Civil Aviation Safety Authority
of Papua New Guinea

Advisory Circular

AC141-3

GUIDELINE FOR ESTABLISHING AND IMPLEMENTING A COMPETENCY BASED TRAINING AND ASSESSMENT (CBTA) PROGRAMME

Initial Issue

21 June 2023

GENERAL

Civil Aviation Authority Advisory Circulars (AC) contain information about standards, practices and procedures that the Director has found to be an Acceptable Means of Compliance (AMC) with the associated rule.

An AMC is not intended to be the only means of compliance with a rule, and consideration will be given to other methods of compliance that may be presented to the Director. When new standards, practices or procedures are found to be acceptable, they will be added to the appropriate Advisory Circular.

PURPOSE

This Advisory Circular provides methods acceptable to the Director to show compliance with related CAR requirements listed below to approve training and assessment programmes for operational personnel. The approval process may appear to be a complex undertaking, particularly to a first-time applicant; however, it provides explanatory materials for the process of applying for and obtaining approval to establish and implement a CBTA programme.

RELATED CAR

This AC relates specifically to Civil Aviation Rules 92.203, 121.553, 125.553, 135.553, 136.803, 145.11(a)(11), 141.57 and 172.53

CHANGE NOTICE

There was no previous issue with this AC; consequently, no change is in effect.

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1.0 INTRODUCTION

1.1 Background

ICAO Document 9868 -Procedures for Air Navigation Services Training (PANS-Training), chapter 2, states that the goal of a competency-based training and assessment (CBTA) programme is to provide a competent workforce for the provision of a safe and efficient air transportation system.

1.2 ICAO Is Moving Towards CBTA Programmes

1.2.1 In 2006, ICAO introduced the first CBTA competency framework for Multi-Crew Pilot License (MPL) in Annex 1 - Personnel Licensing and since then it has introduced several CBTA competency frameworks for operational personnel (e.g. Flight Crew, Cabin Crew, ATS, RPL ATSEP, AME and DG) as listed below:

ICAO Doc Reference & Revision Status	ICAO Doc Revision status
Doc 9868 – Procedures for Air Navigation Services Training (PANS-Training)	Second Edition, 2016
Doc 10056 -Manual on Air Traffic Controller Competency-based Training and Assessment	First Edition, 2017
Doc 10057 – Manual on Air Traffic Safety Electronics Personnel Competency-based Training and Assessment	Second Edition, 2020
Doc 10098 – Manual on Competency-based training and assessment for aircraft maintenance personnel	First Edition, 2021
Doc 10106 – Manual on Flight Operations Officers / Flight Dispatchers Competency-based training and Assessment	First Edition, 2021
Doc 10147 – Guidance on a Competency-based approach to Dangerous Goods Training and Assessment	First Edition, 2021
Doc 10002 - Cabin Crew Safety Training Manual, Chapter 2 - Competency-based approach to cabin crew training and assessment	Second Edition, 2020

1.2.2 In order to focus training and assessment on how an aviation professional is expected to competently perform on the job, a description of this performance in the particular operational and environmental context is needed. The adapted competency model, with its associated performance criteria, provides a means of assessing whether trainees achieve the desired performance.

1.2.3 Since ICAO is now using CBTA frameworks as a global standard for all training and assessment for aviation operational personnel, CASA PNG is also adapting the ICAO-developed CBTA standards listed above to its own context and this AC provides detailed guidance on how PNG aviation document holders can achieve CBTA approval from CASA PNG.

1.2.4 ICAO is moving towards Competency-Based Assessment Training per table below:

Table 1: ICAO Competency-Based Assessment

Use of CBTA	For
Competency-Based Licenses (Annex 1)	• Multi-crew Pilot License (MPL) • Remote Pilot License (RPL)
Experience requirements for the issuance of a licence can be waived through CBTA (Annex 1, Appendix 2, para 3.1)	• Private pilot licence (PPL) • Commercial pilot licence (CPL) • Instrument rating (IR) • Aircraft maintenance (Technician/Engineer/Mechanic)
CBTA is an option for approved training courses (Annex 1, paras 4.4.1.3; 4.6.1.3.1 c)	• Air traffic control officer (ATCO) • Flight dispatchers • Pilot aircraft type rating
Maintenance of competence for pilot licences through CBTA (Note in Annex 6 Part 1, para 9.3.1, PANS-TRG)	Evidence-based training (EBT)

1.3 Objectives of a CBTA Programme

1.3.1 A CBTA programme will enable individuals to reach the highest levels of their operational capability whilst ensuring a minimum level of competence.

1.3.2 A CBTA programme is geared towards achieving and acquiring specific competencies for a specific job.

1.4 Benefits of a CBTA Programme

1.4.1 CBTA allows individuals to cope with both predictable and unforeseen situations.

1.4.2 CBTA supports continuous learning and performance improvement for jobs.

1.4.3 CBTA is designed and developed in such a way that it is relevant to the job and the context in which the job will be performed.

1.4.4 CBTA is an integrated and "outcome-focussed" training programme, aimed at providing aviation professionals with the competencies that they need to be efficient and effective in the performance of their duties.

1.4.5 CBTA Training and Assessment is characterised by a performance orientation, with emphasis on standards of performance and their measurement, and the development of training to the specified performance standards.

1.4.6 CBTA is a system of competence management that looks at "total performance" rather than performance on a "single task", which is the traditional method of training and assessment.

1.4.7 CBTA approvals issued by CASA PNG is transferable overseas as it is internationally recognised by ICAO and ICAO contracting States in their territory.

1.5 PNG Rule requirements for Training and Assessment Programmes for Operational Personnel

The below table provides a summary of PNG Civil Aviation Rule (CAR) requirements for Training and Assessment Programs for operational personnel in the various operational areas:

ICAO Doc Reference & Revision Status	PNG CAR Requirements for CBTA
Doc 9868 – Procedures for Air Navigation Services Training (ANS-Training), Second Edition, 2016	121.553, 125.553, 135.553,136.803, 141.57 and 172.53
Doc 10056 -Manual on Air Traffic Controller Competency-based Training and Assessment, First Edition, 2017	172.53
Doc 10057 – Manual on Air Traffic Safety Electronics Personnel Competency-based Training and Assessment, Second Edition, 2020	172.53
Doc 10098 – Manual on Competency-based training and assessment for aircraft maintenance personnel, First Edition, 2021	141.57
Doc 10106 – Manual on Flight Operations Officers / Flight Dispatchers Competency-based training and Assessment, First Edition, 2021	121.553, 125.553, 135.553,136.803
Doc 10147 – Guidance on a Competency-based approach to Dangerous Goods Training and Assessment, First Edition, 2021	Rule 92.203 and Part 92 Appendix A
Doc 10002 - Cabin Crew Safety Training Manual, Chapter 2 - Competency-based approach to cabin crew training and assessment, Second Edition, 2020	121.553, 125.553, 135.553,136.803

1.6 Submission of CBTA Training and Assessment Programmes to CASA PNG for approval

1.6.1 All existing PNG aviation document holders who already hold approval to conduct training and assessment programmes for their operational staff (i.e. pilots, cabin crew, air traffic controllers, air traffic safety electronics personnel, aircraft maintenance engineers, aviation medical personnel, flight operations officers/flight dispatchers), are strongly encouraged to use the guidelines provided in this AC to transition to CBTA as soon as possible prior to your next CASA PNG renewal audit.

16.2 All PNG aviation document holders who submit new training and assessment programmes to CASA PNG for approval under any of the PNG CAR listed in 1.4 should submit application in line with this AC.

2.0 DEFINITIONS

Terminology	Definition
Adapted Competency Model	A group of competencies with their associated description and performance criteria adapted from an ICAO competency framework that an organisation uses to develop competency-based training and assessment for a given role.
Assessment (Evidence) Guide	A guide that provides detailed information (e.g. tolerances) in the form of evidence that an instructor or an evaluator can use to determine whether a candidate meets the requirements of the competency standard.
Competency	A dimension of human performance that is used to predict successful performance on the job reliably. A competency is manifested and observed through behaviours that mobilize the relevant knowledge, skills and attitudes to carry out activities or tasks under specified conditions.
Competency-based Training and Assessment (CBTA)	Training and assessment that are characterized by a performance orientation, emphasis on standards of performance and their measurement, and the development of training to the specified performance standards.
Conditions	Anything that may qualify a specific environment in which performance will be demonstrated.
Criterion-referenced Test	A test, the measurement of which is compared with an objective standard (and not against another measurement).
Instructional Systems Design (ISD)	A formal process for designing training which includes analysis, design and production, and evaluation.
Observable Behaviour (OB)	A single role-related behaviour that can be observed and may or may not be measurable.
Performance Criteria	Statements used to assess whether the required levels of performance have been achieved for a competency. A performance criterion consists of an observable behaviour, condition(s) and a competency standard.
Threat	Events or errors that occur beyond the influence of an operational person, increase operational complexity and must be managed to maintain the margin of safety.
Threat Management	The process of detecting and responding to threats with countermeasures that reduce or eliminate the consequences of threats and mitigate the probability of errors or undesired states.

2.1 Principles of Competency-based Training and Assessment

2.1.1 Relevant competencies are clearly defined for a particular role within an aviation discipline.

2.1.2 There is an explicit link between competencies and training, required performance on the job, and assessment.

2.1.3 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 aviation profession or role.

2.1.4 Trainees successfully demonstrate competency by meeting the associated competency standard.

2.1.5 Each stakeholder in the process including the trainee, instructor, training organization, operator, service provider and regulator has a common understanding of the competency standards.

2.1.6 Clear performance criteria are established for assessing competence.

2.1.7 Evidence of competent performance is valid and reliable.

2.1.8 Instructors' and assessors' judgements are calibrated to achieve a high degree of inter- rater reliability.

2.1.9 Assessment of competencies is based on multiple observations across multiple contexts.

2.1.10 To be considered competent, an individual demonstrates an integrated performance of all the required competencies to a specified standard.

2.2 Relationships between Competencies and Tasks

2.2.1 Traditional approaches to training development involve the decomposition of jobs into tasks. For each task there is a related objective, an assessment and associated elements in a training plan. A limitation of this approach is that each task must be taught and assessed. In complex systems or when jobs evolve rapidly, it may not be possible

to teach and assess each task. Moreover, learners may demonstrate the ability to perform tasks in isolation without being competent in their job.

2.2.2 Competency-based training and assessment is based on the concept that competencies are transferable. In the design of a competency-based training and assessment programme, a limited number of competencies are defined.

2.2.3 Typically, an activity will involve several competencies and competencies apply across a variety of activities and contexts.

2.2.4 In the design of training and assessments, tasks and activities are incorporated because they are good candidates for facilitating, developing or assessing a competency or competencies. Specific tasks may be used to develop specific competencies. Lack of specific competencies may be identified as root causes of the failure of the performance of a task.

