

△ APPENDIX H—DANGEROUS GOODS TRAINING GUIDELINES—COMPETENCY-BASED TRAINING AND ASSESSMENT APPROACH

H.0 Introduction

This section has been developed by the IATA Dangerous Goods Training Working Group (DGTWG) supported by the IATA Dangerous Goods Board (DGB) (see appendices G.1 and G.2) with the objective of assisting employers to establish dangerous goods training programs under the competency-based training and assessment approach as described in Subsection 1.5.

These guidelines present an industry consulted benchmark that can be used by in developing dangerous goods training programs. The principle of this approach is to equip the employees with the necessary knowledge and skills that allow them to perform the function for which they are assigned at the required performance level that satisfies safety. These guidelines are in full alignment with Subsection 1.5; however, the employer or those acting on their behalf must tailor the material in these guidelines to ensure that their employees reach the level of competency required for each function identified.

A safe and efficient air transport system is dependent on a competent workforce. As per paragraph 1.5.1.2.1, employers are required to ensure personnel are competent to perform any function for which they are responsible prior to performing them.

H.1 Competency-Based Training and Assessment Concepts

Assessment is a critical feature of competency-based training, it ensures that training is efficient and effective in developing the level of proficiency/competency required to perform the function competently.

H.1.1 General

H.1.1.1 The goal of competency-based training and assessment is to produce a competent workforce by

providing focussed training. It does so by identifying key competencies and the level of proficiency to be achieved, determining the most effective way of achieving them and establishing valid and reliable assessment tools to evaluate the achievement.

H.1.1.2 Paragraph 1.5.1.2.1(b) states that personnel must be trained to competently perform the function for which they are responsible. These responsibilities are determined by the specific functions the personnel perform and not by their job titles. Concentrating on functions and responsibilities rather than a job title or description, means that the training provided ensures that a person is competent to perform the function in compliance with Subsection 1.5. For example, ground service providers may perform some functions that are related to handling of dangerous goods at the direction of operators. The ground service personnel must be trained to perform the assigned functions competently regardless of their job title.

H.1.1.3 Compare to entities with large operations, personnel in smaller companies may be assigned to perform tasks across multiple functions, such as performing dangerous goods acceptance, and loading and securing dangerous goods on board an aircraft. The training provided to these personnel must address all of these functions so that they can perform competently in all assigned areas.

H.1.2 Competency Factors

H.1.2.1 A competency is a dimension of human performance that is used to reliably predict successful performance on the job. It is manifested and observed through behaviours that mobilise the relevant knowledge, skills and attitudes to carry out activities and tasks under specified conditions to achieve a particular **level of proficiency**.

H.1.2.2 Knowledge, skills and attitude (KSA) are the three core competency factors:

- (a) **Knowledge:** is the theoretical information of a subject that enables a person to understand the concepts and principles.
- (b) **Skills:** are the abilities to perform an activity or action, which can be developed through the process of acquiring knowledge and continuous practice.
- (c) **Attitude:** is a persistent internal mental state that influences an individual's choice of action, such as the level of commitment.

FIGURE H.1.A
Competency Factors



H.1.2.3 Performing a dangerous goods task may require different levels of knowledge, skills and attitude, depending on the complexity of the specific task and the operational environment. A level of proficiency should be developed to determine how critical the employee's knowledge, skills and attitude are for the successful completion of a task. Therefore, to determine the relevant level of proficiency of an employee's competency factors, the employer should consider the complexity of tasks and context, the range of work (routine, predictability, and dependencies) and the level of autonomy of the employee in performing the tasks.

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.

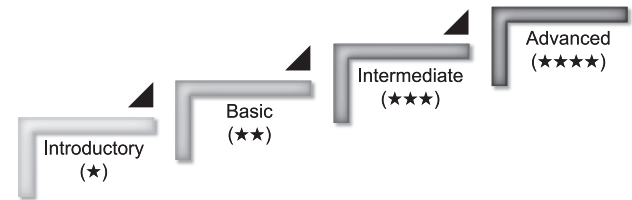
Basic (★★): delivers competency that is sufficient for an individual to carry out simple work activities, most of it routine and predictable. Guidance or assistance from an expert may be required from time to time.

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 should have acquired this level of proficiency on the tasks or functions that they will instruct prior to delivering such course(s).

FIGURE H.1.B
Levels of Proficiency



H.1.3 Principles of Competency-Based Training & Assessment

A competency-based training and assessment approach is based on the following principles:

- (a) relevant competencies are clearly defined for a particular function;
- (b) there is an explicit link between competencies and training, required performance on the job, and assessment;
- (c) competencies are formulated in a way that ensures they can be trained for, observed and assessed consistently in a wide variety of work contexts for a given function;
- (d) trainees successfully demonstrate competency by meeting the associated competency standard;
- (e) each stakeholder in the process (e.g. employer, shipper, freight forwarder, ground service provider and operator, instructor, training and assessment personnel, trainee and regulator) has a common understanding of the competency standards;
- (f) clear performance criteria are established for assessing competence;
- (g) evidence of competent performance is valid and reliable;
- (h) instructors' and other assessment personnel, and assessors' judgements are calibrated to achieve a high degree of interrelated reliability;
- (i) assessment of competencies is based on multiple observations across multiple contexts; and
- (j) to be considered competent, an individual demonstrates an integrated performance of all the required competencies to a specified standard.

H.2 Roles and Responsibilities in a Competency-Based Approach to Training

H.2.1 Employer

H.2.1.1 A training program includes elements, such as design methodology, training, assessment, instructors' and other personnel's qualifications and competencies, training records and evaluation of its effectiveness. Employers need to determine the purpose and objective of the competency-based training based on the functions for which their personnel are responsible. Employers should ensure that a training program is designed and developed to establish clear links among the competencies to be achieved, learning objectives, assessment methods and course materials.

H.2.1.2 The employer must study the target population (trainees) with a view to identify the knowledge, skills and attitude that they already possess, to collect information on preferred learning styles, and on the social and linguistic environments of prospective trainees. The target population may be a mixture of experienced and newly recruited personnel, or groups differing in age. Although experience is not a core competency factor, this should be considered when developing a recurrent dangerous goods training program. Experience can help sharpen one's skills over time, and therefore, even if every trainee attended the same initial training course, regardless of their experience, the extensiveness of coverage on various tasks should be reviewed and adjusted for a recurrent training course. Employers should take into account all these components and variables because they can affect the training program design.

H.2.1.3 In addition to the international regulatory requirements that must be covered in the training program, employers must also consider the domestic and international regulatory requirements that apply to their operations.

H.2.1.4 Some employers may utilise services offered by third-party training providers, either for the full implementation of the training program, or only for the training course(s). This approach may be the most suitable for employers who do not have the resources to train their personnel in-house. Should the training function be outsourced, employers are still responsible for determining the training needs of their employees, ensuring the employees can acquire the necessary competent level to perform their functions and evaluating how well the program and/or course provided by the third-party training

providers can address the needs before selecting a training provider.

H.2.1.5 Employers should liaise directly with the regulator to ensure that all fundamental requirements are considered prior to proceeding with the development of competency-based training and assessment programs.

H.2.2 Trainee

In competency-based training, trainees are active participants in their learning process and the achievement of competencies as opposed to being passive recipients of knowledge. The competency-based training program provides them with a clear view of their learning path towards competency during the training program and beyond. Competency-based training should directly contribute to improving their performance on the job. Trainees' feedback is essential in ensuring that competency-based training is effective.

Note:

Trainees are sometimes referred to as employees in this document when explaining the relationship between employers and their personnel that need to be trained.

H.2.3 Instructor

The term "instructor" is mainly used to describe personnel who deliver a dangerous goods training course. In competency-based training, multiple training events should be developed based on the training plan, and training course is one of the training events in the program. Although delivering or receiving a training course is only part of the whole competency-based training program, course instructors do play a critical role because the fundamental knowledge of the trainees should be obtained through the course. For that reason, course instructors are important in facilitating the trainees' progression towards the achievement of competencies. Instructors can also provide information about the effectiveness of the training materials, which supports continuous improvement.

H.2.4 Designer

Training designers are responsible for reviewing the training and assessment plans that are derived from the training specification, determining what training materials (e.g. student handbook and hands-on practices) and types of assessment (e.g. examinations and practical exercises) are the most suitable for the trainees. They will also need to plan the training schedule so that different training events can take place in the appropriate sequence.

H.2.5 Assessor

The essence of competency-based training and assessment approach is to strive for continuous improvement through evaluating the effectiveness of a training program in meeting the level of competencies required for different tasks of a specific function, and therefore, an assessor is needed. The role of an assessor is to fully understand the competencies of various tasks under the function, observe the performance of the trainees after they had successfully completed the training and assessment process, evaluate the effectiveness of the program and provide feedback to the employers for continuous improvement. This role can also be taken up by the employer.

H.2.6 Regulator

H.2.6.1 There are important differences between the way the regulator would oversee a traditional training program versus a competency-based training one. In a traditional training program, the regulator may assess the training course components and final test against knowledge components and not on the competencies that need to be acquired. The fact that all knowledge components are addressed or appear to be included in a course and all trainees have passed the required test does not necessarily mean that they can perform their assigned functions competently.

H.2.6.2 Where competency-based training has been implemented, regulators should oversee the training program to ensure that it produces personnel who can perform the functions for which they are responsible in a specific operational setting and in compliance with the national regulatory framework.

