The task list, and
- The operational, technical, regulatory, and organizational requirements identified in Workflow 1.

A generic task/knowledge matrix is provided in Chapter 5 to support this process.

The required level of knowledge or skill will vary depending on the nature of the task. For example:

- Personnel accepting dangerous goods will require a lower level of knowledge of classification than personnel classifying dangerous goods.

2.3.4.5.4 Use of the Adapted Competency Model During Assessment

During assessment, the adapted competency model, rather than the training syllabus, is used as the reference.

- The performance criteria within the model are used to determine whether the trainee has achieved competence.
- The tasks and sub-tasks performed during training and assessment act as the mechanism (“vehicle”) through which the trainee demonstrates competence.

Figure 2-6 illustrates the relationship between Workflow 1 (Analyse) and Workflow 2 (Design) and how these outputs support the development of training, assessment, and competency frameworks.



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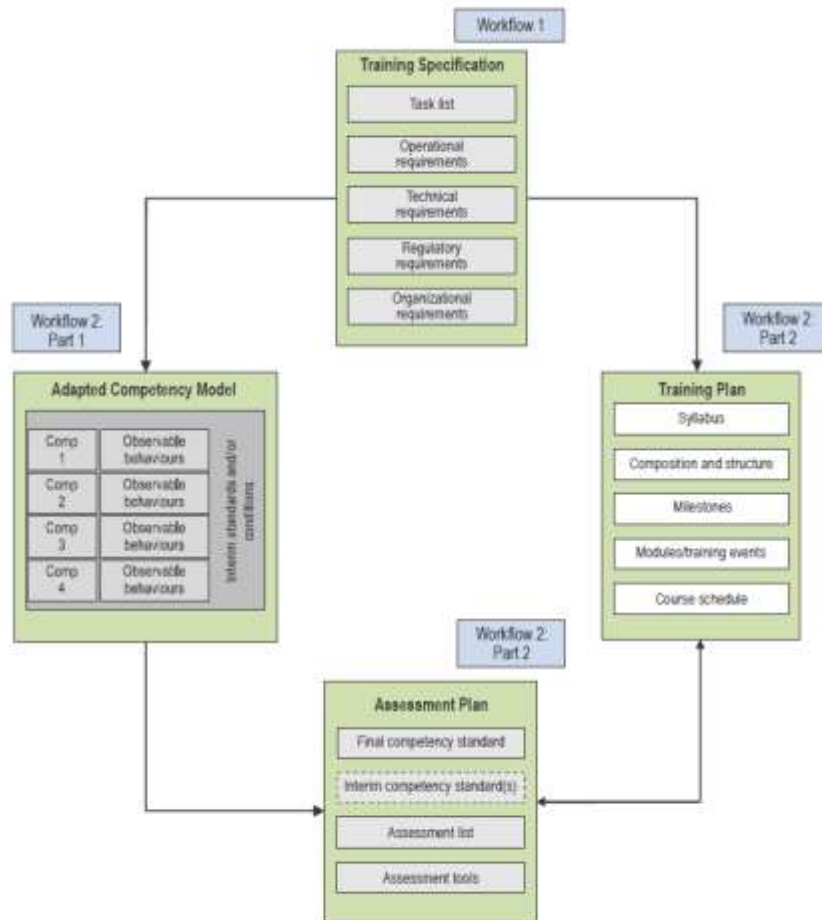


Figure 2-6. Relationship between Workflow 1 and Workflow 2

2.3.4.6 *Quality Assurance and Version Control*

To maintain standardization and regulatory compliance, all training and assessment materials should be subject to quality assurance review and version control.

This process includes:

- Documenting approval and review dates;
- Tracking revisions and updates to materials;
- Ensuring changes are communicated to instructors and assessors; and
- Maintaining a controlled repository of approved materials accessible to authorized personnel.

2.3.4.7 *Output of the Development Phase*

The output of this workflow is a complete set of validated training and assessment materials, ready for implementation. These materials form the operational basis of the CBTA programme and ensure that training is delivered consistently and effectively across all personnel engaged in dangerous goods functions.



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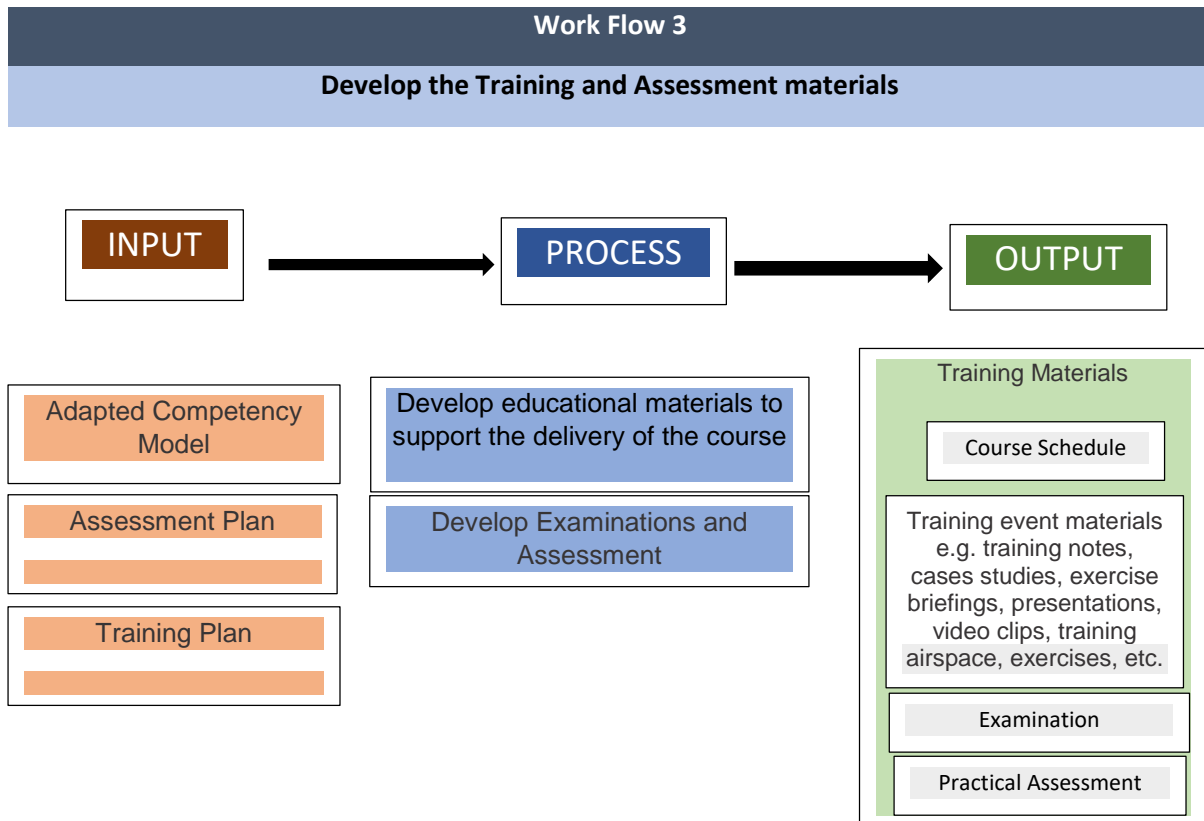


Figure 2-7. Workflow 3 — Develop the training and assessment materials

2.3.5 Workflow 4 — Implement Training and Assessment

2.3.5.1 Overview

The Implementation Phase is the fourth workflow in the competency-based training and assessment (CBTA) process. It involves the delivery of the training programme and the conduct of assessments in accordance with the plans and materials developed in the previous phase. This workflow ensures that the designed training is delivered consistently, assessments are conducted objectively, and both are aligned with the training specifications and competency standards established earlier.

2.3.5.2 Key Objectives

The primary objectives of the Implementation Phase are to:

- Deliver the training programme as per the approved training plan;
- Conduct assessments to determine trainee competence;
- Monitor training and assessment activities for consistency, fairness, and effectiveness; and
- Collect data and feedback to support continuous improvement of the CBTA system.



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2.3.5.3 *Conduct of Training*

Training should be delivered by qualified instructors using the approved materials, methods, and resources developed in the previous phase. The delivery process should promote active participation, practical engagement, and the application of knowledge to operational contexts.