2.3 Best Practices that Support Competency-based approaches to Training and Assessment

2.3.1 To gain the maximum value and achieve efficiencies, competency-based approaches should incorporate training best practices as follows:

(1) organisations encourage and support learning in formal and informal settings at different stages in an aviation professional's work life;

(2) training programmes focus on the quality of what trainees do and achieve during training rather on the prescribed amount of time aviation professionals spend training;

(3) training focusses on accommodating an individual trainee's needs and provides flexibility; and

(4) the highest quality and level of consistency of instruction is provided and particular attention is given to coaching, facilitation and mentoring.

3.0 ICAO COMPETENCY FRAMEWORK

3.1 Structure of an ICAO Competency Framework

In ICAO, a competency framework is structured as shown in Table 1 below.

Table 2: ICAO Competency Framework Structure

ICAO Competency	Description	Observable Behaviour (OB)
ICAO Competency 1	Description 1	OB 1
		OB 2
		OB n
ICAO Competency 2	Description 2	OB 1
		OB 2
		OB n
ICAO Competency n	Description n	OB 1
		OB 2
		OB n

The appendices of this AC contain ICAO competency frameworks for the different aviation disciplines. For example, one of the competencies for an air traffic controller in the ICAO competency framework is "communication" and can be described and broken down in observable behaviours as shown in Table 3.

Table 3: Example of a Competency in an ICAO Competency Framework

ICAO Competency	Description	Observable Behaviour (OB)
Communication	Communicate effectively in all operational situations	Selects communication mode that takes into account the requirements of the situation
		Speaks clearly, accurately and concisely
		Uses appropriate vocabulary and expressions to convey clear messages
		Uses standard radiotelephony (RT) phraseology
		Adjusts speech techniques to suit the situation
		Demonstrates active listening and provides feedback
		Uses plain language when RT phraseology does not exist or the situation requires it
		Uses eye contact, body movements and gestures that are consistent with verbal messages

3.2 Structure of Adapted Competency Models

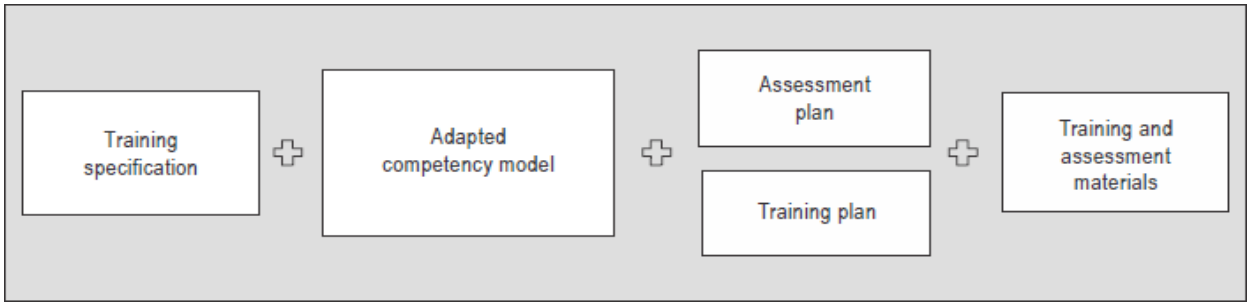
The purpose of competency-based training and assessment is to train and assess the capacity of an individual to perform at the standard expected in an organizational workplace. Therefore, organizations electing to implement competency-based training and assessment in a discipline covered in this document shall adapt the corresponding

ICAO competency framework to suit their context by developing an adapted competency model to include the elements in Table 4.

Table 4: Example of a Competency in an ICAO Competency Framework

Adapted Competency	Description	Performance Criteria		
		Observable Behaviour (OB)	Competence Assessment	
Adapted competency 1	Description 1	OB 1	Final competency standard	Conditions
		OB 2		
		OB n		
Adapted competency 2	Description 2	OB 1		
		OB 2		
		OB n		
Adapted competency n	Description n	OB 1		
		OB 2		
		OB n		

3.3 Five (5) Components of Competency-based Training and Assessment Programmes



3.3.1 Training Specification

A training specification describes the purpose of training, the task list and the requirements that shall be fulfilled when designing the training.

3.3.2 Adapted Competency Model

An adapted competency model is a group of competencies with their associated description and performance criteria adapted from an ICAO competency framework that an organization uses to develop competency-based training and assessment for a given role.

3.3.3 Assessment Plan

An Assessment provides the process and tools for gathering valid and reliable evidence at different stages during training.

3.3.4 Training Plan

A training plan describes the training required to achieve the competencies. It includes but is not limited to a syllabus (including knowledge, skills and attitudes (KSA), milestones, lesson plans and schedules). See Appendix A to this AC for a description of KSA.

3.3.5 Training and Assessment Materials

Training and assessment materials and resources (i.e., human, material and organizational resources) include everything needed to implement training and assessment plans.

3.4 Instructional Systems Design (ISD)

It is recognized that there are several valid instructional systems design (ISD) models that may be used to design competency-based training and assessment. They can serve as a basis to derive the components of competency-based training and assessment as described above. The analyses, design, develop, implement and evaluate (ADDIE) framework is generic to all ISD models. See chapter 6 of this AC for a detailed description of an ADDIE methodology.

4.0 APPLICATION FOR CBTA APPROVAL

(1) The application for, and grant of, an approval for CBTA course involve much effort and detailed work by both the applicant and CASA. Hence, the applicant should contact CASA as early as possible before the anticipated start of the CBTA course.

(2) The time taken to process an application will depend on the completeness of the information submitted and the ability of the applicant to demonstrate competency to develop and conduct a CBTA course with the required instructor and course developer expertise.

(3) A 5-phase process for systematic handling of CBTA applications has been adopted by CASA. Details of the 5 phases are as follows:

4.1 Phase 1 – Pre-Application phase

4.1.1 This phase commences when a prospective applicant makes his initial inquiries regarding application for an approval. It is an opportunity for CASA to provide basic information and general requirements for CBTA and, for the applicant to explain its intent and the scope of CBTA course to be conducted so that appropriate advice may be provided.

4.1.2 The applicant should also refer to the relevant guidance documents and forms from the CASA website. It should be anticipated that there will be several discussions or meetings between the applicant and CASA before a formal application may be submitted by the applicant.

4.1.3 Through the discussions and meetings, CASA may provide guidance on the preparation of the necessary documents and required materials for the application, and indicate to the applicant, at an appropriate point, when they are deemed to be ready for the submission.

4.2 Phase 2 – Formal Application phase

4.2.1 When the applicant is ready for the formal submission of the CBTA application, CASA will convene a meeting to receive the application.

4.2.2 Upon receipt of the applicant's submission of the application, including ALL relevant supporting documents, a CASA team will carry out a preliminary assessment to ascertain the completeness and quality of the submission.

4.2.3 The materials to be submitted include the ATO's Training and Procedures Manual (TPM) and CBTA program documents. The applicant should also include in its submission a project plan (including timeline) agreeable to CASA to track the progress of the various phases of the CBTA application process.

4.2.4 Should the submission be determined to be acceptable for a meaningful evaluation, CASA will inform the applicant in writing that its submission is considered acceptable and will specify an official date for the evaluation process to commence.

4.3 Phase 3 – Document Review phase

4.3.1 CASA will commence thorough evaluation of all the Training Procedures Manual (TPM), Exposition documents, attachments, etc., that are required by regulations to be submitted to support the application in this phase. This is to ensure that all documentation meets the required standards and requirements.

4.3.2 Manuals and documents should be valid at the point of submission to CASA and all contents will be frozen throughout the evaluation periods.

4.3.3 If there are updates midstream during the evaluation, these updates will only be affected after the evaluation process has been completed, unless it is considered substantive and significant to the application. This is to prevent chasing moving targets during the evaluation.

4.3.4 The applicant's Instructor(s) and Course Developer(s) are to avail themselves to the CASA team for verification of contents should the need arises in order that the evaluation phase may be expeditiously conducted.

4.4 Phase 4 – Inspection phase

(1) An applicant is required to demonstrate his ability to comply with regulations for the conduct of CBTA course as part of the evaluation. This is to ensure that the applicant has the adequate competency to conduct a CBTA consistent with the nature and scope of the course.

(2) These may include one or more onsite training inspections which would include inspection of the mock CBTA training to be conducted.

(3) All mock CBTA training must be performed in accordance with the applicant's documents and TPM as reviewed in Phase 3.

4.5 Phase 5 – Approval phase

(1) When CASA is satisfied that the applicant has complied with the applicable rules and regulations, and the applicant is assessed to be competent to conduct CBTA Course in accordance with the relevant regulations, the CBTA approval may be granted.

(2) The applicant's ATO's approval certificate will be updated to reflect the CBTA approval granted. If any significant deficiency is revealed at any stage of the evaluation process and the deficiency cannot be resolved by the interaction between CASA and the applicant, CASA will advise the applicant in writing of the nature of the deficiency and the actions required, failing which no further action will be taken by CASA to process the application.

5.0 KNOWLEDGE, SKILLS, ATTITUDES (KSA)

In order to display certain observable behaviors (OB) and demonstrate the achievement of performance criteria, aviation professionals call on relevant knowledge, skills and attitudes (KSA) appropriate to a specific role and context. This ability will vary depending on the level of experience and expertise of the aviation professional.

5.1 Knowledge (K)

5.1.1 Knowledge is specific information required to enable a learner to develop and apply the skills and attitudes to recall facts, identify concepts, apply rules or principles, solve problems, and think creatively in the context of work.

5.1.2 Knowledge is an outcome of the learning process, whether learning occurs in formal or informal settings. There are different types of knowledge: declarative (e.g. facts and raw data), procedural (e.g. categorized/ contextualized and application of conditional if-then rules), strategic (e.g. synthesis, inference to guide resource allocation for decision making, problem solving and behavioral action), and adaptive (e.g. generalization, innovation and invention).

5.2 Skills (S)

5.2.1 A skill is an ability to perform an activity or action. It is often divided into three types: motor, cognitive and metacognitive skills.

5.2.2 A motor skill is an intentional movement, involving a motor or muscular component that must be learned and voluntarily produced to proficiently perform a goal-oriented task.

5.2.3 A cognitive skill is any mental skill used in the process of acquiring knowledge, such as reasoning, perception and intuition.

5.2.4 A metacognitive skill relates to the ability of learners to monitor and direct their own learning processes ("thinking about thinking"); for example, planning how to approach a given learning task, monitoring comprehension and evaluating progress toward the completion of a task.

5.3 Attitudes (A)

Attitude is a persistent internal mental state or disposition that influences an individual's choice of personal action toward some object, person or event and that can be learned. Attitudes have affective components, cognitive aspects and behavioral consequences. To demonstrate the "right" attitude, a learner needs to "know how to be" in a given context.