H.3 Benefits of Competency-Based Training and Assessment for the Safe Transport of Dangerous Goods by Air

H.3.1 The main benefit of a competency-based approach to training and assessment is its potential to encourage and enable personnel to reach their highest level of capability while ensuring a basic level of competence as a minimum standard. This is achieved by:

- (a) targeting function specific training needs;
- (b) supporting continuous learning and performance improvement;
- (c) gearing towards learning rather than simply passing a test;
- (d) ensuring the integration of knowledge, skills, attitudes and experience needed to perform a job at the required level of proficiency;
- (e) supporting the application of safety management systems (SMS); and
- (f) establishing sufficient, well-trained and competent trainers.

H.3.2 Ensuring personnel can competently perform their functions is critical to any organisation. A competent workforce can not only reduce cost caused by unnecessary shipment rejections or delays and miscommunication of job expectations but also improve safety by reducing the number of wrongdoings associated with incompetent performance. One of the classic examples is that, identifying, classifying, packing, marking, labelling and documenting dangerous goods for transport are critical to the safe transport of dangerous goods by air. The operator depends on these functions being competently performed by those preparing and offering a consignment for transport so that they are aware of the hazards posed and the required measures to mitigate them. If personnel performing these functions are not trained to competently perform them, unknown risks may be introduced into air transport. Herewith another practical example, for packages that are restricted to carriage on a cargo aircraft, the shipper must always affix the “Cargo Aircraft Only” label on the same surface of a package near the hazard label(s). If the “Cargo Aircraft Only” label is affixed on a different surface than the hazard label(s), the package will be rejected, and the shipper will have to make the correction before tendering the shipment again. On some occasions, shippers may even have to travel to the office from the cargo terminal for making the necessary correction, which can be time consuming and costly.

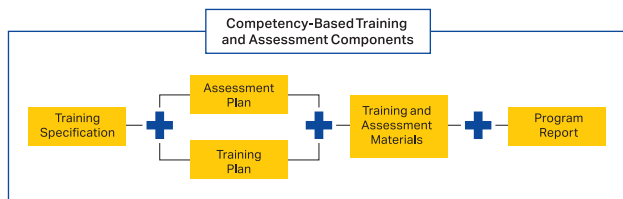
H.3.3 Through the implementation of a competency-based training and assessment approach, the employees will have a better understanding on the task(s) involved in the function that they need to perform and the level of proficiency that they must achieve.

H.4 Components of a Competency-Based Training and Assessment Program

The following components, as summarised in Figure H.4.A, are essential for forming a competent workforce for the safe and efficient transport of dangerous goods by air:

- (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) an assessment plan providing the process and tools for gathering valid and reliable evidence at different stages during training;
- (c) a training plan describing the training required to achieve the competencies;
- (d) training and assessment materials, and any other organisational resources need to implement training and assessment plans; and
- (e) a program evaluation report.

FIGURE H.4.A
Competency—Based Training and Assessment Components

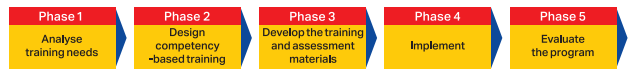


H.5 Establishing Competency-Based Training and Assessment Programs

H.5.0 General

Establishing competency-based training and assessment programs can involve five phases, analyse, design, develop, implement and evaluate.

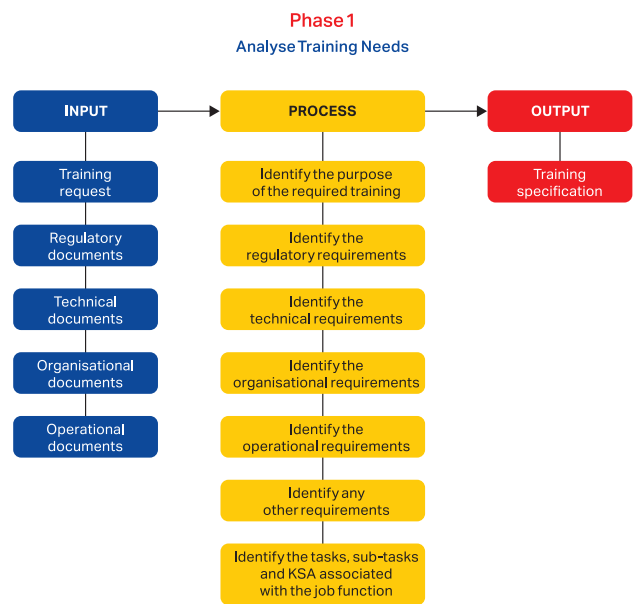
FIGURE H.5.0.A
Competency—Based Training and Assessment Workflows



H.5.1 Phase 1—Analyse Training Needs

H.5.1.1 The first phase in the development and implementation of a competency-based training and assessment program is to analyse the training needs. Analysing the training needs is very important because the needs identified will form the basis of the type(s) of training and assessment methodologies to be required. Training needs are specific to the employer's environment and requirements, largely dependent on the internal process flow.

FIGURE H.5.1.A
Phase 1—Analysing the Training Needs



H.5.1.2 The objectives of this phase are:

- (a) to identify the purpose of the training;
- (b) to define the job functions that related to dangerous goods, establish task list(s) with the competency factors associated with the job functions; and
- (c) to determine various requirements, such as operational, technical, regulatory and organisational requirements.

H.5.1.3 When employers analyse the training needs, they should take into account the results of the training program that they want to achieve, which is essential to ensure that the program is fit for purpose and effective. In this process, employers should carry out a thorough analysis on different job functions that involve the handling and processing of dangerous goods in the organisation so as to build the relevant task list along with the necessary competencies.

H.5.1.3.1 To illustrate what job functions are, a flowchart (Figure H.5.7.A) has been developed to show the major job functions in the end-to-end process of handling dangerous goods in both cargo and passenger operations. The job functions in Figure H.5.7.A are not exhaustive and some organisations may have defined the functions differently, depending on their operational environment; however, they are the most common ones that are already well established today. Although some administrative or non-operational job functions (e.g. reservation and sales staff) are not included in Figure H.5.7.A, the same principle can still be applied. For example, if dry ice is accepted by an operator, even though the cargo reservation staff do not necessarily need to know all the packing, labelling and documentation requirements, they must be made aware of their own aircraft loading limitation before confirming the booking; otherwise, if the total quantity of dry ice of the confirmed bookings exceed the aircraft loading limitation, some accepted shipments will not be flown as booked. It is important to remember that a function is not a job title but one that describes the core responsibility of an employee in their function. For instance, some personnel of a ground service provider at the passenger terminal can share a title of “Handling Agent”, some of them are assigned to man the check-in counters, solely responsible for checking-in passengers while others are responsible for loading baggage. Although both teams have the same job title (“Handling

Agent”) and work at the passenger terminal, their job functions are very different.

H.5.1.3.2 Once the job functions are defined, a thorough task list can then be developed corresponding to each function, which will become the foundation of what each employee will be trained. To assist employers in building their list of tasks and sub-tasks, a generic list is provided in Table H.5.7.B based on the major job functions included in Figure H.5.7.A.

- (a) **Tasks:** below are the eight common tasks that are performed by the functions shown in Figure H.5.7.A:
- 0—Understanding the basics of dangerous goods;
 - 1—Classifying dangerous goods;
 - 2—Preparing a dangerous goods shipment;
 - 3—Processing/accepting cargo;
 - 4—Managing cargo pre-loading;
 - 5—Accepting passenger and crew baggage;
 - 6—Transporting cargo/baggage; and
 - 7—Collecting safety data.
- (b) **Sub-tasks:** after the tasks have been identified, they should be further defined with the relevant sub-tasks, which will later form the scope of the training program. Sub-tasks are actions to be performed by the employee when completing a task.

The generic task list (Table H.5.7.B) exhibits the eight common tasks in today's operations. Different organisations may divide their tasks differently even within the same job function, for example, some ground service providers are accepting dangerous goods for multiple operators and these operators may be issuing NOTOC themselves. In this case, issuing NOTOC is clearly not a task for the function of accepting dangerous goods.

- (c) **Competency factors:** once the task and sub-tasks lists are established, the employer can continue to determine the competency factors (knowledge, skills and attitude) required for the individual tasks and sub-tasks. When identifying the competency factors, the employer may at the same time define the level of proficiency needed for the individual tasks and/or sub-tasks. Some examples of the competency factors mapping against different tasks with indication on the level of proficiency can be found in Table H.5.1.C.

TABLE H.5.1.C
Examples of Competency Factors Mapping Against Tasks

Job Function	Task	Sub-Task	Knowledge	Skills	Attitude	Level of Proficiency
Personnel who prepare dangerous goods consignment	Prepare dangerous goods consignment	Apply marks	The marks applicable to the dangerous goods package	How to apply the marks on the package (e.g. location of the marks)	Being motivated to ensure safety and to comply with applicable regulations Wanting to adhere to regulations in asking relevant and effective questions	★★★
		Complete the Shipper's Declaration	Information required on the Shipper's Declaration	How to complete the Shipper's Declaration accurately		★★★
Personnel who process or accept dangerous goods consignment	Process/accept cargo	Complete acceptance checklist	Items on the acceptance checklist that need to be checked	How to complete the acceptance checklist	Appreciating feedback from team members	★★★
	Collect safety data	Report undeclared dangerous goods (to the company's responsible department, e.g. safety department)	The definition of undeclared dangerous goods and that undeclared dangerous goods occurrences need to be reported (and to who)	How to report (e.g. any form to complete, the details required)		★★

H.5.1.4 In addition to developing task lists, employers should consolidate and analyse all the relevant documents, such as local regulations and internal standard operating procedure (SOP), which contain information that their employees must be trained to perform the assigned function. Through the analysis, the specific requirements will be identified and can later be included in the training program comprehensively. This step is important even if the employer decides to engage with a third-party training service provider for their service because these company specific requirements are often not covered but the employer must ensure that the employees will be provided with the necessary information. Occasionally, third-party training service providers offer customised solution on request, which can potentially accommodate any company specific requirements.