Key considerations for training delivery include:

- Adhering to the **lesson structure and schedule** outlined in the training plan;
- Maintaining an appropriate **instructor-to-trainee ratio** to ensure effective learning;
- Providing opportunities for **practical application** of knowledge and skills;
- Ensuring the **availability and functionality** of all required tools, equipment, and training aids; and
- Monitoring trainee progress and providing **timely feedback** to support learning.

Training should emphasize competence over duration, meaning that progression to assessment depends on demonstrated ability rather than time spent in instruction.

2.3.5.4 *Conduct of Assessment*

Assessments must be carried out in accordance with the assessment plan and under the conditions defined during the design phase. They should be objective, standardized, and evidence-based, ensuring that all candidates are evaluated against the same competency standards.

Assessment activities may include:

- **Direct observation** of practical performance in operational or simulated environments;
- **Written or oral evaluations** to verify knowledge and decision-making skills; and
- **Scenario-based or case study assessments** to assess problem-solving, risk management, and regulatory compliance.

All assessments should be conducted by qualified assessors who are independent from the training delivery, wherever practicable, to maintain impartiality.

Upon completion of each assessment, the assessor should:

- Record the outcome using the approved assessment documentation;
- Provide constructive feedback to the trainee; and
- Identify any additional training or remedial actions required before declaring competence.

2.3.5.5 *Record Keeping and Documentation*

Accurate and complete documentation is critical to demonstrating compliance with regulatory requirements and maintaining traceability of training outcomes.

Records should include:

- Training attendance and participation logs;
- Assessment results and feedback forms;



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- Competence verification reports; and
- Instructor and assessor qualification records.

All records should be securely maintained in accordance with the organization’s **record retention policy** and **regulatory requirements**.

2.3.5.6 *Feedback and Continuous Improvement*

Feedback from trainees, instructors, and assessors should be systematically collected and analyzed to identify opportunities for improvement in both training content and delivery. Lessons learned during implementation should feed back into the evaluation and future design phases, ensuring the CBTA programme remains effective, current, and aligned with operational realities.

2.3.5.7 *Output of the Implementation Phase*

The output of this workflow is the successful delivery of the training and completion of competence assessments, resulting in the identification of personnel who have achieved the required competency standards. This phase confirms that the CBTA programme is operational and that performance outcomes can now be evaluated for continuous improvement.

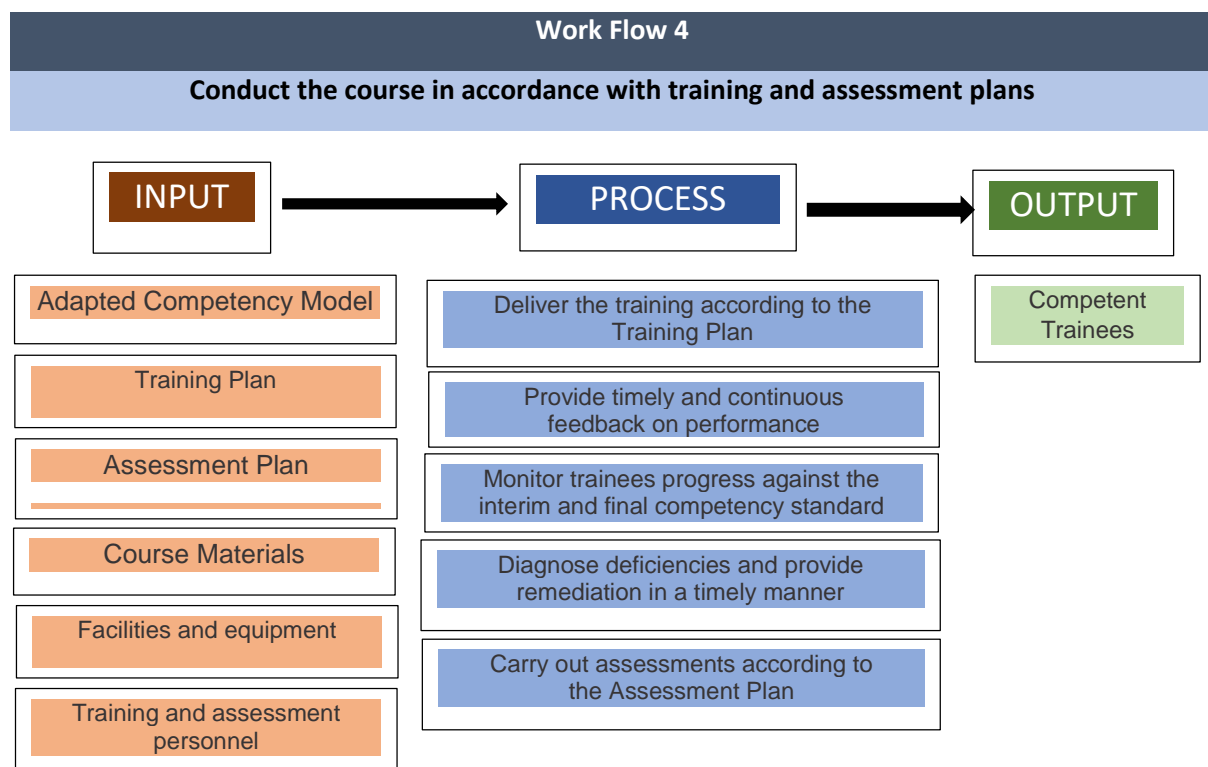


Figure 2-8. Workflow 4 — Conduct the course in accordance with training and assessment plans

2.3.6 **Workflow 5 — Evaluate Training and Assessment**

2.3.6.1 *Overview*

The Evaluation Phase is the fifth and final workflow in the competency-based training and assessment (CBTA) process.



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It focuses on determining the effectiveness and efficiency of the training and assessment system by evaluating whether the desired competency outcomes have been achieved and whether the programme continues to meet organizational, regulatory, and operational requirements.

Evaluation provides the basis for continuous improvement, ensuring that the training programme remains relevant, up-to-date, and aligned with both ICAO provisions and national regulations.

2.3.6.2 Key Objectives

The objectives of the Evaluation Phase are to:

- Verify that the training and assessment programme effectively develops and measures the required competencies;
- Assess the efficiency and quality of training delivery and assessment practices;
- Identify strengths, weaknesses, and opportunities for improvement; and
- Ensure compliance with the organization's quality assurance (QA) and safety management systems.

2.3.6.3 Types of Evaluation

Evaluation should be conducted at multiple levels to obtain a comprehensive understanding of programme performance.

Common types of evaluation include:

- a) **Formative Evaluation** – Conducted during the development and implementation of training to ensure that materials, methods, and assessments are functioning as intended.
- b) **Summative Evaluation** – Conducted after training and assessment activities are completed to determine the overall effectiveness of the programme in achieving its learning and competency objectives.
- c) **Operational Evaluation** – Conducted periodically to assess the long-term impact of the training on operational safety performance and organizational competence.

2.3.6.4 Evaluation Criteria

Evaluation activities should address the following areas:

- **Relevance:** Alignment of training objectives and content with current operational requirements, procedures, and regulations.
- **Effectiveness:** The degree to which trainees achieve the intended competency standards.
- **Efficiency:** Optimal use of time, resources, and instructional methods in achieving learning outcomes.
- **Validity and Reliability:** Consistency and fairness of assessment results across assessors and sessions.
- **Satisfaction:** Feedback from trainees, instructors, and assessors on the quality and usefulness of the training.
- **Impact:** Measurable improvements in operational safety, compliance, and performance following training.



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2.3.6.5 Evaluation Methods

Evaluation data should be collected through a combination of quantitative and qualitative methods, such as:

- Trainee feedback surveys and course evaluations;
- Instructor and assessor debriefings;
- Performance data and error trend analysis;
- Observation of on-the-job performance post-training; and
- Review of audit findings or safety reports related to dangerous goods handling.

The analysis of this data helps determine whether training and assessment processes are achieving the desired outcomes and where modifications may be necessary.

2.3.6.6 Continuous Improvement

Evaluation findings must be systematically reviewed and documented. Identified issues, lessons learned, and best practices should be fed back into the analysis and design phases to ensure continual enhancement of the CBTA programme.

Where significant deficiencies are identified, the organization should initiate corrective actions, such as:

- Updating training content or materials;
- Revising assessment methods or standards;
- Providing additional instructor or assessor training; and
- Adjusting training duration, frequency, or delivery methods.

This process establishes a feedback loop that maintains the effectiveness and sustainability of the CBTA system.