6.0 DESIGNING A CBTA PROGRAMME

6.1 General

This attachment provides a step-by-step guide for organizations intending to establish competency-based training and assessment that is specific to their environment and requirements. It makes use of the ICAO competency framework and the ADDIE model.

6.2 "ADDIE" Model used for the Design of CBTA Workflows

6.2.1 Overview

(1) The five competency-based training and assessment workflows using the ADDIE model are presented in Figure 1:

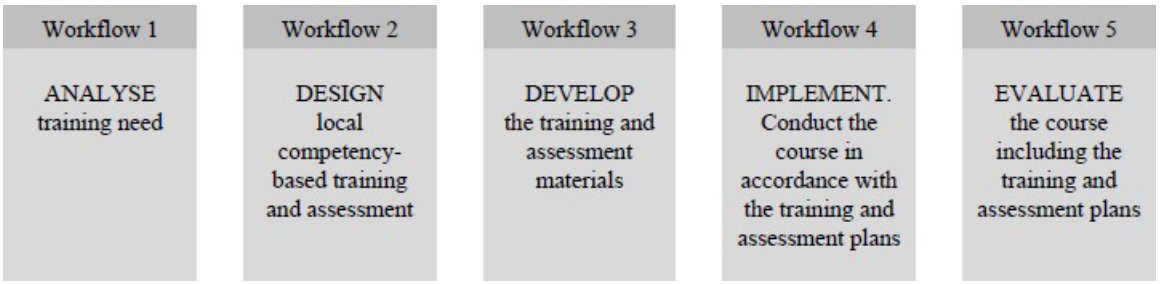


Figure 1: Competency-based training and assessment workflows

(2) The workflows relate to the components of competency-based training and assessment programs presented in Figure 6.2.1. Workflows 1 and 2 establish the training specification, adapted competency model, assessment plan and training plan that will be used to develop and conduct the training course (as outlined in Workflows 3 and 4). Workflow 5 reviews the effectiveness of the training and assessment conducted and recommends improvements, as appropriate.

(3) This attachment focuses on Workflows 1 and 2. An overview of the remaining workflows is also provided (see chapters 6.2.4, 6.2.5 and 6.2.6 of this AC).

(4) A stepped approach is used for Workflows 1 and 2 and details:

(a) the inputs required;
(b) the process to be worked through; and
(c) the outputs achieved on completion of each process.

Note *— The output of Workflow 1 becomes one of the inputs for Workflow 2.*

6.2.2 Workflow 1 – Analysing the Training Need

The need to develop training may be triggered in various ways; however, the training designer typically receives some form of training request that provides details on what should be trained and why it is necessary.

The first step in the development of a competency-based training and assessment programme is to conduct a training needs analysis (see Figure 6.2.2). During training needs analysis (TNA), the purpose of the training is considered in relation to the local operational, technical, regulatory and organizational requirements on the training course that will eventually be delivered. A training specification is developed that details the requirements that need to be fulfilled when designing the training.

The training specification should provide sufficient detail to answer the questions below.

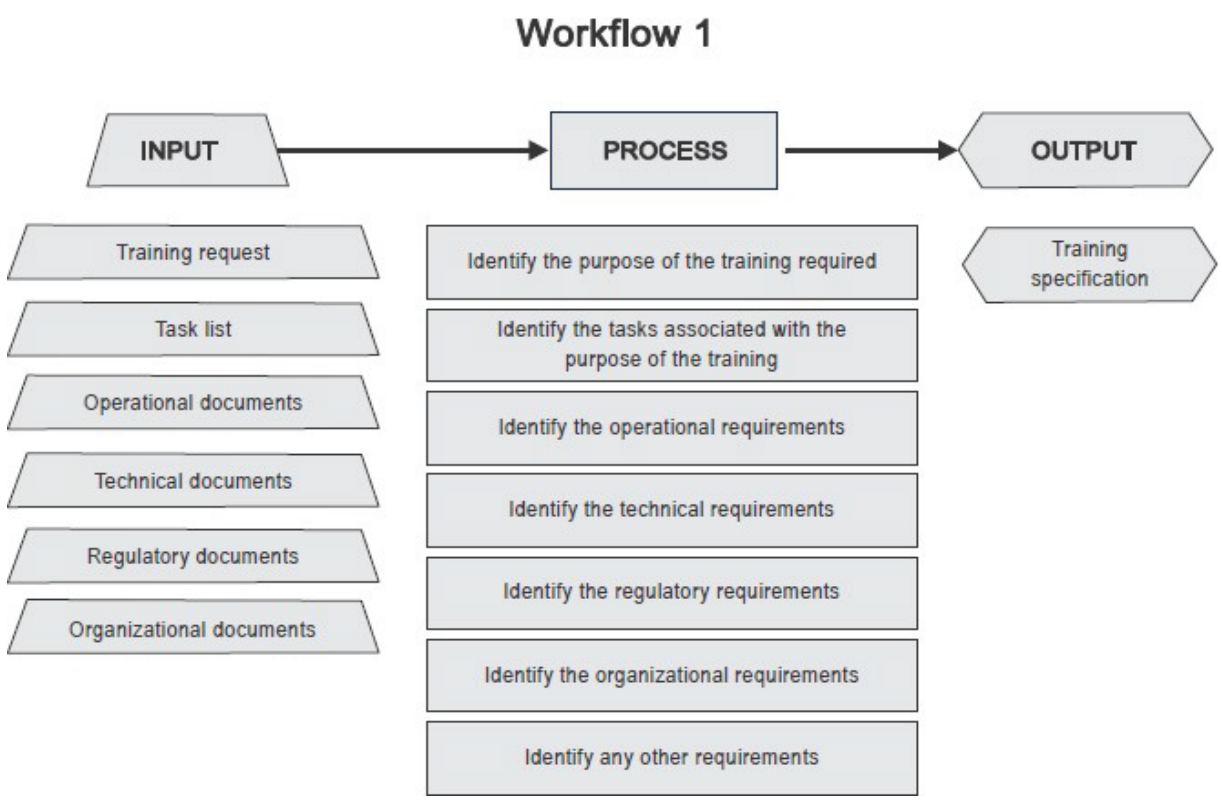


Figure 2: Workflow 1 - Analyzing Training Need

(1) Purpose

(a) What is the purpose of the training?

The purpose of the training is taken directly from the training request. There is considerable variation in the amount of detail that is provided in a training request but typically it will indicate the purpose of the training as a minimum.

(b) What is (are) the phase(s) of training (e.g. initial, unit, refresher, recurrent and/or conversion training)?

(c) What qualification, if any, will the trainee achieve on successful completion of the training?

Note: *In some instances a formal qualification will be achieved at the end of the training (e.g. aerodrome control rating or validation on XYZ sector). In other instances this is not the case (e.g. after routine refresher training).*

(2) Tasks

(a) What are the tasks associated with the purpose of the training?

Note: *For the purposes of defining the training specification, only a task list is required. This task list may be extracted from an existing job and task analysis or may be taken from the operations manual that has listed the various roles and responsibilities in the operations environment. In some instances, this task list may need to be developed.*

(3) Operational requirements

(a) Which operational procedures will be applied?

(b) In what operational environment will the training take place?

(c) Which non-routine situations are necessary for successful completion of the training?

(d) What is the configuration of the working environment?

(3) Technical requirements

What specific operational (or simulated operation) systems and/or equipment are necessary to achieve the purpose of the training?

(4) Regulatory requirements

(a) Which rules and regulations are applicable?

(b) Are there any regulatory requirements that will affect the following aspects of the training design:

(i) duration;
(ii) content;
(iii) assessment procedures;
(iv) course approval; or
(v) other (equipment, qualifications of instructors, trainee-to-instructor ratios, etc.)?

Note 1: *This is recorded in the training specification to ensure that such issues are considered during the training design.*

Note 2: *Typical regulatory requirements may include minimum number of hours of experience in the operational environment under supervision (e.g. Annex 1 —* Personnel Licensing*), minimum list of knowledge subjects to be covered, etc.*

(5) Organizational requirements

What organizational requirements may impact training?

Note: *In some instances, an organization may wish to achieve additional objectives that are required to be included or emphasized in the training (e.g. strategic objectives such as reducing delays or customer focus).*

(6) Other requirements

What other requirements may impact training?

Note*: This question captures any other requirements that may not have been covered in the previous questions (e.g. more than one language to be used).*

(7) Simulator equipment

What simulation requirements, if any, are necessary to achieve the training outcome?

Note: *Either state the type of simulator (e.g. part-task trainer, hi-fidelity simulator or operational controller working position emulator) or the simulator/manufacturer name.*

6.2.3 Workflow 2 – Designing local Competency-based Training and Assessment

(1) The purpose of Workflow 2 is to:

(a) establish an adapted competency model that addresses the training specification identified in Workflow 1;
(b) design an assessment plan that will be used to assess the competence of trainees; and
(c) design the training plan that will enable the development and delivery of the training course.

(2) Workflow 2 is shown in two parts:

(a) Part 1 deals with the design of the adapted competency model; and
(b) Part 2 deals with the design of the assessment and training plans.

Note: *The processes for developing the assessment and training plans are iterative. The outputs, however, are separate.*

(3) Consequently, Workflow 2, Part 2 incorporates processes and outputs for the assessment and the training plans.

6.2.3.1 Workflow 2, Part 1 — Design the adapted competency model

To design an adapted competency model, the appropriate ICAO competency framework contained in the relevant Appendix to this AC, is adapted to meet the organizational competency requirements using the information contained in the training specification. Figure 6.2.3 illustrates the design process.

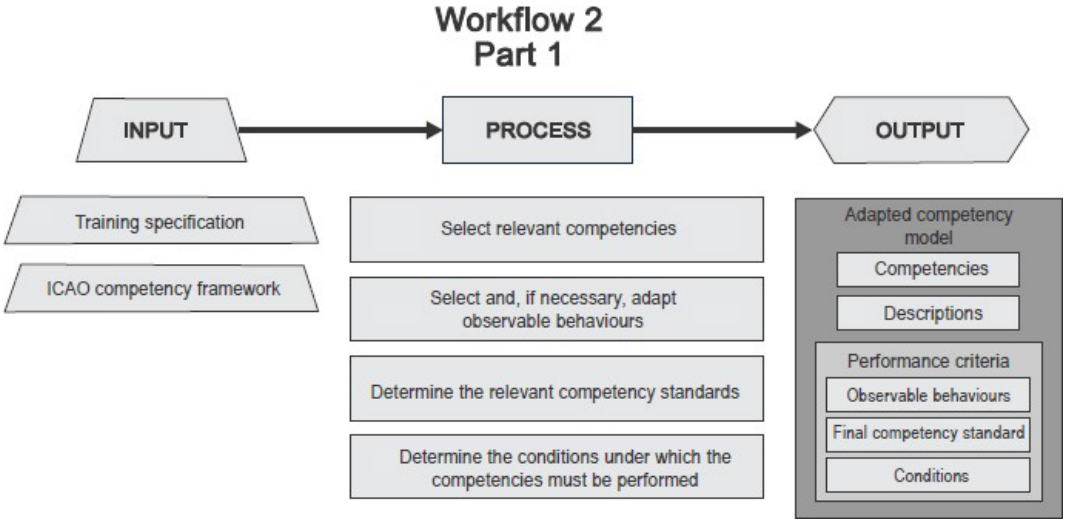


Figure 3: Workflow 2, Part 1 - Design the adapted competency model

(1) Selection of the competencies

ICAO competency frameworks provide a set of generic competencies that are necessary to perform in a given aviation discipline. Therefore, it is anticipated that the vast majority of adapted competency models will contain similar lists of competencies. Should it be decided to add or remove a competency, there should be a clear and justifiable reason to do so.