H.5.1.5 When analysing the training needs, the target population should also be studied. The characteristics of the target population, such as their background, experience and language skills, can have an influence on how the training designers design the training and assessment materials. This information can assist designers to select the appropriate training delivery method and develop different levels of challenges for the assessments.

H.5.1.6 Frequency of training is another element that should be considered in this phase. In competency-based training, dangerous goods training courses belong to a training event, and other training events should be introduced between courses, especially for personnel who may be carrying out certain tasks within the function infrequently. These training events may not be a structured taught courses but some brief online courses or a set of practicals exercises to refresh their memories and remain competent.

H.5.1.6.1 Dangerous goods training courses are traditionally divided into initial training and recurrent training

for certain functions, which contain different course contents. In general, initial training courses are suitable for anyone who possesses minimal knowledge of dangerous goods and recurrent training courses are for participants who hold a valid dangerous goods qualification. Differentiating between an initial and a recurrent training is particularly suitable for functions that require vast knowledge and involve complex tasks, such as processing/accepting cargo because some of these details can be more challenging for participants who attend an initial course.

H.5.1.6.2 Dangerous goods initial and recurrent training are required by the regulations:

- (a) **Initial training** must be provided prior to a person performing their functions related to the transport of cargo or managing passenger and baggage. Effectively and unless otherwise required by the national 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** must 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.

H.5.1.6.3 However, there are situations in which there are irregularities in the job continuity of an employee. In this case, an intervention is needed to ensure the competency of the employee and any potential gaps to be addressed before restarting their job function. Table H.5.1.D are some suggestions on what actions can be taken corresponding to the duration of absence of the employees from the assigned function.

TABLE H.5.1.D
Suggested Actions Based on the Duration of Absence

Duration of Absence	Suggested Action
Up to 3 months	Provide the employees 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, undergo a practical assessment for example “on the job session” or simulation. The employer must 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	Recurrent training program

H.5.1.7 At the end of this phase, the employer will have a training specification, which contains a list of tasks that each identified function will be trained on, the specific operational, technical, regulatory, organisational and other necessary requirements, qualitative information about the employees to be trained, and other special requests (e.g. training frequency and language to be used). This training specification is compulsory for designing the training and assessment plans in the next phase.

H.5.1.8 In addition to the training specification, some employers may also want to develop a list of generic competencies that they find relevant to their employees. These competencies can be very general, related to the day-to-day work environment, such as communication, leadership, teamwork, problem solving and decision making, but not specific to dangerous goods functions. These generic competencies can be considered together with the training specifications at a later stage.

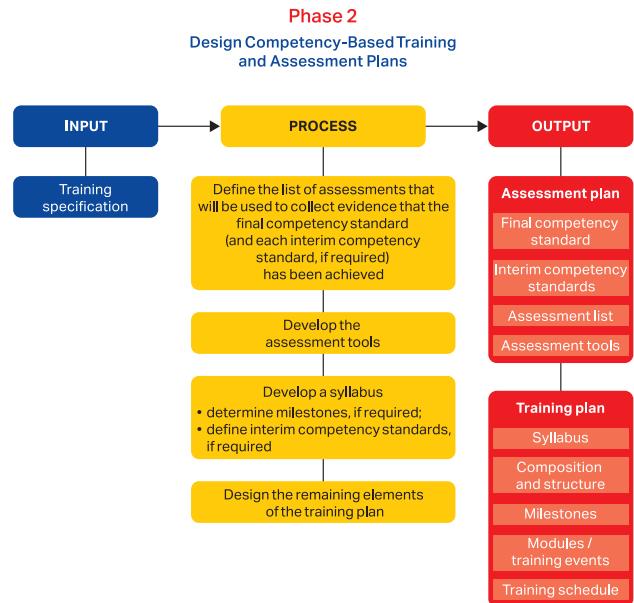
H.5.2 Phase 2—Design Competency-Based Training and Assessment (CBTA)

Analysis of the training needs will form the foundation of the competency-based training and assessment program, and this phase will develop the backbone of the program.

This phase includes designing two major components based on the training specification produced in the previous phase (Figure H.5.2.A):

- an assessment plan that will be used to assess the competence of trainees;
- a training plan that will enable the development and delivery of the training course.

FIGURE H.5.2.A
Phase 2—Design Competency-Based Training and Assessment Plans



H.5.2.1 Designing an Assessment Plan

H.5.2.1.1 The purpose of the assessment plan is to detail how the trainees are to be measured against the competency that they are expected to have and the tasks they are assigned to perform. A well-defined and constructed assessment plan allows:

- the employer to prove the level of competency of their employees and justify it for regulatory purposes, operational and technical requirements.
- the employee to gain the confidence of their competency and to focus on the areas of knowledge that may require reinforcement and the skills that must be further developed.

H.5.2.1.2 When developing the assessment plan, the employer should work backward by first determining what the ultimate competency standard the job function must achieve, and then put together the pieces that will assist in reaching that ultimate goal. A complete assessment plan should include the following elements:

- (a) the final competency standard associated with the job function;
- (b) the interim competency standard associated with each milestone, if the training has been divided into milestones;
- (c) the list of assessments (formative and summative assessments, examinations, oral assessments, etc.) required for each of the task(s) that have been defined;
- (d) when assessments should take place;
- (e) the tools to be used to collect evidence during practical assessment;
- (f) the pass marks for projects, examinations or oral assessments;
- (g) if required, the minimum number of formative assessments to be undertaken prior to starting summative assessments; and
- (h) the number of observations required to assess performance for the interim and final competency standards.

H.5.2.1.3 Competency-based training requires assessment of the trainees' progress until they are competent to perform their assigned function. Instead of having a single training course assessment at the end of the course, competency-based training encourages assessment throughout the employees' career. This concept can confirm that trainee is progressing towards competence at an acceptable pace and at the same time provides the employer inputs to adjust or review the training plan to fit the competencies as needed.

H.5.2.1.4 Along the process of developing the details of the assessment plan, the employer should ensure that the principles below are adopted:

- (a) clear performance criteria are used to assess competence and the criteria should be objective and measurable;
- (b) an integrated performance of the competencies is observed. The trainee undergoing assessment must demonstrate all competencies and their seamless interaction with each other;
- (c) multiple observations are undertaken. Multiple observations must be carried out to determine whether or not a trainee has achieved the interim and/or final competency standard;
- (d) assessments are valid. All the tasks that are related to the personnel's assigned job function must be assessed. There must be sufficient evidence to ensure that the trainee meets the competency specified by the interim and/or final competency standard. The trainee must not be asked to provide evidence for, or be assessed against, activities that are outside of the scope of the assigned job function.

(e) assessments are reliable. All assessors should reach the same conclusion when performing an assessment.

H.5.2.1.5 In terms of assessment methods, the primary method is the conduct of practical assessments because the focus is on an integrated performance of competencies. Competency-based training encourages the use of blended assessment methods, such as supplementing practical assessments with other forms of evaluation, so that the trainees' competencies can be evaluated comprehensively, and the assessor can confirm that knowledge has been transferred successfully and the trainees have achieved the competencies required to perform the assigned functions. Practical assessments can include observed practical exercises, online practical exercises, projects or simulations and observation of on-the-job performance by fully trained personnel, and other forms of evaluation can be written examinations or oral assessments. Examples of blended assessment approach are illustrated in Table H.5.2.B.

TABLE H.5.2.B
Examples of Assessment Plan for “Personnel Responsible for Processing or Accepting Dangerous Goods Consignments”

Task	Performance Criteria	Assessment Method
0 - Understanding the basics of dangerous goods	Identify different hidden dangerous goods and take the correct actions in emergency circumstance	Quizzes and task observation
3 - Processing/accepting cargo	Accept/Reject accurately “x” (where x is a number) shipments containing dangerous goods	a. Simulation including documentation (AWB, DGD, Approval) and packaging verification by utilising an acceptance checklist
		b. Job shadowing for 2 weeks with peer reports.
7 - Collecting safety data	Accurately describe process for reporting where undeclared dangerous goods are identified in cargo offered for transport	Practical exercises and presentation.

H.5.2.1.6 Employers electing send personnel to third-party training providers for dangerous goods training courses also need to establish an assessment plan for ensuring that competence has been achieved by the trainees. The employer may incorporate the third-party provider's assessment into their established assessment plan but it is up to the employer to determine how they measure the effectiveness of the training and competency of the trainee. Even if some employers do not deliver any training courses themselves, they can still create other training events, especially for those that can be completed in the real life work environment (e.g. job shadowing), and then assess the trainees in the workplace to ensure they can perform their assigned tasks competently.

H.5.2.1.7 Additional administrative procedures may be necessary in the implementation of the assessment plan in relation to:

- (a) who is authorised to perform a specific task or assessment;
- (b) roles and responsibilities of personnel during the conduct of assessments;
- (c) assessment procedures (preparation, conduct and post-assessment);
- (d) conditions under which assessment are to be undertaken;
- (e) record-keeping; and
- (f) actions to be taken if a trainee fails a competency assessment.

Should these procedures be determined, they should be described in the training and procedures manual of the employer.

H.5.2.2 Designing a Training Plan

H.5.2.2.1 In addition to an assessment plan, a training plan is equally important. This training plan lays out the training required according to the training specification. The training plan should not focus on only the core dangerous goods training course itself but a series of training modules or events; the core dangerous goods course is only one of the events. The training plan should detail the following elements:

- (a) composition and structure of the program;
- (b) syllabus;
- (c) milestones (if required);
- (d) modules, training events and their delivery sequence;
- (e) delivery format (type of training, media, etc); and
- (f) training schedule.