2.3.6.7 Output of the Evaluation Phase

The output of this workflow is a validated and continuously improving CBTA programme that demonstrates:

- The achievement of intended competency outcomes;
- Ongoing compliance with ICAO and national regulations; and
- Documented evidence supporting the organization's training and safety objectives.

Evaluation closes the CBTA cycle and provides the foundation for its renewal, ensuring that the training system evolves with operational demands, regulatory changes, and emerging risks in dangerous goods handling.



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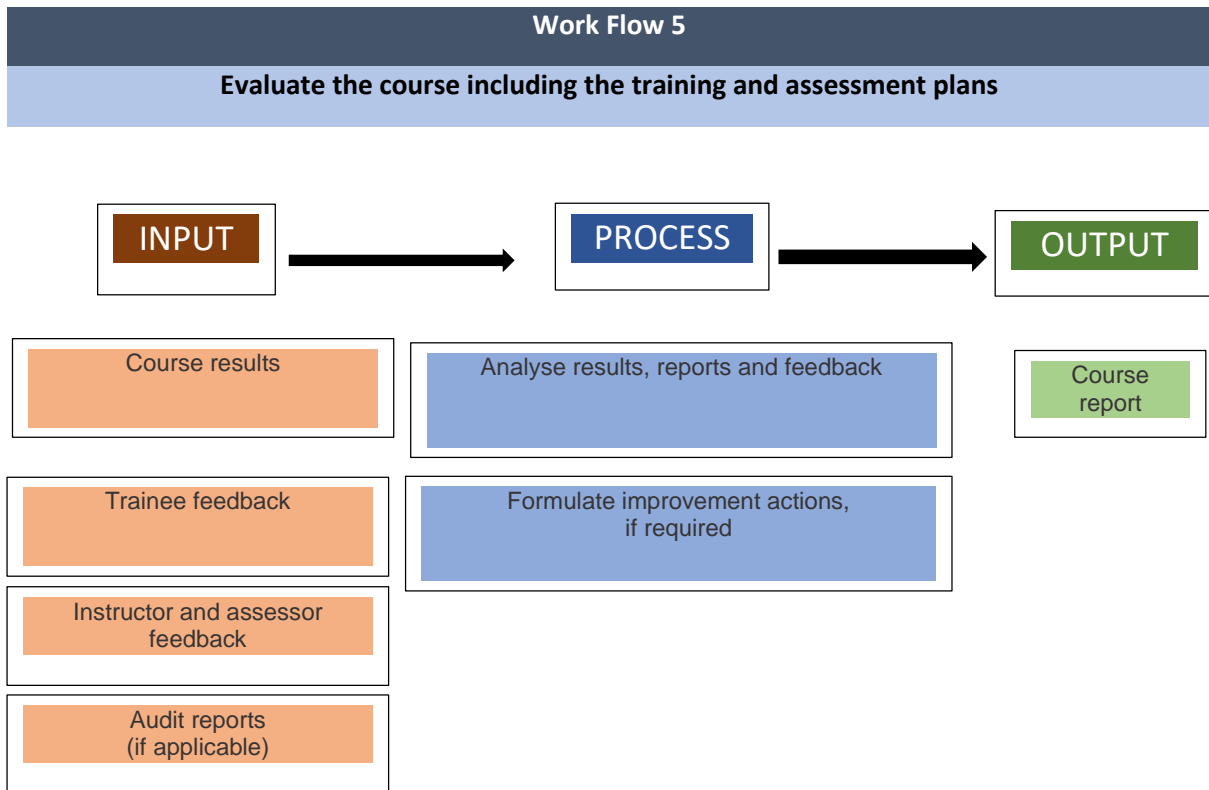


Figure 2-9. Workflow 5 — Evaluate the course including the training and assessment plans



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3 Chapter Three - Generic Competency Framework for Dangerous Goods Personnel

Generic Competency Framework for Dangerous Goods Personnel in the format of **Table 3-1** (as per ICAO Doc 10147 – *PANS-TRG, Chapter 3*).

This framework is **generic**, meaning it defines the *core competencies, descriptions, observable behaviours, and knowledge and skills* expected of all personnel involved in Dangerous Goods functions — regardless of specific job roles (shipper, operator, ground handler, etc.).

Below is the Generic Competency Framework for Dangerous Goods Personnel (Table 3-1 format) — adapted to align with ICAO guidance and IATA DGR CBTA job function groups (7.1.A to 7.10.J).

Table 3-1: Generic Competency Framework for Dangerous Goods Personnel

Competency	Description	Observable Behaviour	Knowledge and Skills
1. Apply Dangerous Goods Regulations	Ability to apply ICAO Technical Instructions and IATA DGR requirements relevant to assigned duties.	<ul style="list-style-type: none"> • Correctly interprets regulatory provisions. • Ensures compliance with national and operator requirements. • Identifies deviations or non-compliance and takes appropriate action. • Refers to current regulations when performing tasks. 	<ul style="list-style-type: none"> • Structure and content of ICAO TI and IATA DGR. • National and operator variations. • Responsibilities of personnel under Annex 18 • Use of current reference materials.
2. Identify Dangerous Goods	Ability to recognize and classify dangerous goods, including hidden or undeclared articles.	<ul style="list-style-type: none"> • Accurately identifies DG using UN number, proper shipping name, class/division, and packing group. • Recognizes hidden DG in baggage or cargo. • Determines whether DG are forbidden, restricted, or excepted for air transport. 	<ul style="list-style-type: none"> • DGR Section 3 (Classification). • Hidden DG indicators (e.g., chemical, medical, industrial goods). • Provisions for excepted quantities and limited quantities.
3. Prepare Dangerous Goods for Air Transport	Ability to properly prepare DG packages and related documentation for shipment by air.	<ul style="list-style-type: none"> • Selects and uses correct packaging and quantity limits. • Marks and labels packages correctly. • Prepares accurate Shipper’s Declaration for Dangerous Goods. • Applies operator variations and special provisions where applicable. 	<ul style="list-style-type: none"> • DGR Sections 5–8 (Packing, Marking, Labeling, Documentation). • Packaging Instructions and limitations. • Operator-specific procedures and documentation requirements.
4. Accept Dangerous Goods	Ability to process and accept DG consignments using	<ul style="list-style-type: none"> • Applies acceptance checklist accurately. • Identifies non-compliant consignments. 	<ul style="list-style-type: none"> • DGR 9.1–9.8 (Acceptance procedures). • Use of acceptance checklist.



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	appropriate checklists and procedures.	<ul style="list-style-type: none"> • Takes corrective action or rejects shipment as necessary. • Ensures NOTOC is completed and distributed. 	<ul style="list-style-type: none"> • Notification to captain (NOTOC) requirements. • Rejection and reporting process.
5. Handle and Load Dangerous Goods	Ability to safely handle, store, and load DG in accordance with operational and safety requirements.	<ul style="list-style-type: none"> • Applies segregation and stowage rules correctly. • Coordinates with operations and load control. • Uses PPE and equipment safely. • Prevents package damage, contamination, or exposure. 	<ul style="list-style-type: none"> • DGR Chapter 9 (Handling). • Segregation tables and compatibility rules. • Aircraft stowage limitations. • Safe handling and use of PPE.
6. Manage Dangerous Goods Emergencies	Ability to respond effectively to DG incidents and emergencies during ground or flight operations.	<ul style="list-style-type: none"> • Identifies and classifies the type of DG incident. • Takes immediate containment actions. • Notifies appropriate personnel and follows emergency procedures. • Documents and reports incident accurately. 	<ul style="list-style-type: none"> • Emergency response procedures (Annex 18, DGR 9.6). • DG Emergency Response Guide (ERG). • PPE use and contamination control. • Reporting and investigation process.
7. Maintain Records and Documentation	Ability to maintain accurate DG documentation and records for compliance and traceability.	<ul style="list-style-type: none"> • Completes and retains DG records per retention requirements. • Ensures confidentiality and data integrity. • Submits reports to appropriate authorities or departments. 	<ul style="list-style-type: none"> • Documentation control and retention (DGR 1.7.2.5). • DG reporting formats and CAAN requirements. • Recordkeeping and audit processes.
8. Apply Safety and Security Practices	Ability to integrate safety and security measures in all DG operations.	<ul style="list-style-type: none"> • Follows safety management procedures. • Reports hazards, near-misses, or unsafe acts. • Ensures security of DG during storage and transport. • Participates in safety meetings and briefings. 	<ul style="list-style-type: none"> • Safety Management System (SMS) principles. • Human factors and safety culture. • Security provisions for DG (ICAO Annex 17 & 18).
9. Collect and Analyze Safety Data	Ability to collect, monitor, and analyze DG-related safety data for continuous improvement.	<ul style="list-style-type: none"> • Collects safety reports and incident data. • Identifies hazards and contributing factors. • Proposes preventive and corrective actions. • Communicates findings to SMS focal point. 	<ul style="list-style-type: none"> • Hazard identification and risk assessment methods. • Data collection and trend analysis. • Safety performance indicators (SPIs). • CAAN and ICAO reporting systems.