(2) Selection and adaptation of the observable behaviors

ICAO competency frameworks provide a comprehensive list of observable behaviors associated with each of the competencies. The observable behaviors that are appropriate in the local environment should be selected and, if necessary, adapted.

(3) Determining competency standards

Competency standards apply to all observable behaviors and relate to the standards and procedures, and rules and regulations, contained in such documents as national regulations, operations manuals, policies and procedures manuals.

In some instances, there may be specific standards associated with a particular observable behavior.

(4) Determining conditions

(a) The training specification completed in Workflow 1 may be used to identify some of the conditions that are specific to the environment in which performance will be demonstrated. Most of the conditions will apply generically to all of the observable behaviors that have been identified as part of the adapted competency model. However, in very few instances, specific conditions may be associated with some observable behaviors.

(b) The conditions for the adapted competency model and the final competency standard are the same. As part of the progression towards the final competency standard, it may be necessary to establish interim competency standards.

(c) There are different types of conditions that may be considered for the final competency standard: conditions relating to context (nature and complexity of the operational and environmental context); conditions relating to tools and systems or equipment; and conditions relating to the level of support or assistance a trainee can expect from the instructor or assessor.

(d) During the early stages of training, trainees can expect active coaching and teaching from the instructor. However, as the trainee progresses towards the final competency standard and gains more confidence in performing independently, the instructor takes on a more passive role and may only give occasional advice on how to improve efficiency or intervene in instances where safety may be compromised.

(e) Consequently, for this condition in the adapted competency model (i.e. the description of the final competency standard), the trainee would be expected to be performing independently without assistance from the instructor.

6.2.3.2 Workflow 2, Part 2 — Design the assessment and training plans

(1) Issues to consider before developing assessment and training plans

When developing the assessment and training plans, it is important to consider:

(a) the principles of competency-based assessment;
(b) typical assessment methods;
(c) the concept of milestones; and
(d) final competency standard and interim competency standards.

The relationship between the adapted competency model and the training and assessment plans should also be understood.

(2) Principles of assessment in a competency-based environment

In a competency-based environment the following principles apply:

(a) *Clear performance criteria are used to assess competence*. The adapted competency model establishes these performance criteria.

(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*. To determine whether or not a trainee has achieved the interim and/or final competency standard, multiple observations must be carried out.

(d) *Assessments are valid*. All of the competencies that comprise the adapted competency model must be assessed. There must be sufficient evidence to ensure that the trainee achieves the competency and meets the interim competency standards and/or the final

(e) Competency standard. The trainee must not be asked to provide evidence for or be assessed against activities that are outside the scope of the adapted competency model.

(f) Assessments are reliable. All assessors should reach the same conclusion when performing an assessment. All assessors should be trained and monitored to achieve and maintain an acceptable level of inter-rater reliability.

(3) Assessment methods

(a) The primary method for assessing performance is the conduct of practical assessments which should serve to verify the integrated performance of competencies. It may be necessary to supplement practical assessments with other forms of evaluation. The supplemental evaluations may be included as a result of regulatory requirements and/or a decision that these methods are necessary to confirm that competence has been achieved.

(b) Practical assessments take place in either a simulated or operational environment. There are two types of practical assessment: formative assessments and summative assessments.

(4) Formative assessments

(a) Formative assessments are a part of the learning process. Instructors provide feedback to the trainees on how they are progressing toward the interim or final competency standard. This type of assessment enables the trainees to progressively build on competencies already acquired and should aid learning by identifying gaps as learning opportunities. If trainees receive feedback or are assessed only at the end of the training, they will have no opportunity to use that information to improve their performance. The frequency and number of formative assessments may vary depending on the duration of the training and the syllabus structure and its assessment plan

(b) Formative assessments should serve to:

(i) motivate trainees;

(ii) identify strengths and weakness; and

(iii) Promote learning.

(5) Summative assessments

(a) Summative assessments provide a method that enables the instructor/assessor to work with a trainee to collect evidence of the competencies and performance criteria to be demonstrated with respect to the interim or final competency standard(s). Summative assessments are carried out at defined points during the training and/or at the end of training. During summative assessments, the decision is either "competent" or "not competent" with respect to the interim or final competency standard(s). However, this can be further developed into a more refined grading system with a scale of judgements to improve feedback for the trainee and training personnel.

(b) Summative assessments that are conducted during the course to evaluate the progress of the trainee are typically carried out by the instructing team. It may be advantageous if the instructors conducting these assessments were different from the instructors who routinely work with the trainee. Summative assessments conducted at the end of training and that lead to the issue of a licence and/or rating have both legal and safety implications. Therefore, the personnel carrying out these assessments should have the necessary competencies to assess objectively and meet the authority's requirements. Such personnel should be provided with the tools necessary to collect evidence in a systematic and reliable manner in order to ensure inter- rater reliability.

(c) The list of methods below that supplement practical assessments is not intended to be restrictive. Any suitable supplemental method for assessing competence may be used. Other methods may include projects and group assignments.

(6) Oral assessment

(a) Oral assessment is a method that may be used to supplement a summative assessment. Practical assessment has some limitations including:

(i) it may not be possible to observe a representative cross-section of all the competencies and/or the operation; and

(ii) It is not feasible to enter into discussions with the trainees while they are undertaking the practical assessment.

(b) The oral assessment provides the assessor with the opportunity to target those areas of performance that could not realistically be observed in the practical environment (e.g. emergencies or seasonal issues) and to refocus on actions observed during the practical assessment that may have been cause for concern.

(c) Oral assessments may be conducted away from the practical environment. Oral assessments are usually scenario-based and are designed around situations that the assessor wants to explore further. The assessor explains the scenario and then asks the trainees to describe what actions they would take. After the trainees have described their actions, the assessor may ask further clarifying questions. The assessor then assesses the trainees' responses in relation to the adapted competency model.

(7) Examinations

(a) Examinations are used to evaluate theoretical knowledge and, to a lesser extent, the application of some basic skills.

(b) Examinations may be written or completed with the aid of digital equipment and/or online applications.

(8) Milestones

(a) When the duration or complexity of a course is such that it makes pedagogic sense to check that a trainee is progressing towards competence at an acceptable pace, the course may be divided into milestones. The course is divided into cohesive chunks or units of learning, organized into a logical sequence that generally progresses from the simple to the complex. Milestones are reached when both training and assessment are completed for each unit of learning.

(b) Milestones are sequential; therefore, a trainee would need to successfully complete the training and assessment for the first milestone before proceeding to the next.

(c) Milestones can be determined on the basis of, for example, the number of simulations or hours of on-the-job training (OJT) to be undertaken or on logical units of learning, meaning that the training that takes place in the simulated unit environment would be the first milestone and the training that takes place as OJT would be the second milestone.

(9) Final and interim competency standards

(a) On successful completion of an initial training course, the trainees will have achieved the final competency standard for that phase of training. This means that they will have successfully completed all the required training and assessments that have been determined as necessary to demonstrate the competencies and meet the performance criteria as described in the adapted competency model.

(b) If a course has been divided into milestones, it will be necessary to define an interim competency standard for each milestone. For the practical assessments, this may be achieved by:

(i) modifying the adapted competency model, especially the conditions and/or standards (e.g. limiting the traffic levels and/or the level of complexity); and

(ii) defining the degree of achievement expected for each performance criterion.

(c) An interim competency standard is achieved when all the required assessments (including any examinations or other methods of assessment) for that milestone have been successfully achieved.

Making significant modifications to the conditions of an adapted competency model to create an interim competency standard occurs more typically for training that will take place in a simulated environment. In a simulated environment it is possible to modify conditions such as operational complexity. During OJT there are fewer opportunities to modify the conditions. The most typical condition to modify during OJT is the level of support that is provided by the instructor.

(d) Refresher and recurrent training are based on the assumption that trainees have already achieved competence and so it is unlikely that there would be a need to create interim competency standard(s).

(e) During conversion training, the extent or complexity of the change and the duration of the training would be the determining factors as to whether it would be necessary to introduce milestones and interim competency standard(s).

(f) Figure 6.2.4 shows an example of a course that has been divided into two milestones. The interim competency standard for Milestone 1 was determined by modifying the conditions and standards of the adapted competency model. The final competency standard is directly linked to the adapted competency model, without any modifications to the conditions and/or standards.