The training plan will be used by the training designer(s) to create the training and assessment materials.

H.5.2.2.2 In terms of deciding on the delivery format, the target population, frequency of training and complexity of job functions should be considered. For instance, the dangerous goods tasks to be carried out by flight crew are comparably less complex than those to be completed by acceptance staff of dangerous goods shipments, and therefore, more frequent e-learning courses are suitable. Another example is staff who accept passenger baggage, where new passenger baggage items can evolve rapidly, it is possible to develop short online exercises to address these new items in-between the time when the staff was last trained and assessed, and before the time for the recurrent training as required by the regulations.

H.5.2.2.2.1 The method of delivering dangerous goods training commonly used include:

- (a) **Physical classroom instructor led:** this is the classical training delivered in a physical location attended by all participants and guided by an instructor face-to-face. It requires the physical displacement of both the trainer and the trainees.
- (b) **Virtual classroom instructor led:** this type of training allows participants to join the instructor remotely in a virtual location/classroom through an online platform. It is intended to be interactive and must

offer the opportunity of participation from the trainees in the form of chats, polls and screen sharing. There are many platforms that can facilitate virtual classroom training, such as Microsoft Teams, WebEx and Zoom.

Classroom training is mostly used for delivering the core dangerous goods training courses. The size of the classroom recommendation applicable to both physically and virtually instructor led is between 12 to 15 participants but maximum 20 participants.

- (c) **e-learning:** sometimes also known as computer-based training (CBT) is commonly used as a self-paced and individual approach. Learning materials can be delivered in the form of study notes, videos or even animations. Traditionally, the trainees use a device, such as a computer or tablet remotely or at a designated location and can potentially be asked to complete the training within a determined period or completely at their own pace. It usually incorporates assessments, such as short quizzes or exercises in the middle of the learning process and provides answer and explanation instantly, and may or may not include a final assessment.
- (d) **Distance learning (self-study):** this is also a self-paced and individual approach. Traditionally the trainees use the course materials (reading materials, videos, presentations, notes) provided at their disposal and learn at their own pace. The trainees may or may not be given opportunities to interact with a coach or instructor during the learning process. They may be required to complete the training in a determined period or completely at their own pace. Assessments are usually conducted under invigilation at a determined location.
- (e) **Virtual simulation:** this is to create the real-life work environment virtually. This tool is especially useful when the real-life environment is not available or has access restrictions. It has been widely used for pilots, such as to practice taking off and landing at certain airports. Virtual simulation also provides the opportunity to get familiar to the upcoming work environment as well as to experience potential situations that may not frequently occur.
- (f) **Group discussions:** they are very often scenario based. Trainees are provided with a hypothetical situation and are invited to express their opinion, perform an activity or resolve the situation. Facilitators or instructors would participate in the discussions and provide feedback on the spot so that trainees can learn interactively. Group discussions are suitable for practical exercises; the major benefits are that one can learn from others and with lots of interactions but the disadvantage is that highly competent trainees may dominate the discussions, which results in minimal participation from the less competent trainees. Group discussions should not be used alone as the only training delivery method, especially for complex tasks or tasks that require high level of proficiency.

(g) **On-the Job training (OJT):** it refers to performing tasks under supervision. Although it is often termed as “training”, it should not be used alone but complementing other training methods as practical experience sessions in a job.

The above methods of delivering dangerous goods training may be used in combination to achieve the required objective. For example, e-learning may be supplemented with on-the-job training to verify that the trainee is competent.

H.5.2.2.3.2 Table H.5.2.C illustrates the application of a blended approach of using different delivery methods for “personnel responsible for processing or accepting dangerous goods consignments” (see H.6.3). Ideally, the delivery method of training should be determined based on the level of proficiency that needs to be achieved for different tasks.

TABLE H.5.2.C
Examples of Blended Delivery Methods of Training for Different Tasks and Levels of Proficiency

Task	Level of Proficiency	Delivery Method of Training
Understanding the basics of dangerous goods	Introductory	E-learning
Processing/accepting cargo	Intermediate	Physical classroom instructor led and virtual simulation
Collecting safety data	Basic	Group discussion (scenario based)

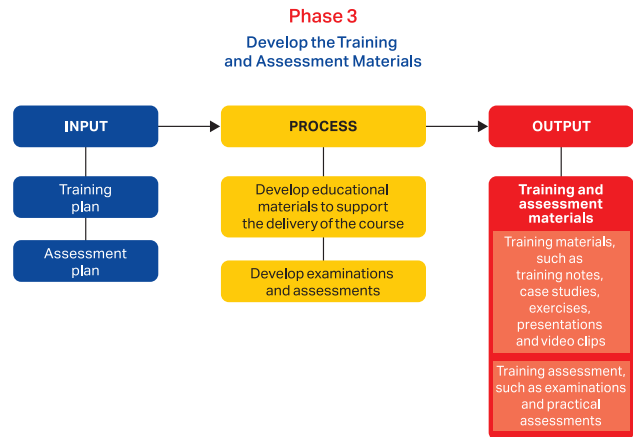
H.5.2.3 By the end of this phase, the employer will have an assessment plan and a training plan created based on the training specification. The training plan will indicate the syllabus and various modules the personnel of different functions should be trained and the schedule of when each event should take place, and meanwhile, the assessment plan will form the framework of how the trainees should be evaluated on their performance.

H.5.3 Phase 3—Develop the Training and Assessment Materials

H.5.3.1 In this phase of developing and implementing a competency-based training and assessment program, the training designer will have to develop the training and

assessment materials based on the training and assessment plans derived from Phase 2. Typical training and assessment materials include training notes, student handbook, case studies, presentations, video clips, examinations, practical exercises and on-the-job-observations.

FIGURE H.5.3.A
Phase 3—Develop the Training and Assessment Materials



H.5.3.2 The designer needs to bear in mind that the training and assessment materials should not be addressing only the core dangerous goods course(s) but all the various training events. For instance, if it was determined in Phase 2 that a training plan for personnel who need to classify dangerous goods consignment will include a classroom taught course (i.e. training event A), simulation exercise to classify dangerous goods (i.e. training event B) and on-the-job shadowing to prepare dangerous goods consignments (i.e. training event C), then the training materials should include the training course materials (e.g. student handbook), and other materials that are relevant to the simulation exercise and on-the-job shadowing. Even if no other training materials are deemed to be necessary for the other two training events (i.e. B & C), at least the course materials for training event A should address the competencies required for those events. In terms of the assessment materials, there should be an examination paper for training event A, shipment classification exercise from dangerous goods handled by the company in the past for training event B and task lists for preparing consignments and documents accompanied by a checklist to assess if the tasks on the task lists can be competently accomplished or not for training event C. A summary of this example can be found in Table H.5.3.B.

TABLE H.5.3.B
Examples of Training and Assessment Materials for Training Events

	Classroom Taught Course (Event A)	Simulation Exercise (Event B)	Job Shadowing (Event C)
Training Material	Student handbook, exercise book	Training material from Event A, a simple job aid	Training material from Event A and Event B
Assessment Material	Examination paper	A set of simulation exercises	A list of tasks to be carried out A checklist to verify that the tasks have been carried out satisfactorily

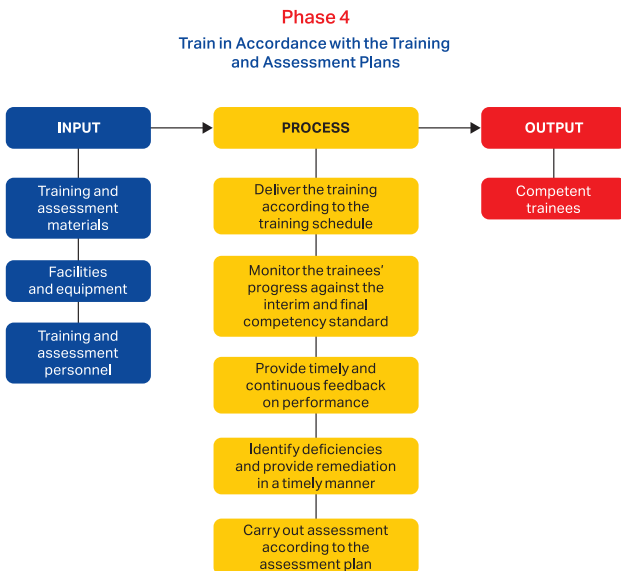
H.5.4 Phase 4—Train in Accordance with the Training and Assessment Plans

H.5.4.1 When the training and assessment materials are well prepared, the training designers should determine the facilities and equipment, and training and assessment personnel required to conduct the training as planned. For the core dangerous goods training course(s), the course instructor will be the training and assessment personnel. In the cases where third-party training service providers are partnered with, the facilities and equipment for conducting the core dangerous training courses may already be included in the solution offered by the service providers.

H.5.4.2 Since the competency-based training and assessment program includes more than just the core dangerous goods training course(s), facilities and equipment, and training and assessment personnel in addition to course instructor(s) are required. Taking the examples as shown in Table H.5.3.B, the simulation exercise in Event B can be computer based. The student handbook could be distributed by the course instructor at Event A, the simple job aid can be provided electronically with a brief introduction prior to doing the set of computer-based simulation exercises, and trainees will only need a computer (i.e. equipment) to complete the exercises. With regard to the on-the-job shadowing in Event C, no specific facilities will be needed, except for being at the actual work environment, the equipment required will exactly be the same as those needed for performing the tasks (e.g. the IATA Dangerous Goods Regulations), and the training and assessment personnel can be the direct supervisor of the trainees or the peer who are experienced.