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4 Chapter Four - DANGEROUS GOODS TASK LIST

This chapter presents a **generic list of tasks** commonly performed by personnel involved in dangerous goods functions, as referenced in Chapter 1, Section 1.2.5. The list serves as a **guideline** to assist organizations in identifying the typical responsibilities associated with dangerous goods handling.

Employers should note that this list is **indicative** and may not cover all operational scenarios. Depending on the **nature, size, and complexity** of the organization's operations, additional tasks may need to be included, or certain tasks may be excluded.

Therefore, each employer is expected to **review and adapt** this task list to accurately represent the **specific duties and responsibilities** of their dangerous goods personnel within their operational environment.

Table 4-1: **DANGEROUS GOODS TASK LIST**

Task Area	Sub-task	Details
0. Understanding the basics of dangerous goods	0.1 Dangerous goods applicability	0.1.1 Understand the definition 0.1.2 Recognize legal framework (global/National) 0.1.2 Identify the application scope 0.1.3 Differentiate hazard and risk
	0.2 Understanding the general limitations	0.2.1 Develop a sense of forbidden dangerous goods 0.2.2 Recognize potential hidden dangerous goods 0.2.3 Familiarize with passenger provisions
	0.3 Identifying roles and responsibilities	0.3.1 Clarify the individual and collective role of the supply chain stake holders 0.3.2 Recognize the impact of State & operator variations
	0.4 Understanding the importance of classification and packaging	0.4.1 Identify the general information about classes, divisions 0.4.2 Understand general principles of packing groups 0.4.3 Consider multiple hazards
	0.5 Understanding hazard communication	0.5.1 Recognize the basic marking requirements 0.5.2 Recognize the basic labeling and requirements 0.5.3 Identify the required documentation
	0.6 Familiarizing with basic emergency response	0.6.1 Create awareness about general emergency procedures 0.6.2 Understand the Airlines 's emergency response requirements
1. Classifying Dangerous Goods	1.1 Evaluate substance/article	1.1.1 Determine if it is DG 1.1.2 Determine if it is forbidden under any circumstances



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	1.2 Determine DG description	1.2.1 Determine class/division 1.2.2 Determine packing group 1.2.3 Determine proper shipping name & UN number 1.2.4 Determine if forbidden unless approval/exemption is granted
	1.3 Review special provisions	1.3.1 Assess if special provision(s) is applicable 1.3.2 Apply special provision(s)
2. Preparing Dangerous Goods Shipment	2.1 Assess packing options	2.1.1 Consider limitations (de minimis, excepted, limited quantities, pax/cargo aircraft only, special provisions, DG in mail) 2.1.2 Consider State/operator variations 2.1.3 Determine if all-packed-in-one can be used 2.1.4 Select shipment method based on limitations & variations
	2.2 Apply packing requirements	2.2.1 Consider constraints of packing instructions 2.2.2 Select packaging materials (absorbent, cushioning, etc.) 2.2.3 Assemble package 2.2.4 Comply with UN specification packaging test report
	2.3 Apply marks and labels	2.3.1 Determine applicable marks 2.3.2 Apply marks 2.3.3 Determine applicable labels 2.3.4 Apply labels
	2.4 Assess use of overpack	2.4.1 Determine if overpack can be used 2.4.2 Apply marks if necessary 2.4.3 Apply labels if necessary
	2.5 Prepare documentation	2.5.1 Complete DG transport document 2.5.2 Complete other documents (e.g. air waybill) 2.5.3 Include approvals/exemptions 2.5.4 Retain copies as required
	3. Processing/ Accepting Cargo	3.1 Review documentation
3.2 Review package(s)		3.2.1 Verify marks 3.2.2 Verify labels 3.2.3 Verify package type 3.2.4 Verify package condition 3.2.5 Verify State/operator variations
3.3 Complete acceptance procedures		3.3.1 Complete acceptance checklist 3.3.2 Provide info for load planning 3.3.3 Retain documents as required
3.4 Process/accept non-DG cargo		3.4.1 Check documents for undeclared DG 3.4.2 Check packages for undeclared DG
4. Managing Cargo Pre-loading	4.1 Plan loading	4.1.1 Determine stowage requirements 4.1.2 Determine segregation, separation, aircraft/compartments limits
	4.2 Prepare load	4.2.1 Check for undeclared DG 4.2.2 Check for damage/leakage



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		4.2.3 Apply stowage requirements (segregation, separation, orientation) 4.2.4 Apply ULD tags 4.2.5 Transport cargo to aircraft
	4.3 Issue NOTOC	4.3.1 Enter required information 4.3.2 Verify conformance with load plan 4.3.3 Transmit to loading personnel
5. Accepting Passenger and Crew Baggage	5.1 Process baggage	5.1.1 Identify forbidden DG 5.1.2 Apply approval requirements
	5.2 Accept baggage	5.2.1 Apply operator requirements 5.2.2 Verify baggage requirements 5.2.3 Advise Pilot-in-Command
6. Transporting Cargo/Baggage	6.1 Load aircraft	6.1.1 Transport cargo/baggage to aircraft 6.1.2 Check for undeclared DG 6.1.3 Check for damage/leakage 6.1.4 Apply stowage requirements (segregation, separation, orientation, securing) 6.1.5 Verify NOTOC vs load 6.1.6 Verify passenger baggage requirements 6.1.7 Inform PIC & flight operations officer/dispatcher
	6.2 Manage DG pre- & during flight	6.2.1 Detect DG not permitted in baggage 6.2.2 Interpret NOTOC 6.2.3 Apply emergency procedures 6.2.4 Inform FOO/dispatcher/ATC in emergency 6.2.5 Inform emergency services of DG on board
	6.3 Unload aircraft	6.3.1 Apply unloading considerations 6.3.2 Check for undeclared DG 6.3.3 Check for damage/leakage 6.3.4 Transport to facility/terminal
7. Collecting Safety Data	7.1 – 7.4	7.1 Report DG accidents 7.2 Report DG incidents 7.3 Report undeclared/misdeclared DG 7.4 Report DG occurrences