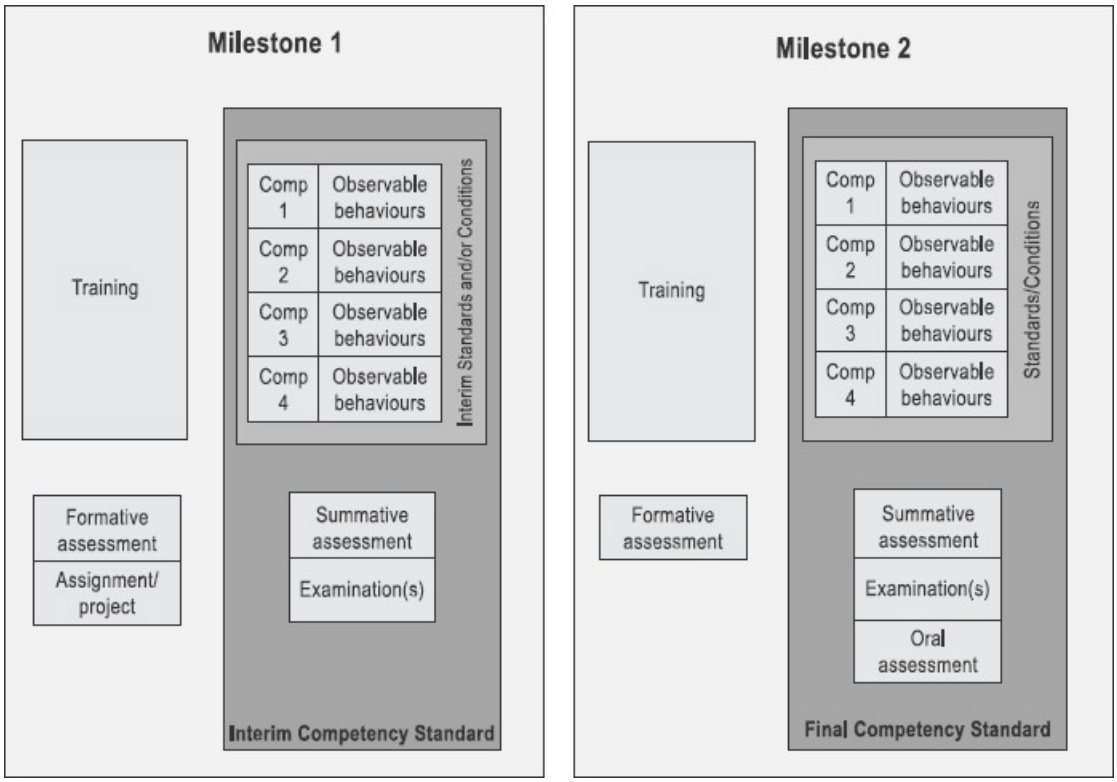


Figure 4: Two Milestone with an Interim and a Final Competency Standard

(10) The Assessment Plan

(a) The purpose of the assessment plan is to detail how competence is going to be determined. It supports the principles of assessment in a competency-based environment outlined in page 19 above. The assessment plan details:

(i) the final competency standard associated with the final milestone;

(ii) the interim competency standard associated with each milestone (if required);

(iii) the list of assessments (formative and summative assessments, examinations, oral assessments, etc.) required for each of the milestone(s) that has been defined;

(iv) when assessments should take place;

(v) the tools to be used to collect evidence during practical assessment;

(vi) the pass marks for projects, examinations or oral assessments;

(vii) if required, the minimum number of formative assessments to be undertaken prior to starting summative assessments; and

(viii) the number of observations required to assess performance for the interim and final competency standards.

(b) In this document, it is assumed that the organization has a training and procedures manual that describes the administrative procedures relating to:

(i) which personnel may conduct assessments and their qualifications;

(ii) roles and responsibilities of personnel during the conduct of assessments;

(iii) assessment procedures (preparation, conduct and post-assessment);

(iv) conditions under which assessments are to be undertaken;

(v) record-keeping; and

(vi) actions to be taken when a trainee fails to meet the competency standard(s) of the assessment.

(11) The Training Plan

(a) The purpose of the training plan is to detail:

(i) the composition and structure of the course;
(ii) the syllabus;
(iii) the milestones (if required);
(iv) the modules, training events and their delivery sequence; and
(v) the course schedule.

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

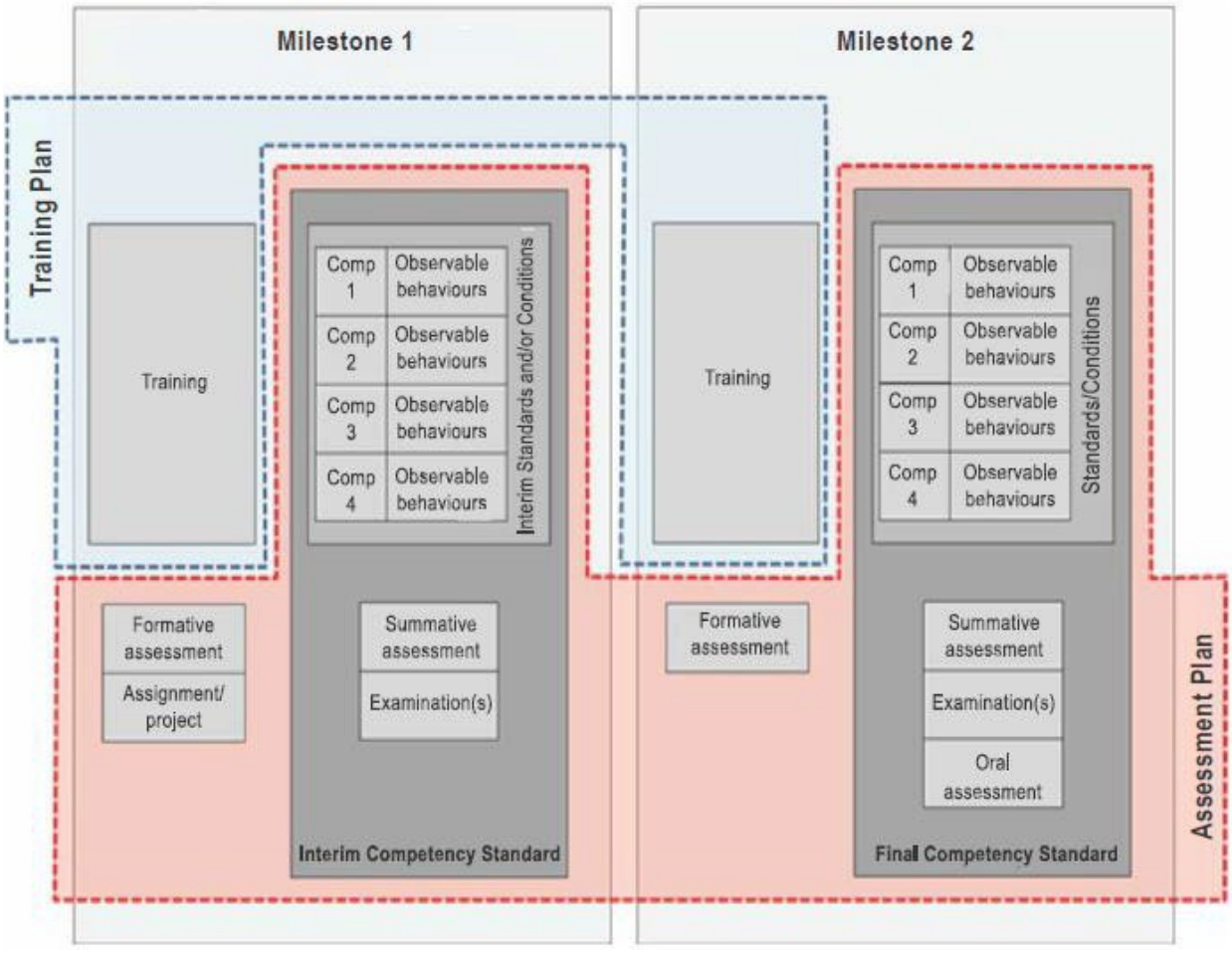


Figure 5: The Relationship between Milestones and the Assessment and Training Plans

(12) Relationship between the adapted competency model and the assessment and training plans

(a) The relationship between the adapted competency model and the training and assessment plans is fundamental to understanding how competency-based training and assessment works. Figure 6.2.5 illustrates the relationship between milestones and the assessment and training plans.

(b) The training specification developed in Workflow 1 (see Figure 6.2.2) serves as the common basis for the development of the adapted competency model and the training and assessment plans. Generally, when developing the adapted competency model, the task list is used to aid the selection of the observable behaviours from the ICAO competency framework. The operational, technical, regulatory and organizational requirements aid the development of the conditions and standards that will apply to the competencies and

observable behaviours.

(c) The same task list and requirements are used to develop the training plan. The training plan is used to prepare the trainees to undertake assessment to determine if they are competent in accordance with the adapted competency model. The adapted competency model and the training plan are used to develop the assessment plan.

(d) The syllabus in the training plan is composed of training objectives derived from tasks and sub- tasks as well as the underlying KSA. However, when assessing whether competence has been achieved, the adapted competency model, not the syllabus, is referenced. Consequently, the performance criteria are used to assess if competence has been achieved, and the tasks/sub- tasks that are carried out by the trainee are the "vehicle" for enabling the assessment to be conducted. Figure 6.2.6 illustrates the relationship between Workflows 1 and 2.

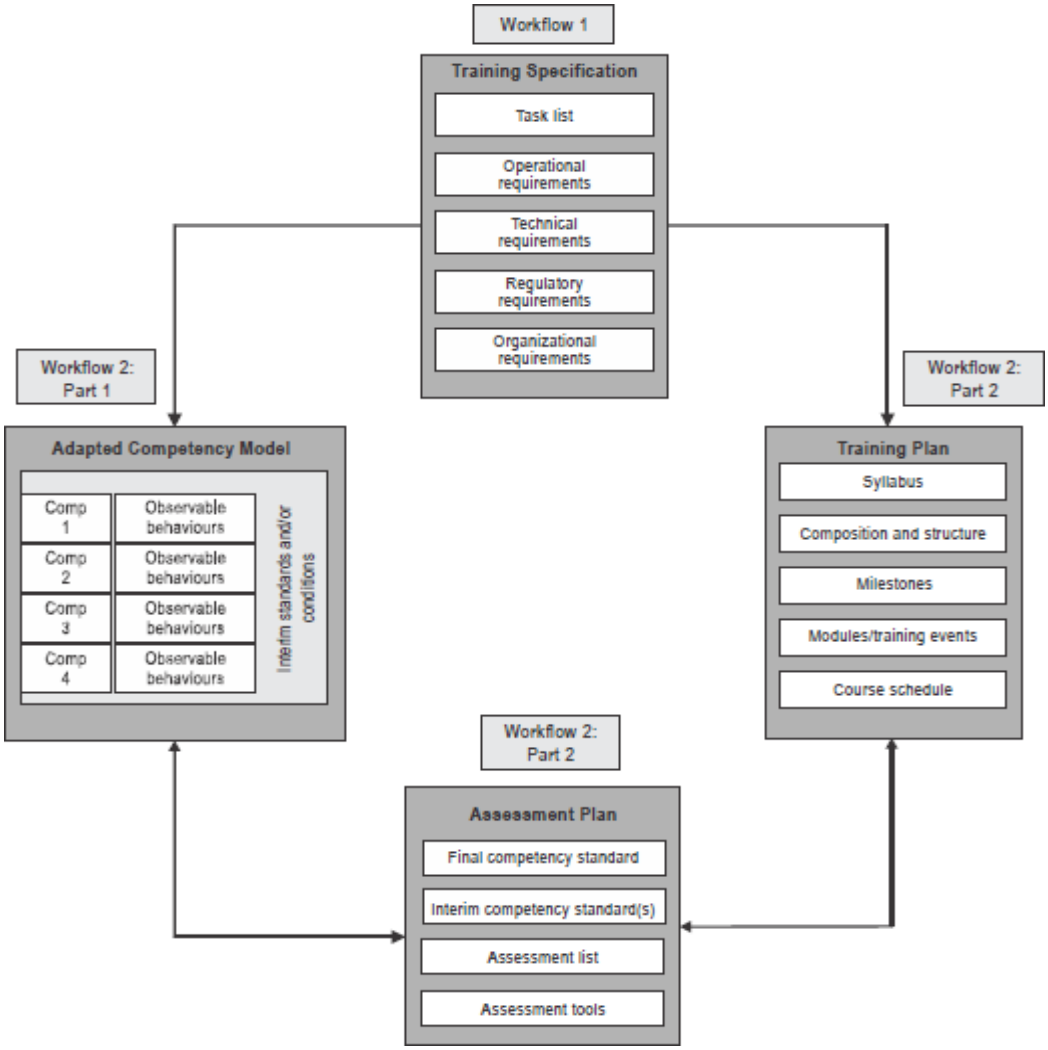


Figure 6: Relationships between workflow 1 and 2

(13) Design process for assessment and training plans

Figure 6 represents Part 2 of Workflow 2 and may be used to aid the design process.