H.5.4.3 After all the essential items and personnel have been identified and put in place, the training can now commence. All training events and assessments should be carried out according to the training and assessment plans developed in Phase 2. During the process, the training and assessment personnel should monitor the trainees' progress against the interim and final competency standard, and provide timely and continuous feedback. At the end of the training program, the trainees should be competent to perform the function that they have been assigned and carry out the tasks related to their assigned function. If the assessment results show that some trainees are yet to be competent, then more support should be provided to these trainees through the means of additional tutoring, exercises or on-the-job practices.

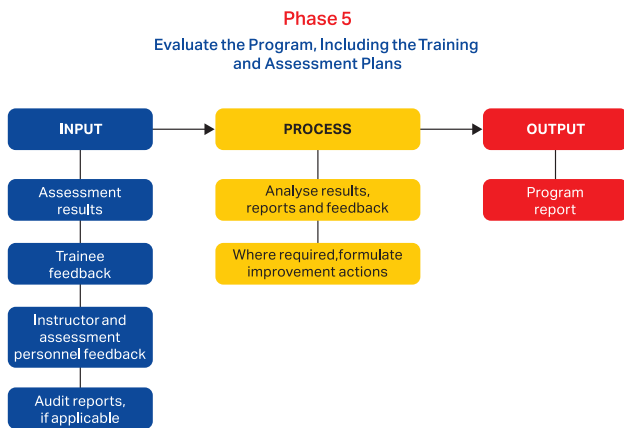
FIGURE H.5.4.A
Phase 4—Train in Accordance with the Training and Assessment Plans



H.5.5 Phase 5—Evaluate the Training and Assessment Program

H.5.5.1 The employer is responsible for ensuring the effectiveness of the training program. At the end of a period of training, feedback from the trainees, and training and assessment personnel should be gathered to determine the effectiveness of the training and assessment program in supporting the progression of learning towards competence in the workplace. Evaluation of the training should be based on valid and reliable evidence such as course results, trainee feedback, reports from other training and assessment personnel, audit reports, and occurrence reports. This evaluation may lead to changes or improvements being made to the competency-based training and assessment design. Either the employer or their appointed assessor is responsible for evaluating the effectiveness of the training program. If this responsibility is outsourced to an appointed assessor, this person should be made familiar to the company's process in developing the whole program from the very first phase.

FIGURE H.5.5.A
Phase 5—Evaluate the Training and Assessment Program



H.5.5.2 The objectives of evaluating the training program effectiveness are to:

- (a) **Improve training program**—Continuous improvement is desirable in any area as training is not a single event, but repeats throughout the employee's career. It is expected that competencies are maintained at a minimum while accompanying regulatory updates and evolutions. Therefore, improving the training program brings benefits not only for future participants, but also improves the experience of those who are already following it.
- (b) **Confirm the relevancy of training**—Prove that the relevant competencies are trained and at the appropriate level of proficiency. In other words, the program meets the expectations of the employer and the employees. H.5.2.1—“Design an assessment plan” addresses the needs and methods to evaluate a specific trainee. However, if the training is not being effective, unexpected negative results can be created due to an issue in the training program, rather than individual differences.
- (c) **Provide evidence of the added value**—Training program evaluation helps to explain how training is supporting the business. Considering the investment necessary in training, a link should be made between the resources and costs involved in the development and delivery of training and the resulting value added. The evaluation should identify how specific issues were addressed. Additionally, as the business environment will change over time, the training needs analysis should be systematically reviewed to ensure that the training assessment plans remain valid.

H.5.5.3 In this context, evaluating the training program can benefit:

- the employers by providing assurance that the training program is delivering a competent workforce that can fulfil the business needs;
- the employees by ensuring that they are competent to perform their assigned job function(s).

H.5.5.4 Sample Tools for Training Program Assessment

There are a number of different tools that may be used to evaluate the training program. Examples of these include:

H.5.5.4.1 Surveys—post-training surveys can be directed to both trainees and training and assessment personnel. Table H.5.5.B below shows some sample survey questions that one can consider. The benefit of surveys is that they can be completed anonymously within a given time frame; however, many participants tend to either ignore the surveys or provide overly positive answers.

TABLE H.5.5.B
Sample Survey Questions

Target Audience	Survey Questions
Trainee	<ul style="list-style-type: none"> • Was the training relevant to the function you are assigned to? • Was the level of difficulty of the training adequate? • Were the training materials interesting and engaging? • Which training event was the most relevant to the tasks you have to complete?
Training and assessment personnel	<ul style="list-style-type: none"> • Were the training objectives clear? • How often did you observe difficulties from trainees in following the learning pace? • Did the trainees struggle in completing the hands-on tasks?

H.5.5.4.2 Interviews—these can be conducted with trainees, and training and assessment personnel separately because the two groups of target audience are viewing the training from different perspectives. Similar to surveys, interviews can include both open-ended and closed questions, except that interviews can trigger more impulse conversations and interactions, and can potentially drill further for deeper insights. Interviews can be costly and time consuming but can be conducted after collecting some feedback through surveys so as to have a more targeted discussion.

H.5.5.4.3 Analyse training assessment results—The result of each training assessment (e.g. course examination result and other practical exercise result) can be analysed for indications on whether or not there was a disconnect between the training materials and the competency required for the job function. For example, if a significant percentage of trainees answer a particular question incorrectly, this should trigger a review of the training design and materials on that specific area.

H.5.5.4.4 Occurrence trend/Failure rate—this evaluation tool is somewhat tied into the company’s reporting culture. By tallying the number of occurrences (e.g. how many damaged packages were reported because of rough handling at the warehouse), the employer or appointed assessor will see the full picture of which weaknesses will require improvement. For some operations, it may not necessary be occurrence trend but failure rate, such as counting the number of dangerous goods shipments that were rejected by the operators. However, no matter if it would be the occurrence trend or failure rate that is to be reviewed, it is important to ensure that thorough investigations were completed before drawing the conclusion. For example, when assessors of shippers review the number of shipments rejected by the operators, they should first check whether the rejection reasons were valid or not. Assuming that the rejection reasons were valid, then the assessors should further study if it was a one-off incident or occurring repeatedly; if it were the latter, and more than one employee experienced the same issue, then the training plan and materials on the specific area should be revisited.

H.5.5.4.5 On the job observations—similar to studying the occurrence trend/failure rate, on the job observations will provide the most accurate information because these can be done unannounced and the tasks being performed by the employees are at the actual work environment .

H.5.5.5 After evaluating the effectiveness of the training program by using various tools, a program evaluation report will be produced, and the employer should make the necessary adjustment to the training program based on the report. Depending on the observations in the report, sometimes, it may not even be necessary to improve the training and assessment plans but to change the training specification.

H.5.6 Training and Assessment Records

H.5.6.1 Employers must maintain a record of training and assessment for personnel (see 1.5.1.4), and usually training records are required by the following stakeholders:

- (a) **employees:** prove the acquired competency for their assigned function(s) and respective tasks;
- (b) **employers:** to comply with the regulations, and manage work force and ensure their employees are competent to perform the tasks related to their

assigned function(s); it can be used to make critical operational decisions for the organization based on the skill set available;

- (c) **auditors/inspectors:** to inspect that the employees are competent to perform the job function and complies with the regulations on training requirement; and
- (d) **instructors/training providers/training and assessment personnel:** to provide proof that training has been delivered and assessments were completed.

H.5.6.2 The assessment records serve as formal information on several aspects important to all the parties mentioned above:

- when training was provided;
- who attended the training;
- who delivered the training;
- most recent training session;
- when there was an assessment;
- who assessed the trainee;
- to prove which tasks are covered by the training/assessment;
- achieved proficiency level.