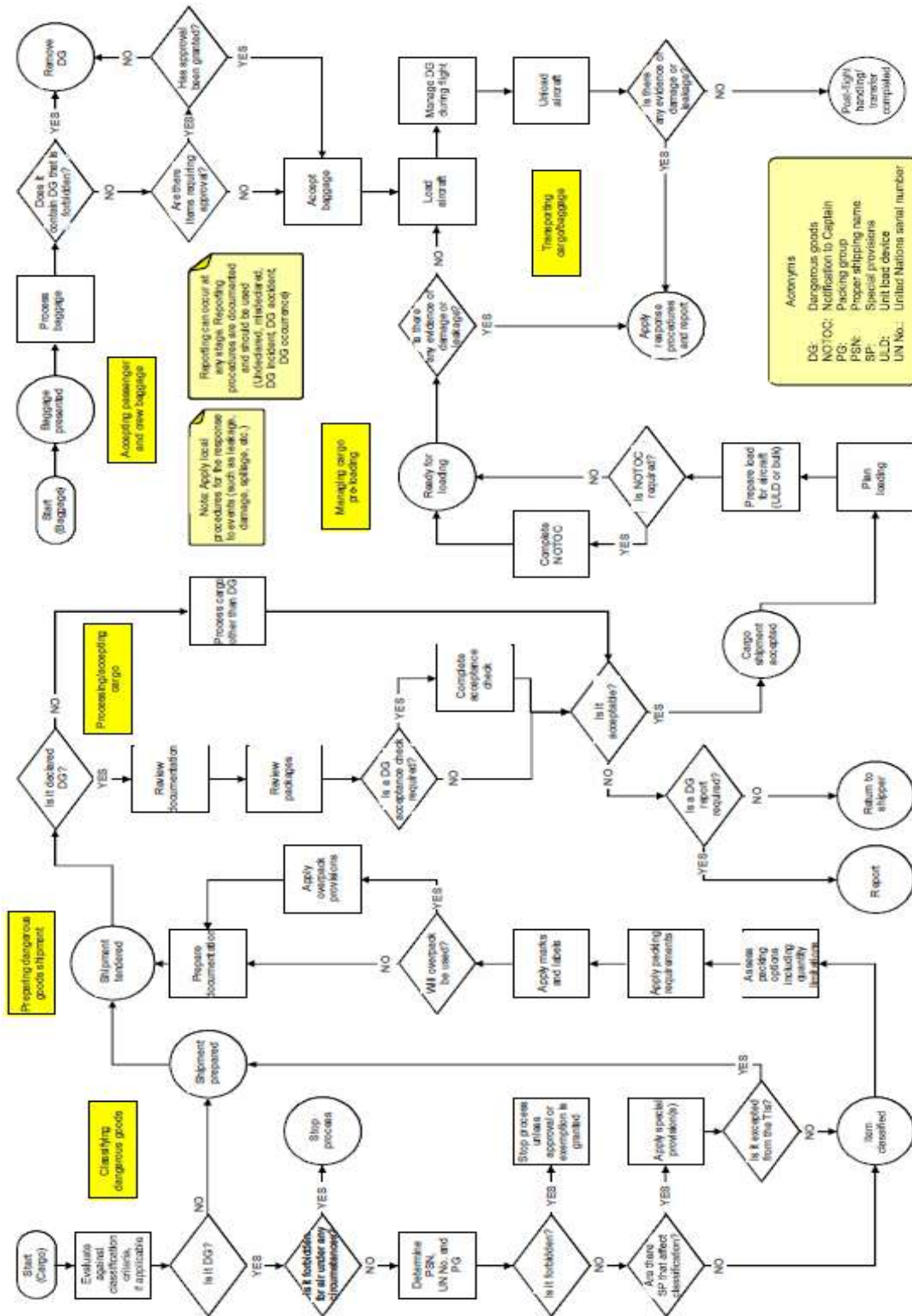


**Dangerous Goods Regulations
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DANGEROUS GOODS FUNCTIONS — PROCESS FLOWCHART



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5 Chapter Five - Task/Knowledge Matrix Tool

Task/Knowledge Matrix Tool designed for **Dangerous Goods Training** as referenced in Chapter 5. It links each **generic task** (from Chapter 4) with the **knowledge areas** required to perform those tasks competently. This tool can be used to design **competency-based training and assessment programmes** aligned with ICAO Doc 10147 and IATA DGR principles.

Table 5-1: TASK/KNOWLEDGE MATRIX TOOL FOR DANGEROUS GOODS PERSONNEL

SN	Generic Dangerous Goods Task	Required Knowledge Areas	Example Knowledge Elements	Competency Level
1	Classifying Dangerous Goods	<ul style="list-style-type: none"> Dangerous goods hazard classes and divisions Criteria for classification and identification Physical and chemical properties of substances Use of technical references (ICAO TI, IATA DGR) 	<ul style="list-style-type: none"> Understanding of 9 hazard classes Correct identification of UN numbers and PSN Differentiating between articles and substances Applying classification flowcharts 	Apply
2	Preparing Dangerous Goods Shipment	<ul style="list-style-type: none"> Packaging requirements (Packing Instructions) Marking and labelling standards Documentation (Shipper's Declaration) Quantity limitations and exemptions 	<ul style="list-style-type: none"> Selecting correct UN specification packaging Completing DG Declaration Applying correct labels/marks Using the correct packing instruction 	Perform
3	Processing and Accepting Cargo	<ul style="list-style-type: none"> Acceptance checklists and DGR Table 9.1.A Documentation verification Cargo segregation and compatibility Handling of rejected shipments 	<ul style="list-style-type: none"> Using IATA acceptance checklist Verifying documents and packages Identifying discrepancies Managing rejected or undeclared DG 	Verify
4	Managing Cargo Pre-loading	<ul style="list-style-type: none"> Loading segregation requirements Stowage and restraint procedures NOTOC preparation and communication Emergency response coordination 	<ul style="list-style-type: none"> Identifying incompatible DGs Preparing NOTOC correctly Communicating DG load to flight crew Coordinating with ground handling units 	Supervise
5	Accepting Passenger and Crew Baggage	<ul style="list-style-type: none"> Provisions for dangerous goods carried by passengers and crew (Table 2.3.A) Hidden dangerous goods awareness Screening and refusal procedures 	<ul style="list-style-type: none"> Identifying items allowed with approval Detecting hidden DG items Applying refusal and reporting procedures 	Identify
6	Transporting Cargo/Baggage	<ul style="list-style-type: none"> Safe handling and loading practices Transport and storage conditions Security and traceability of DG Incident reporting procedures 	<ul style="list-style-type: none"> Handling damaged packages Ensuring segregation during transport Reporting leakage or spillage Coordinating with airside safety teams 	Handle
7	Collecting Safety Data	<ul style="list-style-type: none"> Reporting systems (ADREP, internal SMS) 	<ul style="list-style-type: none"> Recording DG incidents accurately 	Evaluate



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		<ul style="list-style-type: none"> • Data collection and analysis methods • Investigation of DG incidents/occurrences • Continuous improvement process 	<ul style="list-style-type: none"> • Identifying root causes • Recommending preventive measures • Supporting safety management processes 	
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Usage Guidance

- **Employers** should tailor this matrix according to their operational context and staff responsibilities.
- **Competency levels** may follow Bloom’s taxonomy or ICAO-defined levels: *Identify* → *Apply* → *Perform* → *Verify* → *Supervise* → *Evaluate*.
- The matrix can be expanded with **assessment criteria** and **performance indicators** for use in CBTA implementation.



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6 Appendix of Chapter 4 - EXAMPLE ADAPTED TASK LISTS FOR SPECIFIC ROLES

A. Introduction

The following examples illustrate how the **generic dangerous goods task list** provided in Chapter 4 can be adapted to reflect the tasks typically performed by personnel in **specific, well-defined roles**. These examples identify the functions for which **training and assessment** would generally be required.

Personnel performing these roles must possess the **necessary knowledge and skills** to competently carry out the assigned tasks. To assist in determining the knowledge required for each task, the **task/knowledge matrix tool** in Chapter 5 may be used as a reference.

These examples, along with the task/knowledge matrix, are intended as **guidance** for designing and developing effective dangerous goods training programmes. They are **not mandatory**, as the scope of training and assessment should be based on the **specific responsibilities** assigned to personnel:

- Additional training and assessment may be required for personnel with **expanded responsibilities**.
- Reduced training may be appropriate for personnel with **limited or specific functions**.

Ultimately, the **employer** is responsible for ensuring that all personnel are **competent to perform their assigned dangerous goods functions**. Training programmes must therefore be **appropriately designed** to meet operational requirements and **approved by the State authority** in accordance with applicable **national regulations, policies, and procedures**.

Functions 7.1A Task List for Personnel Responsible for Preparing Dangerous Goods Consignments

Function 7.1A: Personnel preparing dangerous goods consignments for transport (Personnel classifying dangerous goods for transport is provided simultaneously)		Classifying dangerous goods (Levels of Proficiency)	Preparing dangerous goods shipment (Levels of Proficiency)
0	Understanding the basics of dangerous goods	★	★
0.1	Dangerous goods applicability	★	★
	0.1.1 Understand the definition	★	★
	0.1.2 Recognize the legal framework(global, national)	★	★
	0.1.3 Identify the application scope	★	★
	0.1.4 Differentiate hazard and risk	★	★
0.2	Understanding the general limitations	★	★
	0.2.1 Develop a sense of forbidden dangerous goods	★	★



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	0.2.2	Recognize potential hidden dangerous goods	★	★
	0.2.3	Familiarize with passenger provisions	★	★
0.3	Identifying roles and responsibilities		★	★
	0.3.1	Clarify the individual and collective role of the supply chain stake holders	★	★
	0.3.3	Recognize the impact of State & operator variations	★	★
0.4	Understanding the importance of classification and packaging		★	★
	0.4.1	Identify the general information about classes, divisions	★	★
	0.4.2	Understand general principles of packing groups	★	★
	0.4.3	Consider multiple hazards	★	★
0.5	Understanding hazard communication		★	★
	0.5.1	Recognize the basic marking requirements	★	★
	0.5.2	Recognize the basic labeling and requirements	★	★
	0.5.3	Identify the required documentation	★	★
0.6	Familiarizing with basic emergency response		★	★
	0.6.1	Create awareness about general emergency procedures	★	★
	0.6.2	Understand the Airlines 's emergency response requirements	★	★