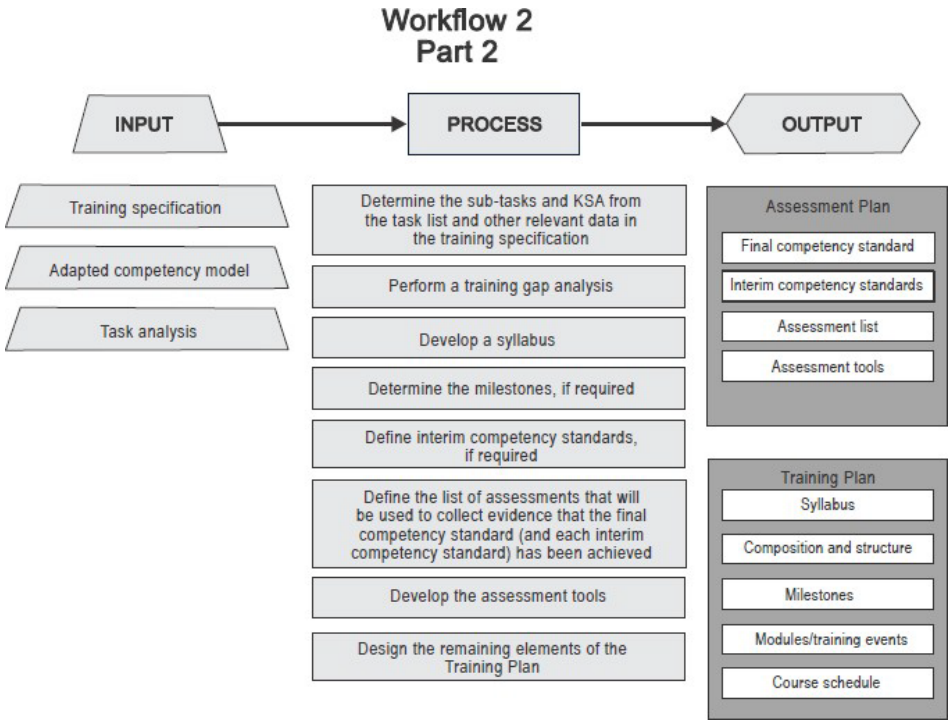


Figure 7: Workflow 2 Part 2

(14) Determining the sub-tasks and KSA

(a) To develop the training, it is necessary to determine which tasks and sub-tasks the trainee will perform and the KSA required to do so. The task list has already been recorded in the training specification (Workflow 1). Therefore, the sub-tasks and KSA are determined on the basis of the task list in conjunction with the operational, technical, regulatory and organizational requirements.

(b) It is not necessary to list a knowledge element, a skill element and an attitude element for each task; only the elements that are required are listed.

(15) Perform training gap analysis

(a) The training gap analysis is used to compare the tasks and sub-tasks required to be performed competently, the KSA and the current level of the trainee population. The result of the training gap analysis will be used to develop the training objectives of the syllabus.

(b) In some instances, it may not be possible to accurately analyse the target population (because they are not yet known). A baseline level of tasks/sub-tasks and KSA is assumed to exist, and the training will be developed on this assumption. Clearly, once the target population is known, it must be verified that the assumption is correct, and if not, adjustments should be made to the tasks/sub-tasks and KSA.

(16) Develop syllabus

The syllabus is the list of tasks/sub-tasks and KSA that have been formulated into training objectives and structured in such a way that it will be possible to gauge the scale of the training and, in the next step, whether it will be necessary to introduce milestones or not. The syllabus is an element of the training plan.

(17) Determine milestones and interim competency standards

We have previous paragraphs explain how milestones and interim competency standards are determined. The result of this process is a high-level description of the learning activities and environment for each milestone, their sequence, and a complete description of the interim competency standard associated with each milestone.

(18) Define the list of assessments

The number of assessments required for each milestone and the methods that will be used are determined by the complexity of the training and any regulatory requirements.

(19) Develop assessment tools

The following documents should be designed to support practical assessments:

(a) ***Evidence Guide.*** An evidence guide translates the performance criteria from the adapted competency model into practical examples of observations that instructors/assessors can expect to see. It is used to eliminate different interpretations among instructors/assessors and ensures that valid and reliable evidence is gathered. It details competencies, their associated observable behaviours and the expected performance that should be observed at the interim or final competency standard.

(b) ***Competency checklist.*** A competency checklist details the competencies and performance criteria and is used to record achievements during each formative and summative assessment. The assessment plan details how many assessments should be completed for each milestone.

(c) ***Competency assessment form.*** The competency assessment form is used to summarize the results of all the assessments that have been undertaken by a trainee and then decide whether the trainee has achieved either an interim competency standard or the final competency standard. The number and method(s) of assessment are described in the assessment plan. The competency assessment form must correlate with the assessment plan.

(20) Design the Training Plan

(a) The training plan is made up of the following elements:

(i) Composition and structure. This is a high-level description of what will be trained (composition) and how the various elements of training relate to each other (structure). If the course covers only one type of training (e.g. aerodrome rating), the composition is simple. When a course is composed of more than one type of training (e.g. one course covering basic + aerodrome rating + approach surveillance rating), it will need to be explained how these types of training will relate to each other in terms of structure and sequence.

(ii) Syllabus. The syllabus is the list of training objectives that will need to be covered by the end of the course. The training objectives are derived from the tasks/sub-tasks and associated KSA and the training gap analysis.

(b) A syllabus does not prescribe the order or sequence of learning; it simply lists the training objectives. To facilitate the process of assigning training objectives to the various milestones, modules and training events, it is useful to structure a syllabus into logical groups of subjects.

(i) Milestones. If it has been determined that milestones are necessary to structure the course, the assessment plan will already have defined the interim competency standards associated with each milestone and the final competency standard that needs to be achieved by the end of the last milestone. Training objectives from the syllabus are assigned to each milestone.

(ii) Modules, training events and sequence. Depending on the number, type and complexity of the training objectives, it may be helpful to further subdivide the training into modules (within an entire course or within all or some milestones, if milestones are required). This is illustrated in Figure 6.2.8.

(c) Whichever substructure is determined as appropriate (course, milestones or modules), training events are developed to support the sub-structure. Training events are the smallest units of learning and include classroom-based lessons, simulator exercises, web-based training exercises, case studies, etc. Training events contain the following information:

(i) which objectives are grouped and taught together;
(ii) the number of periods needed to teach each group of objectives;
(iii) which method(s) should be used (lessons, case studies, individual simulation, briefing, self-study, etc.);
(iv) which media are used (e.g. simulators, visual aids or textbook);
(v) the learning rate (i.e. self-paced, time-restricted or real-time); and
(vi) whether the training is delivered to individuals or in groups.

(d) Training events should be sequenced into an order of delivery that takes into account sound pedagogic practice, the sub-structure defined and the assessment requirements. The training events are the template that the training designers use to create the training materials necessary to deliver the course.

Milestone 1		Milestone 2	
Module 1	*Module 3*	*Module 5*	*Module 7*
Training Event 1	Training Event 9	Training Event 17	Training Event 25
Training Event 2	Training Event 10	Training Event 18	Training Event 26
Training Event 3	Training Event 11	Training Event 19	Training Event 27
Training Event 4	Training Event 12	Training Event 20	Training Event 28
Module 2	*Module 4*	*Module 6*	*Module 8*
Training Event 5	Training Event 13	Training Event 21	Training Event 29
Training Event 6	Training Event 14	Training Event 22	Training Event 30
Training Event 7	Training Event 15	Training Event 23	Training Event 31
Training Event 8	Training Event 16	Training Event 24	Training Event 32

Figure 8: Structure of the Training Plan

(e) ***Course schedule.*** The course schedule indicates how the training events and assessments fit together into the total duration of the course.