H.5.7 Qualifications and Competencies of Training and Assessment Personnel

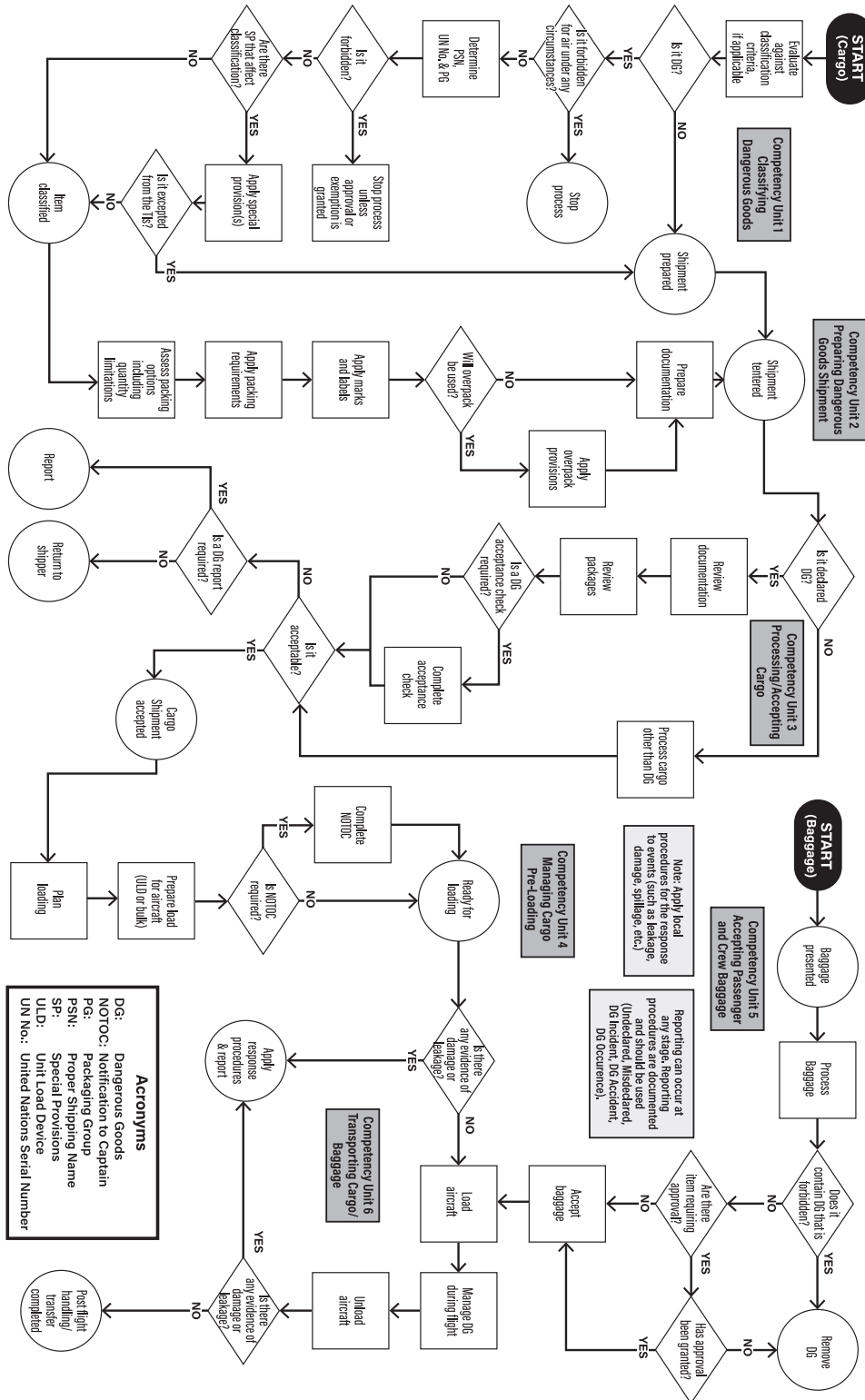
H.5.7.1 Depends on what training events the competency-based training and assessment program include, there can be multiple training and assessment personnel. The most typical ones are the instructors who conduct the dangerous goods training (taught) courses; however, there can be also others, such as supervisors or peers who are more experienced, especially in the case of job shadowing. Employers must ensure that all these involved training and assessment personnel understand the objective of the training program, the competency that the trainees need to achieve and the individual training and assessment activities that they are responsible for.

H.5.7.2 Generally, the level of proficiency required from the dangerous goods course training and assessment personnel (i.e. course instructors) is high, they should demonstrate “advanced” proficiency level as described in H.1.2.3 related to the functions that they teach. More information about instructor qualifications and competencies can be found in the IATA Dangerous Goods Regulations Instructor’s Toolkit. See

<https://www.iata.org/en/publications/store/dgr-training-books/>

H.5.7.3 Training and assessment personnel other than course instructors should have at least undertaken the training events related to the function or tasks that they are training and assessing, with suitable experience in performing such function or tasks.

**FIGURE H.5.7.A
Dangerous Goods Functions—Process Flowchart**



**TABLE H.5.7.B
Dangerous Goods Task List Template**

		Knowledge Base	Classifying dangerous goods	Preparing dangerous goods shipment	Processing/accepting cargo	Managing cargo pre-loading	Accepting passenger and crew baggage	Transporting cargo/baggage	Collecting safety data
0	Understanding the basics of dangerous goods								
	0.1	Recognizing 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	Familiarise 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	Recognise 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	Recognise the basic marking requirements						
		0.5.2	Recognise the basic labelling requirements						
		0.5.3	Identify the required documentation						
	0.6	Familiarising with basic emergency response							
		0.6.1	Create awareness about general emergency procedures						
	0.6.2	Understand the employer'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)							

TABLE H.5.7.B
Dangerous Goods Task List Template (continued)

		Knowledge Base	Classifying dangerous goods	Preparing dangerous goods shipment	Processing/accepting cargo	Managing cargo pre-loading	Accepting passenger and crew baggage	Transporting cargo/baggage	Collecting safety data	
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 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 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 the Shipper's Declaration							
		2.5.2	Complete other transport documents (e.g. air waybill)							
		2.5.3	Include other required documentation (approvals/exemptions, etc.)							
		2.5.4	Retain copies of documents							

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TABLE H.5.7.B
Dangerous Goods Task List Template (continued)

		Knowledge Base	Classifying dangerous goods	Preparing dangerous goods shipment	Pro-processing/accepting cargo	Managing cargo pre-loading	Accepting passenger and crew baggage	Transporting cargo/baggage	Collecting safety data
3	Processing/accepting cargo								
	3.1	Review documentation							
		3.1.1	Verify Shipper's Declaration						
		3.1.2	Verify other transport documents (e.g. air waybill)						
		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						
		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							
	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						
	4	Managing cargo pre-loading							
4.1		Plan loading							
		4.1.1	Determine stowage requirements						
4.1.2		Determine segregation, separation, 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						
		4.2.3	Apply stowage requirements (i.e. segregation, separation, orientation, securing and protecting from damage)						
		4.2.4	Apply ULD tags when applicable						
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 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								

TABLE H.5.7.B
Dangerous Goods Task List Template (continued)

		Knowledge Base	Classifying dangerous goods	Preparing dangerous goods shipment	Processing/accepting cargo	Managing cargo pre-loading	Accepting passenger and crew baggage	Transporting cargo/baggage	Collecting safety data
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						
	6.2	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						
	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						
	7	Collecting safety data							
		7.1	Report dangerous goods accidents						
		7.2	Report dangerous goods incidents						
7.3		Report undeclared/mis-declared dangerous goods							
7.4		Report dangerous goods occurrences							

H

H.6 Adapted Task Lists for Certain Well-Defined Functions

H.6.0 Relationship between Well-Defined Functions and the Task Lists

This section provides examples of well-defined functions typically performed in the process of cargo and passenger Operations for which dangerous goods training is required.

The examples in this section may be used for designing the training and assessment programs. However, the tasks and sub-tasks, and the level of proficiency shown here are only recommendations. Additional training and assessment may be required for personnel assigned with additional responsibilities, and less training and assessment may be needed for personnel assigned with fewer responsibilities than those presented in these lists. Furthermore, some employers may divide the job functions differently, and as a result, they will have a different training specification.

Ultimately the employer is responsible for ensuring employees are competent to perform the functions they are assigned to and must therefore ensure that training programs are designed to accomplish this. Dangerous goods training programs are subject to appropriate national authority approval in accordance with national regulations, policies and procedures.

H.6.1 Function: Personnel Responsible for Preparing Dangerous Goods Consignments

Training and assessment for personnel preparing dangerous goods consignments for transport may be tailored to address only those classes, divisions or even UN numbers that they prepare for transport. Training and assessment may also be limited to address only the specific tasks personnel perform. For example, where personnel are only responsible for the packing, marking and labelling of packages and overpacks, training and assessment may be tailored to address just those tasks. The following are tasks that these personnel typically perform and for which training and assessment would therefore be required.

TABLE H.6.1.A
Sample Task List for Personnel Responsible for Preparing Dangerous Goods Consignments

Function: Personnel preparing dangerous goods consignments for transport (Personnel classifying dangerous goods for transport is provided simultaneously)		Classifying dangerous goods	Preparing dangerous goods shipment
0	Understanding the basics of dangerous goods	★	★
0.1	Dangerous goods applicability	★	★
0.1.1	Understand the definition	★	★
0.1.2	Recognise 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	Recognise potential hidden dangerous goods	★	★
0.2.3	Familiarise with passenger provisions	★	★
0.3	Identifying roles and responsibilities	★	★
0.3.1	Clarify the individual and collective role of the supply chain stakeholders	★	★
0.3.3	Recognise 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	Recognise the basic marking requirements	★	★
0.5.2	Recognise the basic labelling and requirements	★	★
0.5.3	Identify the required documentation	★	★

Function: Personnel preparing dangerous goods consignments for transport (Personnel classifying dangerous goods for transport is provided simultaneously)			Classifying dangerous goods	Preparing dangerous goods shipment
	0.6	Familiarising with basic emergency response	★	★
		0.6.1	Create awareness about general emergency procedures	★
			★	★
		0.6.2	Understand the employer'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 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 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 the Shipper's Declaration	★★★
		2.5.2	Complete other transport documents (e.g. air waybill)	★★★
		2.5.3	Include other required documentation (approvals/exemptions, etc.)	★★★
		2.5.4	Retain copies of documents	★★★

H.6.2 Function: Personnel Responsible for Processing or Accepting Goods Presented as General Cargo

Personnel responsible for processing goods presented as general cargo must be competent to perform tasks aimed at preventing undeclared dangerous goods from being accepted into air transport and loaded on an aircraft. They may work for freight forwarders, ground handling agents or operators. Personnel would 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 and assessment would therefore be required.

TABLE H.6.2.A
Sample Task List for Personnel Responsible for Processing or Accepting Goods Presented as General Cargo

Function: Personnel responsible for processing or accepting goods presented as general cargo			Processing/accepting cargo
0	Dangerous goods applicability		★
	0.1	Recognizing dangerous goods	★
		0.1.1 Understand the definition	★
		0.1.2 Recognise 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 Recognise potential hidden dangerous goods	★
		0.2.3 Familiarise with passenger provisions	★
	0.3	Identifying different roles and responsibilities	★
		0.3.1 Clarify the individual and collective role of the supply chain stakeholders	★
		0.3.2 Recognise 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 Recognise the basic marking requirements	★
		0.5.2 Recognise the basic labelling requirements	★
		0.5.3 Identify the required documentation	★
	0.6	Familiarising with emergency response	★
		0.6.1 Create awareness about general emergency procedures	★
		0.6.2 Understand the employer'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/mis-declared dangerous goods	★★
	7.4	Report dangerous goods occurrences	★★

H.6.3 Function: Personnel Responsible for Processing or Accepting Dangerous Goods Consignments

Personnel responsible for processing or accepting dangerous goods consignments must 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. They may work for freight forwarders, ground handling agents or operators. Personnel would 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 would therefore be required.