1	Classifying dangerous goods		★★★	★★
	1.1	Evaluate a substance or an article against the classification criteria	★★★	★★
	1.1.1	Determine if it is dangerous goods	★★★	★★
	1.1.2	Determine if it is forbidden under any circumstances	★★★	★★
	1.2	Determine dangerous goods description	★★★	★★
	1.2.1	Determine class or division	★★★	★★
	1.2.2	Determine packing group	★★★	★★
	1.2.3	Determine proper shipping name and UN number	★★★	★★
	1.2.4	Determine if it is forbidden unless approval or exemption is granted	★★★	★★
	1.3	Review special provisions	★★★	★★
	1.3.1	Assess if special provision(s) is applicable	★★★	★★
	1.3.2	Apply special provision(s)	★★★	★★
2	Preparing dangerous goods shipment			★★★
	2.1	Assess packing options including quantity limitations		★★★
	2.1.1	Consider limitations (de Minimis quantities, excepted quantities, limited quantities, passenger		★★★



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		aircraft, cargo aircraft only, special provisions, dangerous goods in the mail)		
	2.1.2	Consider State and operator variations		★★★
	2.1.3	Determine if all-packed-in-one can be used		★★★
	2.1.4	Select how dangerous goods will be shipped based on limitations and variations		★★★
2.2	Apply packing requirements			★★★
	2.2.1	Consider constraints of packing instructions		★★★
	2.2.2	Identify and follow the instructions provided by the packaging manufacturer when UN specification packaging is used		★★★
	2.2.3	Select appropriate packaging materials (absorbent, cushioning, etc.)		★★★
	2.2.4	Assemble package		★★★
2.3	Apply marks and labels			★★★
	2.3.1	Determine applicable marks		★★★
	2.3.2	Apply marks		★★★
	2.3.3	Determine applicable labels		★★★
	2.3.4	Apply labels		★★★
2.4	Assess use of overpacks			★★★
	2.4.1	Determine if overpacks can be used		★★★
	2.4.2	Apply marks if necessary		★★★
	2.4.3	Apply labels if necessary		★★★
2.5	Prepare documentation			★★★
	2.5.1	Complete the Shipper's Declaration		★★★
	2.5.2	Complete other transport documents (e.g. airway bill)		★★★
	2.5.3	Include other required documentation (approvals/exemptions, etc.)		★★★
	2.5.4	Retain copies of documents		★★★



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Functions 7.2B: Task List for Personnel Responsible for Processing or Accepting Goods Presented as General Cargo

Cargo: Personnel responsible for processing goods presented as general cargo shall be competent to perform tasks aimed at preventing undeclared dangerous goods from being accepted into air transport and loaded on an aircraft. Personnel shall need to have relevant knowledge to competently perform these tasks. They may need additional knowledge and be capable of performing at a more advanced skill level depending on the actual function/tasks assigned. The following are tasks that these personnel typically perform and for which training need assessment would therefore be required.

Function 7.2B: Personnel responsible for processing or accepting goods presented as general cargo			Levels of Proficiency
0	Dangerous goods applicability		★
	0.1	Recognizing dangerous goods	★
		0.1.1 Understand the definition	★
		0.1.2 Recognize the legal framework(global, national)	★
		0.1.3 Identify the application and scope	★
		0.1.4 Differentiate hazard and risk	★
	0.2	Understanding the general limitations	★
		0.2.1 Develop a sense of forbidden dangerous goods	★
		0.2.2 Recognize potential hidden dangerous goods	★
		0.2.3 Familiarize with passenger provisions	★
	0.3	Identifying different roles and responsibilities	★
		0.3.1 Clarify the individual and collective role of the supply chain stake-holders	★
		0.3.2 Recognize the impact of State & operator variations	★
	0.4	Understanding the importance of classification & packaging	★
		0.4.1 Identify the general information about classes, divisions	★
		0.4.2 Understand general principles of packing groups	★
		0.4.3 Consider multiple hazards	★
	0.5	Understanding hazard communication	★
		0.5.1 Recognize the basic marking requirements	★
		0.5.2 Recognize the basic labeling requirements	★
		0.5.3 Identify the required documentation	★
	0.6	Familiarizing with emergency response	★
		0.6.1 Create awareness about general emergency procedures	★
		0.6.2 Understand the Airlines 's emergency response requirements	★
3	Processing/accepting cargo		
	3.4	Process/accept cargo other than dangerous goods	★★★
		3.4.1 Check documentation for indications of hidden/undeclared dangerous goods	★★★
		3.4.2 Check packages for indications of hidden/undeclared dangerous goods	★★★
7	Collecting safety data		
	7.1	Report dangerous goods accidents	★★
	7.2	Report dangerous goods incidents	★★
	7.3	Report undeclared/ misdeclared dangerous goods	★★
	7.4	Report dangerous goods occurrences	★★



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Function 7.3C: Personnel Responsible for Processing or Accepting Dangerous Goods Consignments

Personnel responsible for processing or accepting dangerous goods consignments shall be competent to perform tasks aimed at verifying and validating that the dangerous goods being offered for transport comply with the applicable provisions of the Regulations and are in a suitable condition for air transport. Personnel shall need to have relevant knowledge to competently perform these tasks. The following are tasks that these personnel typically perform and for which training and assessment shall therefore be required.

Function 7.3C: Personnel responsible for processing or accepting dangerous goods consignments		Levels of Proficiency
0	Understanding the basics of dangerous goods	★
	0.1 Dangerous goods applicability	★
	0.1.1 Understand the definition	★
	0.1.2 Recognize the legal frame work(global, national)	★
	0.1.3 Identify the application and scope	★
	0.1.4 Differentiate between hazard and risk	★
	0.2 Understanding the general limitations	★
	0.2.1 Develop a sense of forbidden dangerous goods	★
	0.2.2 Recognize potential hidden dangerous goods	★
	0.2.3 Familiarized with passenger provisions	★
	0.3 Identifying different roles and responsibilities	★
	0.3.1 Clarifytheindividualandcollectiveroleofthesupplychainstake-holders	★
	0.3.2 Recognize the impact of State & operator variations	★
	0.4 Understanding the importance of classification & packaging	★
	0.4.1 Identify the general information about classes, divisions	★
	0.4.2 Understand general principles of packing groups	★
	0.4.3 Consider multiple hazards	★
	0.5 Understanding hazard communication	★
	0.5.1 Recognize the basic marking requirements	★
	0.5.2 Recognize the basic labeling requirements	★
	0.5.3 Identify the required documentation	★
	0.6 Familiarizing with basic emergency response	★
	0.6.1 Create awareness about general emergency procedures	★
0.6.2 Understand the Airlines 's emergency response requirements	★	
3	Processing/accepting cargo	★★★
	3.1 Review documentation	★★★
	3.1.1 Verify Shipper's Declaration	★★★
	3.1.2 Verify other transport documents(e.g. airway bill)	★★★
	3.1.3 Verify other documents (exemptions, approvals, etc.)	★★★
	3.1.4 Verify State/operator variations	★★★
	3.2 Review package(s)	★★★
	3.2.1 Verify marks	★★★
	3.2.2 Verify labels	★★★
	3.2.3 Verify packaging type	★★★



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	3.2.4	Verify package conditions	★★★
	3.2.5	Verify State/operator variations	★★★
	3.3	Complete acceptance procedures	★★★
	3.3.1	Complete acceptance checklist	★★★
	3.3.2	Provide shipment information for load planning	★★★
	3.3.3	Retain documents as required	★★★
7	Collecting safety data		
	7.1	Report dangerous goods accidents	★★
	7.2	Report dangerous goods incidents	★★
	7.3	Report undeclared/misdeclared dangerous goods	★★
	7.4	Report dangerous goods occurrences	★★



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Function 7.4D: Personnel Responsible for Handling Cargo in a Warehouse, Loading and Unloading Unit Load Devices and Loading and Unloading Aircraft Cargo Compartments

The following are tasks that personnel responsible for handling cargo in a warehouse, loading and unloading unit load devices and loading and unloading passenger baggage and aircraft cargo compartments typically perform and for which training and assessment shall therefore be required.