6.2.4 Workflow 3 – Developing the Training and Assessment Materials

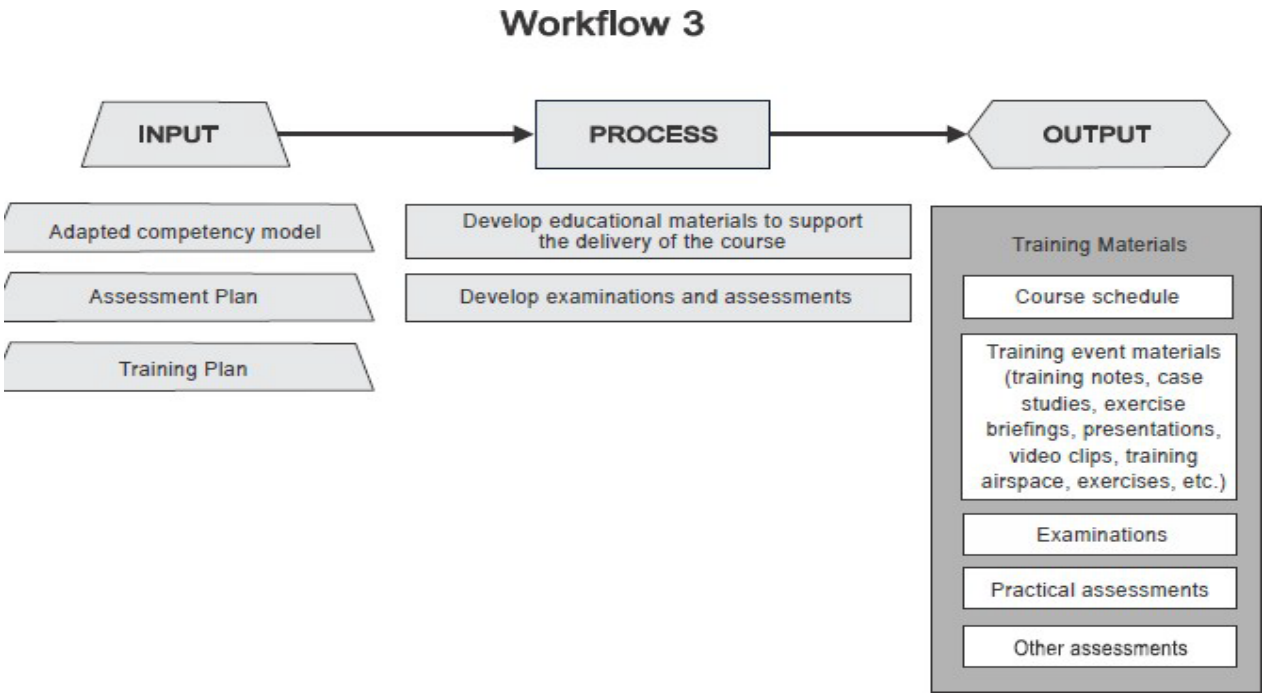
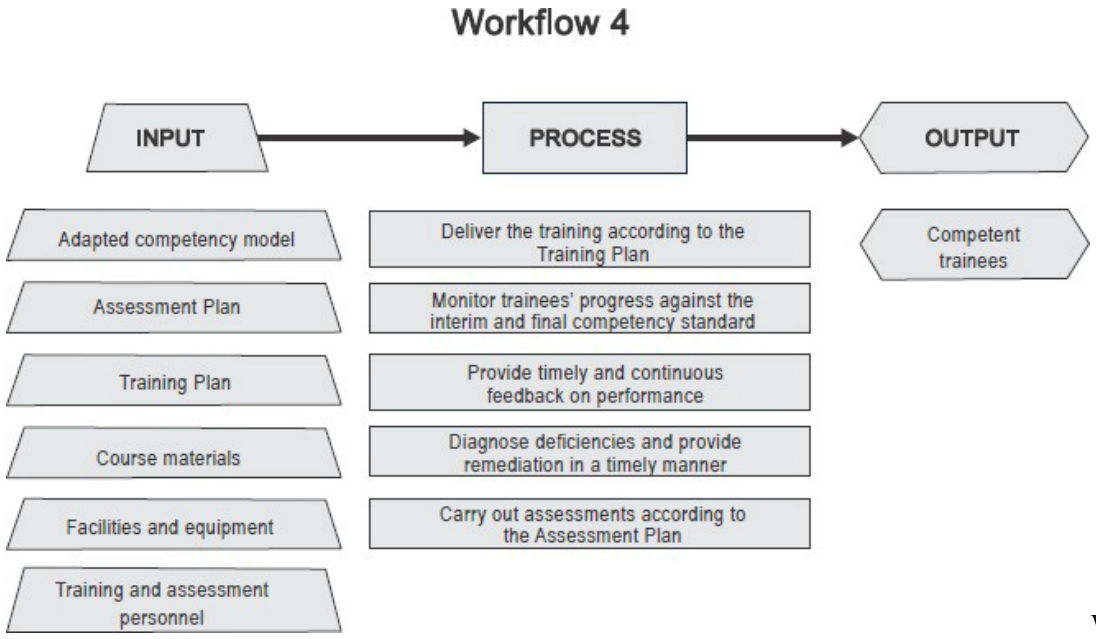


Figure 9: Developing the training and assessment materials

6.2.5 Workflow 4 – Conducting the Course in accordance with the Training and Assessment Plans



Workflow 4, which illustrates the process of conducting the course in accordance with the training and assessment plans, is in Figure 10.

Figure 10: Workflow 4 - Conduct the course in accordance with the training and assessment plans

6.2.6 Workflow 5 – Evaluating the Course including the Training and Assessment Plans

At the end of a period of training, feedback on performance on the job from trainees, instructors, assessors and employers is gathered to determine the effectiveness of the course in supporting the progression of learning towards competence in the workplace. Evaluation of the training and assessment plans should be based on valid and reliable evidence. This evaluation may lead to changes or improvements being made to the course.

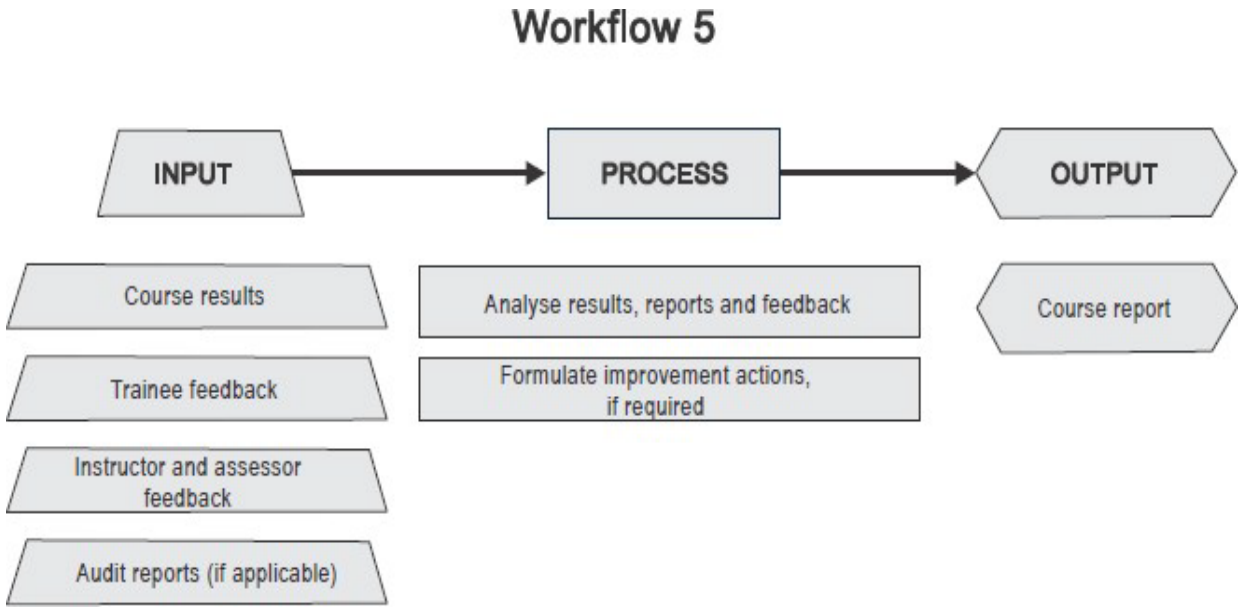


Figure 11: Workflow 5 - Evaluate the course including the training assessment plans

6.3 Course Developer Competencies

Course developers shall have demonstrated that they possess the following competencies:

6.3.1 Ability to conduct analysis:

(1) conduct preliminary analysis
(2) conduct job and task analysis
(3) conduct population analysis

6.3.2 Ability to Develop Training Materials

(1) Design curriculum
(2) Define training objectives
(3) Design mastery tests
(4) Design modules
(5) Define training strategy
(6) Select training media
(7) Produce competency-based training and assessment materials
(8) Carry out developmental testing of competency-based training and assessment materials

6.3.3 Ability to Evaluate Training Materials

(1) Validate competency-based training materials
(2) Evaluate whether job performance objectives are met
(3) Evaluate whether organisational and operational objectives are met

6.4 CBTA Instructor Competencies

(1) Training programmes for the instructor role should focus on development of the following competencies:

(2) A CBTA Instructor manages the safety of his/her trainees by:

6.4.1 Ensures a safety training environment.

(1) ensures that required equipment meets safety requirements;
(2) communicates evacuation procedures;
(3) ensures a safe operating environment (e.g. for aircraft: weather, fuel);
(4) identifies hazards and manages them;
(5) creates an appropriate safe learning environment; and
(6) identifies and takes appropriate action to prevent physical or mental stress.

6.4.2 Intervenes when required for safety

(1) transfers control of aircraft or equipment safely;
(2) intervenes, when required for safety, appropriately at the correct time and level (e.g. verbally or by taking control); and
(3) recommences training as soon as practicable (after any safety intervention).

6.4.2.1 Preparing the training environment

(1) Recognizing that the training organization is the controlling agency in providing the required environment, the

(2) competent instructor should ensure, to the extent possible, that the training environment provides for effective learning.

(3) The training environment includes facilities, equipment and instructional materials. The following elements should be adapted to the size and processes of the organization.

(4) The instructor should consider the following sub-elements as essential to a successful outcome.

6.4.2.2 Follows approved training syllabus.

(1) explains that the training is needed;
(2) ensures that the training is logically structured (where there is a need for the instructor to influence the flow of the training programme);
(3) ensures that the training is realistic and relevant;
(4) ensures that there are specific and measurable objectives; and
(5) ensures realism in the choice of scenarios.

6.4.2.3 Ensures adequate facilities and equipment

(1) ensures that the facilities are scheduled and adequate to meet the learning outcomes objectives;
(2) ensures that the physical environment is suitable for learning;
(3) ensures that the environment and conditions exist for the training objectives;
(4) ensures that the equipment is suitable, adequate and serviceable; and
(5) arranges appropriate airspace for the required training, if applicable.

Manage the trainee

The competent instructor should ensure that the training is appropriate to the trainees and their needs.

6.4.2.4 Understands trainees

(1) identifies and demonstrates awareness of trainee characteristics (experience, language, culture);
(2) determines learning needs;
(3) demonstrates awareness of learning styles; and
(4) selects or modifies instructional materials and methods as appropriate.

6.4.2.5 Coaches trainees

(1) demonstrates awareness of any measurable indicators of trainee readiness for training (as far as possible);
(2) is flexible and supportive to trainee's performance and needs;
(3) develops appropriate relationship with trainees; and
(4) develops and sustains trainee's motivation.

6.4.2.6 Conduct the training

The competent instructor must demonstrate a variety of instructional methods as required for the training.

6.4.2.7 Establishes and maintains credibility

(1) demonstrates exemplary behaviour as a role model (i.e. the instructor demonstrates the expected behaviour
(2) in the technical role for which trainees are being trained, according to the competencies and related KSA);
(3) establishes credentials;
(4) demonstrates respect for organizational goals and requirements (standard operating procedures, dress codes,
(5) appearance, acceptable personal conduct, etc.);
(6) states clear objectives and clarifies roles for the training or evaluation being undertaken; and
(7) establishes and maintains an atmosphere of mutual respect.

6.4.2.8 Demonstrates effective presentation skills

(1) stimulates and sustains trainee's interest;
(2) sequences and paces instruction appropriately;
(3) uses the voice effectively;
(4) uses eye contact effectively;
(5) uses gestures, silence, movement and training aids effectively; and
(6) demonstrates effective questioning skills.

6.4.2.9 Demonstrates effective instruction and facilitation

(1) communicates effectively both verbally and non-verbally;
(2) listens actively and reads non-verbal messages correctly;
(3) asks appropriate questions to encourage learning or to confirm understanding;
(4) answers questions correctly and adequately;
(5) generates content by questioning, redirecting, balancing participation, etc.; and
(6) provides structure by confirming understanding, paraphrasing, summarizing, etc.