**TABLE H.6.3.A
Sample Task List for Personnel Responsible for Processing or Accepting Dangerous Goods Consignments**

Function: Personnel responsible for processing or accepting dangerous goods consignments			Processing/accepting cargo	
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 between hazard and risk	★
	0.2	Understanding the general limitations		★
		0.2.1	Develop a sense of forbidden dangerous goods	★
		0.2.2	Recognise potential hidden dangerous goods	★
		0.2.3	Familiarised with passenger provisions	★
	0.3	Identifying different roles and responsibilities		★
		0.3.1	Clarify the individual and collective role of the supply chain stakeholders	★
		0.3.2	Recognise 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	Recognise the basic marking requirements	★
		0.5.2	Recognize the basic labelling requirements	★
		0.5.3	Identify the required documentation	★
	0.6	Familiarising with basic emergency response		★
		0.6.1	Create awareness about general emergency procedures	★
0.6.2		Understand the employer's emergency response requirements	★	



Function: Personnel responsible for processing or accepting dangerous goods consignments			Processing/accepting cargo	
3	Processing/accepting cargo			
	3.1	Review documentation		★★★
		3.1.1	Verify Shipper's Declaration	★★★
		3.1.2	Verify other transport documents (e.g. air waybill)	★★★
		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	★★★
		3.2.4	Verify package conditions	★★★
	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/mis-declared dangerous goods	★★	
	7.4	Report dangerous goods occurrences	★★	

H.6.4 Function: 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 would therefore be required.

TABLE H.6.4.A
Sample Task List for Personnel Responsible for Handling in a Warehouse, Loading and Unloading Unit Load Devices and Loading and Unloading Aircraft Cargo Compartments

Function: Personnel responsible for handling cargo in a warehouse, loading and unloading ULD and loading and unloading aircraft cargo compartments.			Managing cargo pre-loading	
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	Recognise potential hidden dangerous goods	★
		0.2.3	Familiarise 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	Recognise the impact of State & operator variations	★

Function: Personnel responsible for handling cargo in a warehouse, loading and unloading ULD and loading and unloading aircraft cargo compartments.			Managing cargo pre-loading
	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 Recognise the basic marking requirements	★
		0.5.2 Recognise the basic labelling requirements	★
	0.6	Familiarising with basic emergency response	★
		0.6.1 Create awareness about general emergency procedures	★
		0.6.3 Under the employer'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	★★★
		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/mis-declared dangerous goods	★★
	7.4	Report dangerous goods occurrences	★★

H.6.5 Function: 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 would therefore be required.

TABLE H.6.5.A
Sample Task List for Personnel Responsible for Accepting Passenger and Crew Baggage, Managing Aircraft Boarding Areas and other Functions Involving Direct Passenger Contact at an Airport

Function: Personnel responsible for accepting passenger and crew baggage, managing aircraft boarding areas and other functions involving direct passenger contact at an airport.			Accepting passenger and crew baggage
0	Understanding the basics of dangerous goods		★
	0.1	Dangerous goods applicability	★
		0.1.1 Understand the definition	★
		0.1.2 Recognise 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 Recognise potential hidden dangerous goods	★
		0.2.3 Familiarise 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 Recognise 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 Recognise basic marking requirements	★
		0.5.2 Recognise basic labelling requirements	★
		0.5.3 Identify the required documentation	★
	0.6	Familiarising with basic emergency response	★
		0.6.1 Create awareness about general emergency procedures	★
		0.6.2 Understand the employer's emergency response requirements	★
5	Accepting passenger and crew baggage		★★★★
	5.1	Process baggage	★★★★
		5.1.1 Identify forbidden 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/mis-declared dangerous goods	★
	7.4	Report dangerous goods occurrences	★

H.6.6 Function: 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 would 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.

**TABLE H.6.6.A
Sample Task List for Personnel Responsible for the Planning of Aircraft Loading**

Function: Personnel responsible for the planning of aircraft loading.			Managing cargo pre-loading
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 Recognise potential hidden dangerous goods	★
		0.2.3 Familiarise 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 Recognised 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 Recognise the basic marking requirements	★
		0.5.2 Recognise the basic labelling requirements	★
		0.5.3 Identify the required documentation	★
	0.6	Familiarising with basic emergency response	★
		0.6.1 Create awareness about general emergency procedures	★
		0.6.2 Understand the employer'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/mis-declared dangerous goods	★★
	7.4	Report dangerous goods occurrences	★★

H.6.7 Function: Flight Crew

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

**TABLE H.6.7.A
Sample Task List for Flight Crew**

Function: Flight Crew			Managing cargo pre-loading
0	Understanding the basics of dangerous goods		★
	0.1	Dangerous goods applicability	★
		0.1.1 Understand the definition	★
		0.1.2 Recognise 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 Recognise potential hidden dangerous goods	★
		0.2.3 Familiarise 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 Recognise 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 Recognise the basic marking requirements	★
		0.5.2 Recognise the basic labelling requirements	★
		0.5.3 Identify the required documentation	★
	0.6	Familiarising with basic emergency response	★
		0.6.1 Create awareness about general emergency procedures	★
		0.6.2 Understand the employer's 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/mis-declared dangerous goods	★★
	7.4	Report dangerous goods occurrences	★★

H.6.8 Function: 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 would therefore be required.

**TABLE H.6.8.A
Sample Task List for Flight Operations Officers and Flight Dispatchers**

Function: Personnel responsible for flight operations and flight dispatchers			Managing cargo pre-loading
0	Understanding the basics of dangerous goods		★
	0.1	Dangerous goods applicability	★
		0.1.1 Understand the definition	★
		0.1.2 Recognise 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 Recognise potential hidden undeclared dangerous goods	★
		0.2.3 Familiarise 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 Recognise 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 Recognise the basic marking requirements	★
		0.5.2 Recognise the basic labelling requirements	★
		0.5.3 Identify the required documentation	★
	0.6	Familiarising with basic emergency response	★
		0.6.1 Create awareness about general emergency procedures	★
		0.6.3 Understand the employer's 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	★★★

H.6.9 Function: Cabin Crew

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

TABLE H.6.9.A
Sample Task List for Cabin Crew

Function: Cabin Crew			Transporting cargo/ baggage
0	Understanding the basics of dangerous goods		★
	0.1	Dangerous goods applicability	★
		0.1.1 Understand the definition	★
		0.1.2 Recognise 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 Recognise the potential hidden dangerous goods	★
		0.2.3 Familiarise with passenger's 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 Recognise 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 Recognise the basic marking requirements	★
		0.5.2 Recognise the basic labelling requirements	★
		0.5.3 Identify the required documentation for DG shipments	★
	0.6	Familiarising with basic emergency response	★
		0.6.1 Create awareness about general emergency procedures	★
		0.6.2 Under the employer'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/mis-declared dangerous goods	★
	7.4	Report dangerous goods occurrences	★

H.6.10 Function: 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 would therefore be required.

TABLE H.6.10.A
Sample Task List for Personnel Responsible for the Screening of Passengers and Crew and their Baggage, Cargo and Mail

Function: Personnel responsible for security screening (Passengers and crew, baggage, cargo and mail)		Collecting safety data
0	Understanding the basics of dangerous goods	★
	0.1 Dangerous goods applicability	★
	0.1.1 Understand the definition	★
	0.1.2 Recognise 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 Recognise potential hidden dangerous goods	★
	0.2.3 Familiarise 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 Recognise 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 Recognise the basic marking requirements	★
	0.5.2 Recognise the basic labeling requirements	★
	0.5.3 Identify the required documentation	★
	0.6 Familiarising with basic emergency response	★
	0.6.1 Create awareness about general emergency procedures	★
	0.6.2 Understand the employer'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	★★★
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/mis-declared dangerous goods	★

H.A Attachment A— Subsection 1.5—Training Requirements

Note:

This is Subsection 1.5 from the 61st edition, which may be used in place of the provisions in 1.5 until 31 December 2022.

H.A.1.5.0 General

H.A.1.5.0.1 The successful application of regulations concerning the transport of dangerous goods and the achievement of their objectives are greatly dependent on the appreciation by all individuals concerned of the risks involved and on a detailed understanding of the Regulations. This can only be achieved by properly planned and maintained initial and recurrent training programs for all persons concerned in the transport of dangerous goods.

H.A.1.5.0.2 Personnel identified in the categories specified in Tables H.A.1.5.A, H.A.1.5.B or H.A.1.5.C must be trained or training must be verified prior to the person performing any duty specified in Tables H.A.1.5.A, H.A.1.5.B or H.A.1.5.C.

H.A.1.5.0.3 Recurrent training must 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. For example, a person attends an initial course finishing on 14 April 2017; their training validity therefore expires 30 April 2019. They may attend recurrent training any time between 1 February and 30 April 2019 and their next recurrent training date will remain 30 April 2021. If, however they complete recurrent training in January 2019, then as this is more than 3 months prior to the end of April then their training expiry date becomes 31 January 2021.

H.A.1.5.0.4 A test must be provided following dangerous goods training to verify understanding of the regulations. Confirmation is required of successful completion of the test.