Function7.4D: Personnel responsible for handling cargo in a warehouse, loading and unloading ULD and loading and unloading aircraft cargo compartments.			Levels of Proficiency
0	Understanding the basics of dangerous goods		★
	0.1	Dangerous goods applicability	★
		0.1.1 Understand the definition	★
		0.1.2 Recognize the legal framework(global, national)	★
		0.1.3 Identify the application and scope	★
		0.1.4 Differentiate hazard and risk	★
	0.2	Understanding the general limitations	★
		0.2.1 Develop a sense of hidden dangerous goods	★
		0.2.2 Recognize potential hidden dangerous goods	★
		0.2.3 Familiarize with passenger provisions	★
	0.3	Identifying roles and responsibilities	★
		0.3.1 Clarifytheindividualandcollectiveroleofthesupplychainstakeholders	★
		0.3.2 Recognize the impact of State & operator variations	★
	0.4	Understanding the importance of classification & packaging	★
		0.4.1 Identify the general information about classes, divisions	★
		0.4.2 Understand general principles of packing groups	★
		0.4.3 Consider multiple hazards	★
	0.5	Understanding hazard communication	★
		0.5.1 Recognize the basic marking requirements	★
		0.5.2 Recognize the basic labeling requirements	★
	0.6	Familiarizing with basic emergency response	★
		0.6.1 Create awareness about general emergency procedures	★
		0.6.3 Under the Airlines 's emergency response requirements	★
4	Managing cargo pre-loading		★★★
	4.1	Plan the load	★★★
		4.1.1 Determine stowage requirements	★★★
		4.1.2 Determine segregation, separation ,cargo compartment limitations	★★★
	4.2	Prepare load for aircraft	★★★
		4.2.1 Check packages for indications of hidden/undeclared dangerous goods	★★★
		4.2.2 Check for damage and/or leakage	★★★



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		4.2.3	Apply stowage requirements (i.e. segregation, separation, orientation ,securing and protecting from damage)	★★★
		4.2.4	Apply ULD tags when applicable	★★★
6	Transporting cargo/baggage			★★★
	6.1	Load aircraft		★★★
		6.1.1	Transport cargo/baggage to aircraft	★★★
		6.1.2	Check packages for indications of hidden/undeclared dangerous goods	★★★
		6.1.3	Check for damage and/or leakage	★★★
		6.1.4	Apply stowage requirements (i.e. segregation, separation, orientation ,securing and protecting from damage)	★★★
		6.1.5	Verify aircraft load against NOTOC	★★★
	6.3	Unload aircraft		★★★
		6.3.1	Apply specific unloading considerations	★★★
		6.3.2	Check packages for indications of hidden/undeclared dangerous goods	★★★
		6.3.3	Check for damage and/or leakage	★★★
		6.3.4	Transport cargo/baggage to facility/terminal	★★★
7	Collecting safety data			
	7.1	Report dangerous goods accidents		★★
	7.2	Report dangerous goods incidents		★★
	7.3	Report undeclared/misdeclared dangerous goods		★★
	7.4	Report dangerous goods occurrences		★★



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Function 7.5E: Personnel Responsible for Accepting Passenger and Crew Baggage, Managing Aircraft Boarding Areas and other Functions Involving Direct Passenger Contact at an Airport

The following are tasks that personnel responsible for accepting passenger and crew baggage, managing aircraft boarding areas and other functions involving direct passenger contact at an airport typically perform and for which training and assessment shall therefore be required.

Function 7.5E: Personnel responsible for accepting passenger and crew baggage, managing aircraft boarding areas and other functions involving direct passenger contact at an airport.		Levels of Proficiency
0	Understanding the basics of dangerous goods	★
0.1	Dangerous goods applicability	★
	0.1.1 Understand the definition	★
	0.1.2 Recognize the legal framework(global, national)	★
	0.1.3 Identify the application and scope	★
	0.1.4 Differentiate hazard and risk	★
0.2	Understanding the general limitations	★
	0.2.1 Develop a sense of hidden dangerous goods	★
	0.2.2 Recognize potential hidden dangerous goods	★
	0.2.3 Familiarize with passenger provisions	★
0.3	Identifying roles and responsibilities	★
	0.3.1 Clarify the individual and collective role of the supply chain stakeholders	★
	0.3.2 Understand the passengers responsibilities	★
	0.3.3 Recognize the impact of State & operator variations	★
0.4	Understanding the criticality of classification & packaging	★
	0.4.1 Identify the general information about classes, divisions	★
0.5	Understanding hazard communication	★
	0.5.1 Recognize basic marking requirements	★
	0.5.2 Recognize basic labeling requirements	★
	0.5.3 Identify the required documentation	★
0.6	Familiarizing with basic emergency response	★
	0.6.1 Create awareness about general emergency procedures	★
	0.6.2 Understand Airlines' emergency response requirements	★
5	Accepting passenger and crew baggage	★★★
5.1	Process baggage	★★★
	5.1.1 Identify for bidden dangerous goods	★★★
	5.1.2 Apply approval requirements	★★★
5.2	Accept baggage	★★★
	5.2.1 Apply operator requirements	★★★
	5.2.2 Verify passenger baggage requirements	★★★
	5.2.3 Advise pilot-in-command, when applicable	★★★
7	Collecting safety data	
7.1	Report dangerous goods accidents	★
7.2	Report dangerous goods incidents	★
7.3	Report undeclared/misdeclared dangerous goods	★
7.4	Report dangerous goods occurrences	★



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Function 7.6F: Personnel Responsible for the Planning of Aircraft Loading

The following are tasks related to dangerous goods that would typically be performed and for which training and assessment shall therefore be required by personnel responsible for planning of the distribution of the load (baggage, mail and cargo) that will be loaded into the aircraft cargo compartments.

Function 7.6F: Personnel responsible for the planning of aircraft loading.			Levels of Proficiency
0	Understanding the basics of dangerous goods		★
	0.1	Dangerous goods applicability	★
		0.1.1 Understand the definition	★
		0.1.2 Recognize the legal framework(global, national)	★
		0.1.3 Identify the application and scope	★
		0.1.4 Differentiate hazard and risk	★
	0.2	Understanding the general limitations	★
		0.2.1 Develop a sense of forbidden dangerous goods	★
		0.2.2 Recognize potential hidden dangerous goods	★
		0.2.3 Familiarize with passenger provisions	★
	0.3	Identifying roles and responsibilities	★
		0.3.1 Clarify the individual and collective role of the supply chain stake-holders	★
		0.3.2 Understand the passenger's responsibilities	★
		0.3.3 Recognize the impact of State& operator variations	★
	0.4	Understanding the importance of classification &packaging	★
		0.4.1 Identify the general information about classes, divisions	★
		0.4.2 Understand general principles of packing groups	★
		0.4.3 Consider multiple hazards	★
	0.5	Understanding hazard communication	★
		0.5.1 Recognize the basic marking requirements	★
		0.5.2 Recognize the basic labeling requirements	★
		0.5.3 Identify the required documentation	★
	0.6	Familiarizing with basic emergency response	★
		0.6.1 Create awareness about general emergency procedures	★
		0.6.2 Understand the Airlines 's emergency response requirements	★
4	Managing cargo pre-loading		★★★
	4.1	Plan the load	★★★
		4.1.1 Determine stowage requirements	★★★
		4.1.2 Determine segregation, separation ,compartment limitations	★★★
	4.3	Issue NOTOC	★★★
		4.3.1 Enter required information	★★★
		4.3.2 Verify conformance with load plan	★★★
		4.3.3 Transmit to loading personnel	★★★
7	Collecting safety data		
	7.1	Report dangerous goods accidents	★★
	7.2	Report dangerous goods incidents	★★
	7.3	Report undeclared/misdeclared dangerous goods	★★
	7.4	Report dangerous goods occurrences	★★



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Function 7.7G: Flight Crew

The following are tasks that flight crew would typically perform and for which training and assessment would therefore be required.

Function 7.7G : Flight Crew		Levels of Proficiency
0	Understanding the basics of dangerous goods	★
0.1	Dangerous goods applicability	★
	0.1.1 Understand the definition	★
	0.1.2 Recognize the legal framework(global, national)	★
	0.1.3 Identify the application scope	★
	0.1.4 Differentiate hazard and risk	★
0.2	Understanding the general limitations	★
	0.2.1 Develop a sense of forbidden dangerous goods	★
	0.2.2 Recognize potential hidden dangerous goods	★
	0.2.3 Familiarize with passenger provisions	★
0.3	Identifying roles and responsibilities	★
	0.3.1 Clarifytheindividualandcollectiveroleofthesupplychainstake-holders	★
	0.3.2 Understand the passenger's responsibilities	★
	0.3.3 Recognize the impact of State & operator variations	★
0.4	Understanding the importance of classification & packaging	★
	0.4.1 Identify the general information about classes, divisions	★
	0.4.2 Understand general principles of packing groups	★
	0.4.3 Consider multiple hazards	★
0.5	Understanding hazard communication	★
	0.5.1 Recognize the basic marking requirements	★
	0.5.2 Recognize the basic labeling requirements	★
	0.5.3 Identify the required documentation	★
0.6	Familiarizing with basic emergency response	★
	0.6.1 Create awareness about general emergency procedures	★
	0.6.2 Understand Airlines' emergency response requirements	★
6	Transporting cargo/baggage	
6.2	Manage dangerous goods pre and during flight	★★★
	6.2.1 Address dangerous goods not permitted in baggage	★★★
	6.2.2 Interpret NOTOC	★★★
	6.2.3 Apply procedures in the event of an emergency	★★★
	6.2.4 Inform flight operations officer/flight dispatcher/air traffic control in the event of an emergency	★★★
	6.2.5 Inform emergency services of the dangerous goods on the NOTOC in the event of an emergency	★★★
7	Collecting safety data	
7.1	Report dangerous goods accidents	★★
7.2	Report dangerous goods incidents	★★
7.3	Report undeclared/misdeclared dangerous goods	★★
7.4	Report dangerous goods occurrences	★★



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Function 7.8H: Flight Operations Officers and Flight Dispatchers

The following are tasks that flight operations officers and flight dispatchers would typically perform and for which training and assessment shall therefore be required.

Function 7.8H: Personnel responsible for flight operations and flight dispatchers			Levels of Proficiency
0	Understanding the basics of dangerous goods		★
	0.1	Dangerous goods applicability	★
		0.1.1 Understand the definition	★
		0.1.2 Recognize the legal framework(global, national)	★
		0.1.3 Identify the application and scope	★
		0.1.4 Differentiate hazard and risk	★
	0.2	Understanding the general limitations	★
		0.2.1 Develop a sense of forbidden dangerous goods	★
		0.2.2 Recognize potential hidden undeclared dangerous goods	★
		0.2.3 Familiarize with passenger provisions	★
	0.3	Identifying roles and responsibilities	★
		0.3.1 Clarify the individual and collective role of the supply chain stake-holders	★
		0.3.2 Understand the passengers responsibilities	★
		0.3.3 Recognize the impact of State & operator variations	★
	0.4	Understanding the importance of classification & packaging	★
		0.4.1 Identify the general information about classes, divisions	★
		0.4.2 Understand general principles of packing groups	★
		0.4.3 Consider multiple hazards	★
	0.5	Understanding hazard communication	★
		0.5.1 Recognize the basic marking requirements	★
		0.5.2 Recognize the basic labeling requirements	★
		0.5.3 Identify the required documentation	★
	0.6	Familiarizing with basic emergency response	★
		0.6.1 Create awareness about general emergency procedures	★
		0.6.3 Understand Airlines' emergency response requirements	★
6	Transporting cargo/baggage		
	6.2	Manage dangerous goods pre and during flight	★★★
		6.2.1 Address dangerous goods not permitted in baggage	★★★
		6.2.2 Interpret NOTOC	★★★
		6.2.3 Apply procedures in the event of an emergency	★★★
		6.2.4 Inform flight operations officer/flight dispatcher/air traffic control in the event of an emergency	★★★
		6.2.5 Inform emergency services of the dangerous goods on the NOTOC in the event of an emergency	★★★



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Function 7.9I: Cabin Crew

The following are tasks that cabin crew would typically perform and for which training and assessment shall therefore be required.

Function 7.9I: Cabin Crew		Levels of Proficiency
0	Understanding the basics of dangerous goods	★
	0.1 Dangerous goods applicability	★
	0.1.1 Understand the definition	★
	0.1.2 Recognize the legal framework(global, national)	★
	0.1.3 Identify the application and scope	★
	0.1.4 Differentiate hazard and risk	★
	0.2 Understanding the general limitations	★
	0.2.1 Develop a sense of forbidden dangerous goods	★
	0.2.2 Recognize the potential hidden dangerous goods	★
	0.2.3 Familiarize with passenger's provisions	★
	0.3 Identifying roles and responsibilities	★
	0.3.1 Clarifytheindividualandcollectiveroleofthesupplychainstake-holders	★
	0.3.2 Understand the passenger's responsibilities	★
	0.3.3 Recognize the impact of State & operator variations	★
	0.4 Understanding the importance of classification & packaging	★
	0.4.1 Identify the general information about classes, divisions	★
	0.5 Understanding hazard communication	★
	0.5.1 Recognize the basic marking requirements	★
	0.5.2 Recognize the basic labeling requirements	★
	0.5.3 Identify the required documentation for DG shipments	★
	0.6 Familiarizing with basic emergency response	★
	0.6.1 Create awareness about general emergency procedures	★
	0.6.2 Under the Airlines 's emergency response requirements	★
5	Accepting passenger and crew baggage	
	5.2 Accept baggage	
	5.2.1 Apply operator requirements	★★★
	5.2.2 Verify passenger baggage requirements	★★★
6	Transporting cargo/baggage	
	6.2 Manage dangerous goods pre and during flight	★★★
	6.2.1 Address dangerous goods not permitted in baggage	★★★
	6.2.3 Apply procedures in the event of an emergency	★★★
7	Collecting safety data	
	7.1 Report dangerous goods accidents	★
	7.2 Report dangerous goods incidents	★
	7.3 Report undeclared/misdeclared dangerous goods	★
	7.4 Report dangerous goods occurrences	★



Dangerous Goods Regulations Competency Based Training and Assessment Guideline

Function 7.10J: Personnel Responsible for the Screening of Passengers and Crew and their Baggage, Cargo and Mail

The following are tasks that personnel responsible for the screening passengers and crew and their baggage, cargo and mail would typically perform and for which training and assessment shall therefore be required.

Function 7.10J: Personnel responsible for security screening (Passengers and crew, baggage, cargo and mail)			Levels of Proficiency
0	Understanding the basics of dangerous goods		★
	0.1	Dangerous goods applicability	★
		0.1.1 Understand the definition	★
		0.1.2 Recognize the legal framework(global, national)	★
		0.1.3 Identify the application and scope	★
		0.1.4 Differentiate hazard and risk	★
	0.2	Understanding the general limitations	★
		0.2.1 Develop a sense of forbidden dangerous goods	★
		0.2.2 Recognize potential hidden dangerous goods	★
		0.2.3 Familiarize with passenger provisions	★
	0.3	Identifying roles and responsibilities	★
		0.3.1 Clarify the individual and collective role of the supply chain stakeholders	★
		0.3.2 Understand the passenger's responsibilities	★
		0.3.3 Recognize the impact of State & operator variations	★
	0.4	Understanding the importance of classification & packaging	★
		0.4.1 Identify the general information about classes, divisions	★
	0.5	Understanding hazard communication	★
		0.5.1 Recognize the basic marking requirements	★
		0.5.2 Recognize the basic labeling requirements	★
		0.5.3 Identify the required documentation	★
	0.6	Familiarizing with basic emergency response	★
		0.6.1 Create awareness about general emergency procedures	★
		0.6.2 Understand the Airlines emergency response requirements	★
3	Processing/accepting cargo		
	3.4	Process/accept cargo other than dangerous goods	★★★
		3.4.1 Check documentation for indications of hidden/undeclared dangerous goods	★★★
		3.4.2 Check packages for indications of hidden/undeclared dangerous goods	★★★
5	Accepting passenger and crew baggage		
	5.1	Process baggage	★★★
		5.1.1 Identify forbidden dangerous goods	★★★
		5.1.2 Apply approval requirements	★★★
7	Collecting safety data		
	7.1	Report dangerous goods accidents	★
	7.2	Report dangerous goods incidents	★
	7.3	Report undeclared/misdeclared dangerous goods	★