H.A.1.5.1 Dangerous Goods Training Programs

H.A.1.5.1.1 Establishment and Maintenance

Initial and recurrent training programs must be established and maintained by or on behalf of:

- (a) operators;
- (b) ground handling agencies which perform, on behalf of the operator, the act of accepting, handling, loading, unloading, transfer or other processing of cargo or mail;
- (c) ground handling agencies located at an airport which perform, on behalf of the operator, the act of processing passengers;
- (d) agencies, not located at an airport, which perform, on behalf of the operator, the act of checking in passengers;
- (e) freight forwarders;
- (f) shippers of dangerous goods, including packers and persons' or organisations' undertaking the responsibilities of the shipper;
- (g) agencies engaged in the security screening of passengers, crew and their baggage and/or cargo or mail; and
- (h) designated postal operators.

H.A.1.5.1.2 Review and Approval

H.A.1.5.1.2.1 Dangerous goods training programs for operators' personnel must be subjected to review and approval by the appropriate authority of the State of the operator.

H.A.1.5.1.2.2 Dangerous goods training programs of designated postal operators must be subjected to review and approval by the civil aviation authority of the State where the mail was accepted by the designated postal operator.

H.A.1.5.1.2.3 Dangerous goods training programs for all categories of staff shown in H.A.1.5.1.1, other than operators and designated postal operators, should be reviewed and approved as determined by the appropriate national authority.

H.A.1.5.2 Training Curricula

H.A.1.5.2.1 Personnel must be trained in the requirements commensurate with their responsibilities.

H.A.1.5.2.2 Training must include:

- (a) general familiarization training—which must be aimed at providing familiarity with the general provisions;
- (b) function specific training—which must provide detailed training in the requirements applicable to the function for which that person is responsible; and
- (c) safety training—which must cover the hazards presented by dangerous goods, safe handling and emergency response procedures.

H.A.1.5.2.3 In planning training courses, the various categories of personnel must be familiar with minimum subject matter as indicated in Table H.A.1.5.A.

H.A.1.5.3 Training Curricula—“No Carry” Operators

H.A.1.5.3.1 Operators that do not carry dangerous goods as cargo or mail must ensure that personnel receive training in the requirements commensurate with their responsibilities.

H.A.1.5.3.2 The subject matter to which their various categories of personnel must be familiar is indicated in Table H.A.1.5.B.

Note:

Security staff are required to be trained irrespective of whether the operator on which passenger or cargo is to be transported carries dangerous goods as cargo.

H.A.1.5.4 Training Curricula—Designated Postal Operators

Staff of designated postal operators must be trained commensurate with their responsibilities. The subject matter to which their various categories of staff should be familiar with is indicated in Table H.A.1.5.C.

H.A.1.5.5 Record of Training

H.A.1.5.5.1 A record of training must be maintained, which must include:

- the individual's name;
- the most recent training completion month;
- a description, copy or reference to training materials used to meet the training requirement;
- the name and address of the organization providing the training; and
- evidence, which shows that a test has been completed satisfactorily.

H.A.1.5.5.2 The training records must be retained by the employer for a minimum period of thirty-six months from the most recent training completion month and must be made available upon request to the employee or appropriate national authority.

H.A.1.5.6 Instructor Qualifications

H.A.1.5.6.1 Unless otherwise provided for by the appropriate national authority, instructors of initial and recurrent dangerous goods training programs must have adequate instructional skills and have successfully completed a dangerous goods training program in the applicable category or Category 6 of Table H.A.1.5.A or another training program that additionally covers all aspects of Table H.A.1.5.A, prior to delivering such a dangerous goods training program.

Note:

“Adequate instructional skills” can come from a variety of methods. A list of instructional techniques is found in the Guidelines for Instructors of Dangerous Goods Courses.

H.A.1.5.6.2 Instructors delivering initial and recurrent dangerous goods training programs must at least every 24 months deliver such a course, or in the absence of this attend recurrent training. Instructors must receive and understand updates to dangerous goods information and be made familiar with those changes by training or other means on an annual basis or as the Regulations are modified.

H.A.1.5.6.3 Organisations must ensure that the instructor receives updates to the Regulations and training material on an annual basis with the issuance of each edition of the DGR.

TABLE H.A.1.5.A
Minimum Requirements for Training Curricula (H.A.1.5.2)

Aspects of transport of dangerous goods by air with which they should be familiar, as a minimum	Shippers and packers		Freight forwarders			Operators and ground handling agents						Security screeners
	Category											
	1	2	3	4	5	6	7	8	9	10	11	12
General philosophy	X	X	X	X	X	X	X	X	X	X	X	X
Limitations	X		X	X	X	X	X	X	X	X	X	X
General requirements for shippers	X		X			X						
Classification	X	X	X			X						X
List of dangerous goods	X	X	X			X				X		
General packing requirements	X	X	X			X						
Packing instructions	X	X	X			X						
Labelling and marking	X	X	X	X	X	X	X	X	X	X	X	X
Shipper's Declaration and other relevant documentation	X		X	X		X	X					
Acceptance procedures						X						
Recognition of undeclared dangerous goods	X	X	X	X	X	X	X	X	X	X	X	X
Storage and loading procedures					X	X		X		X		
Pilots' notification						X		X		X		
Provisions for passengers and crew	X	X	X	X	X	X	X	X	X	X	X	X
Emergency procedures	X	X	X	X	X	X	X	X	X	X	X	X

CATEGORY

1. *Shippers and persons undertaking the responsibilities of shippers', including operator's staff acting as shippers, operator's staff preparing dangerous goods as Company Materials (COMAT)*
2. *Packers*
3. *Staff of freight forwarders involved in processing dangerous goods*
4. *Staff of freight forwarders involved in processing cargo or mail (other than dangerous goods)*
5. *Staff of freight forwarders involved in the handling, storage and loading of cargo or mail*
6. *Operator's and ground handling agent's staff accepting dangerous goods*
7. *Operator's and ground handling agent's staff accepting cargo or mail (other than dangerous goods)*
8. *Operator's and ground handling agent's staff involved in the handling, storage and loading of cargo or mail and baggage*
9. *Passenger handling staff*
10. *Flight crew members, loadmasters, load planners and flight operations officers/flight dispatchers*
11. *Crew members (other than flight crew members)*
12. *Security staff who deal with the screening of passengers and crew and their baggage and cargo or mail, e.g. security screeners, their supervisors and staff involved in implementing security procedures.*

TABLE H.A.1.5.B
Minimum Requirements for Training Curricula for “No Carry” Operators (H.A.1.5.3)

Aspects of transport of dangerous goods by air with which they should be familiar, as a minimum	Operators and ground handling agents				
	Category				
	13	14	15	16	17
General philosophy	X	X	X	X	X
Limitations	X	X	X	X	X
Labelling and marking	X	X	X	X	X
Shipper's Declaration and other relevant documentation	X				
Recognition of undeclared dangerous goods	X	X	X	X	X
Provisions for passengers and crew	X	X	X	X	X
Emergency procedures	X	X	X	X	X

CATEGORY

13. Operator's and ground handling agent's staff accepting cargo or mail (other than dangerous goods)
14. Operator's and ground handling agent's staff involved in the handling, storage and loading of cargo or mail and baggage
15. Passenger handling staff
16. Flight crew members, loadmasters, load planners and flight operations officers/flight dispatchers
17. Crew members (other than flight crew members).

Notes:

1. Depending on the responsibilities of the person, the aspects of training to be covered may vary from those shown in Table H.A.1.5.A and Table H.A.1.5.B. For example, in respect of classification, staff involved in implementing security procedures (e.g. screeners and their supervisors) need only be trained in the general properties of dangerous goods.
2. A set of detailed dangerous goods training programs for the various categories of personnel, are available from IATA. These training programs correspond to the categories of the personnel shown in Table H.A.1.5.A. Also available is a set of guidelines for instructors of dangerous goods courses.
3. The categories of personnel identified in Table H.A.1.5.A and Table H.A.1.5.B are not all encompassing. Personnel employed by or interacting with the aviation industry in areas such as passenger and cargo reservation centres and engineering and maintenance, except when acting in a capacity identified in Table H.A.1.5.A or Table H.A.1.5.B, should be provided with dangerous goods training in accordance with H.A.1.5.2.

Dangerous Goods Training Workbooks

IATA Dangerous Goods Training Workbooks	Book 1	Book 2	Book 3	Book 4	Book 5
Category of Personnel	1, 2, 3, 6	10	9, 11, 12	5, 8	4, 7

Workbook 1—Shippers; Packers; Personnel Accepting/Processing Dangerous Goods

Workbook 2—Flight Crew; Load Planners; Flight Dispatchers

Workbook 3—Cabin Crew; Passenger Handling Personnel; Security Screening Personnel

Workbook 4—Ramp and Warehouse Personnel

Workbook 5—General Cargo Acceptance Personnel

TABLE H.A.1.5.C
Minimum Requirements for Training Curricula for Designated Postal Operators (H.A.1.5.4)

Aspects of transport of dangerous goods by air with which they should be familiar, as a minimum	Designated Postal Operators		
	Category		
	a	b	c
General philosophy	X	X	X
Limitations	X	X	X
General requirements for shippers	X		
Classification	X		
List of dangerous goods	X		
General packing requirements	X		
Packing instructions	X		
Labelling and marking	X	X	X
Shipper's Declaration and other relevant documentation	X	X	
Acceptance of the dangerous goods listed in 2.4	X		
Recognition of undeclared dangerous goods	X	X	X
Storage and loading procedures			X
Provisions for passengers and crew	X	X	X
Emergency procedures	X	X	X

CATEGORY

- (a) Staff of designated postal operators involved in accepting mail containing dangerous goods
- (b) Staff of designated postal operators involved in processing mail (other than dangerous goods)
- (c) Staff of designated postal operators involved in the handling, storage and loading of mail