6.4.2.10 Creates and sustains realism

(1) ensures realism in the choice of scenario administered; and
(2) maintains a realistic approach in the conduct of the scenario.

6.4.2.11 Manages time

(1) allocates time appropriately on activities;
(2) adjusts time spent on activities to ensure that objectives are met; and
(3) implements contingency plans for situations in which activities must be eliminated, reduced or replaced.

Perform trainee assessment

The competent instructor must assess the trainee appropriately, objectively and correctly.

6.4.2.12 Develops assessment methods

(1) selects appropriate events and activities through which to observe trainee's performance;
(2) clarifies assessment process and rules with trainee; and
(3) communicates to trainees the criteria upon which their performance will be assessed.

6.4.2.13 Monitors trainee's performance during instruction

(1) observes behaviours;
(2) interprets observed behaviours and comments correctly;
(3) allows trainee to self-correct in a timely manner; and
(4) identifies individual differences in learning rates.

6.4.2.14 Makes objective assessments

(1) compares trainee's performance outcomes to defined objectives;
(2) applies performance standards fairly and consistently;
(3) ensures a level of knowledge and skill that achieves an appropriate level of safety;
(4) observes and encourages self-assessment of performance against performance standards; and
(5) confidently makes decisions on outcome of the task.

6.4.2.15 Provides understandable and actionable feedback

(1) ensures that the applicant fully comprehends the assessment;
(2) applies appropriate corrective actions;
(3) uses facilitation techniques where appropriate;
(4) provides positive reinforcement;
(5) encourages mutual support; and
(6) develops and seeks agreement on any plan for improvement or remediation.

6.4.2.16 Produces training and performance reports

(1) keeps appropriate and adequate training and performance records;
(2) reports clearly and accurately on trainee's performance using only observed behaviours reflecting KSA;
(3) follows up on corrective actions;
(4) reports recognized training opportunities within the training system in order to improve the process; and
(5) respects confidentiality.

Perform course evaluation

The competent instructor should evaluate the effectiveness of the training system.

6.4.2.17 Self-evaluates the effectiveness of his/her own performance as an instructor

(1) evaluates his/her own communication skills;
(2) evaluates his/her own presentation skills;
(3) evaluates his/her own facilitation skills;
(4) evaluates his/her own use of training media;
(5) evaluates his/her own use of instructional materials; and
(6) evaluates his/her own assessment of trainees.

6.4.2.18 Evaluates the effectiveness of a course or phase of a course

(1) evaluates trainees' feedback on the training process;
(2) evaluates trainees' mastery of final course objectives;
(3) evaluates the effect of facilities on trainees' performance;
(4) evaluates the effect of equipment on trainees' performance;
(5) evaluates the effect of training materials on trainees' performance; and
(6) evaluates the effect of the management of the training programme on trainees' performance.

***Note**. — The management of the training programme in 6.2 f) refers to the policies and decisions (or lack of decisions) of the organization's management team regarding the training programme.*

6.4.2.19 Reports information on course evaluation

(1) identifies strengths and/or weaknesses of the training course;
(2) identifies systemic safety issues;
(3) identifies unexpected outcomes;
(4) identifies barriers to the transfer of learning;
(5) makes recommendations for improvements to course design;
(6) makes recommendations for improvements to course documentation;
(7) makes recommendations for improvements to training media and facilities; and
(8) shares information with other instructors and management.

Continuously improve performance

6.4.2.20 Evaluates effectiveness

(1) encourages and welcomes feedback on his/her own performance as an instructor;
(2) evaluates his/her own performance as an instructor and learns from the results; and
(3) actively seeks feedback on the training course from trainees and peers.

6.4.2.21 Sustains personal development

(1) maintains required qualifications;
(2) strives to increase and update relevant knowledge and skills; and
(3) demonstrates continuous improvement of instructor competencies.

6.5 Evidence-based Training (EBT) builds on the CBTA Programme

6.5.1 Background to EBT

6.5.1.1 The ICAO Manual of Evidence-based Training (EBT) ICAO Doc 9995 provides guidance in the recurrent assessment and training of pilots referred to in Annex 6 — *Operation of Aircraft,* Part I, *International Commercial Air Transport — Aeroplanes*, 9.3 — *Flight crew member training programmes* and 9.4.4 — *Pilot proficiency checks*.

6.5.1.2 Air operators in PNG should develop CBTA programme initially, and apply to CASA PNG to have it approved as a foundation or baseline competency-based training and assessment programme before building their EBT programme on this CBTA foundation. Without a good foundational understanding of CBTA programmes, it would be difficult to understand the fundamental concepts and philosophies behind EBT. It is important to note that EBT programme and philosophy are intended as a means of assessing and training key areas of flight crew performance in a *recurrent training system*.

6.5.1.3 Whilst CBTA is mandatory, as a foundational training programme and assessment of competency framework, EBT is optional. When choosing to implement EBT in their regulatory framework, air operators and training organizations in PNG should apply the principles of ICAO Doc 9995 when developing and implementing their EBT *recurrent training programmes*.

6.5.1.4 It is impossible to foresee all accident scenarios, especially in today's aviation system where the system's complexity and high reliability mean that the next accident may be something completely unexpected. EBT addresses this by moving from pure scenario-based training to prioritizing the development and assessment of key competencies, leading to a better training outcome. The scenarios recommended in EBT are merely a vehicle and a means to develop and evaluate competence. Mastering a finite number of key competencies should allow a pilot to manage unforeseen situations in flight.

6.5.1.5 The key competencies identified in EBT encompass what were previously termed both technical and nontechnical KSA, aligning the training content with the actual competencies necessary in contemporary aviation context. These competencies are embedded in the threat and error management (TEM) concept.

6.5.1.6 The availability of useful data covering both flight operations and the training activity has improved substantially over the last 20 years. Data sources like flight data analysis, flight observation (e.g. line operations safety audit (LOSA)) and air safety reports give a detailed insight into the threats, errors and risks in flight operations and their relation to unwanted consequences. An enhanced monitoring of training results demonstrates important differences in training needs between different manoeuvres and aircraft generations. Availability of such data has both established the need for the EBT effort and supported the definition of the resulting training concept and curriculum.

6.5.2 EBT Philosophy

6.5.2.1 EBT recognizes the need to develop and evaluate crew performance according to a set of competencies and the related KSA without necessarily distinguishing between the "non-technical" (e.g. CRM) and the technical competencies needed in order to operate safely. Any area of competence assessed not to meet the required level of performance shall also be associated with an observable behaviour that could lead to an unacceptable reduction in safety margin.

6.5.2.2 The aim of EBT is to identify, develop and evaluate the competencies and the related KSA required to operate safely, effectively and efficiently in a commercial air transport environment, while addressing the most relevant threats according to evidence collected in accidents, incidents, flight operations and training. The guidance contained in Doc 9995 is intended to enable and support the implementation of more effective training to improve operational safety.

6.5.2.3 Recognizing the criticality of competent instructors in any training programme, chapter 6.3 and 6.4 of this AC also provides specific additional guidance on the required qualifications and competence of instructors delivering EBT.

6.5.2.4 Representing the essences of TEM is a set of competencies, competency descriptions, corresponding taxonomy and behavioural indicators encompassing the technical and non-technical KSA to operate safely, effectively and efficiently in a commercial air transport environment. To this set of competencies must be added a statement (developed by the operator or relevant training provider) to define the standard of competencies and related KSA to achieve the task to the required level of proficiency. The competencies and the related KSA should be used as a means to guide and develop competency levels appropriate to the type of operation and aircraft, within the training syllabus.

6.6 Facilities and Equipment

6.6.1 Information concerning facilities in the CBTA Application Form will be verified by CASA PNG at the on-site Facilities and Equipment inspection phase 4 including:

(1) Synthetic training devices should have been approved by the CASA PNG or a foreign NAA
(2) Classrooms are large enough to accommodate the type of training provided
(3) Training facilities should be in a good condition
(4) Ensure that all equipment required by the training programme, as specified in the training and
(5) Procedures manual, are available and in good working order.

6.7 Schedule of Events (SOE)

6.7.1 The Schedule of Events (SOE) provides a summary of all the tasks that was discussed and agreed between CASA PNG / Applicant in accordance with the 5-phase certification process.

Attachment A – ICAO Competency Framework for Pilots

ICAO Competency	Description	Observable Behavior (OB)
1.Application of Procedures	Identifies and applies procedures in accordance with published operating instructions and applicable regulations, using the appropriate knowledge.	**OB1**-Identifies the source of operating instructions **OB2** -Follows SOPs unless a higher degree of safety dictates an appropriate deviation **OB3** - Identifies and follows all operating instructions in a timely manner **OB4** - Correctly operates aircraft systems and associated equipment **OB5** - Complies with applicable regulations. **OB6** - Applies relevant procedural knowledge
2.Communication	Demonstrates effective oral, non-verbal and written communications, in normal and non-normal situations.	**OB1** - Ensures the recipient is ready and able to receive the information **OB2** - Selects appropriately what, when, how and with whom to communicate **OB3** - Conveys messages clearly, accurately and concisely **OB4** - Confirms that the recipient correctly understands important information **OB5** - Listens actively and demonstrates understanding when receiving Information **OB6** - Asks relevant and effective questions **OB7** - Adheres to standard radiotelephone phraseology and procedures **OB8** - Accurately reads and interprets required company and flight documentation **OB9** - Accurately reads, interprets, constructs and responds to datalink messages in English **OB10** - Completes accurate reports as required by operating procedures **OB11** - Correctly interprets non-verbal communication **OB12** - Uses eye contact, body movement and gestures that are consistent with and support verbal messages
3.Aircraft Flight Path Management, automation	Controls the aircraft flight path through automation, including appropriate use of flight management system(s) and guidance.	**OB1** - Controls the aircraft using automation with accuracy and smoothness as appropriate to the situation **OB2** - Detects deviations from the desired aircraft trajectory and takes appropriate action **OB3** - Contains the aircraft within the normal flight envelope **OB4** - Manages the flight path to achieve optimum operational performance **OB5** - Maintains the desired flight path during flight using automation whilst managing other tasks and distractions **OB6** - Selects appropriate level and mode of automation in a timely manner considering phase of flight and workload **OB7** - Effectively monitors automation, including engagement and automatic mode transitions
4.Aircraft Flight Path Management, manual control	Controls the aircraft flight path through manual flight, including appropriate use of flight management system(s) and flight guidance systems.	**OB1** - Controls the aircraft manually with accuracy and smoothness as appropriate to the situation **OB2** - Detects deviations from the desired aircraft trajectory and takes appropriate action **OB3** - Contains the aircraft within the normal flight envelope

ICAO Competency	Description	Observable Behavior (OB)
		OB4 - Controls the aircraft safely using only the relationship between aircraft attitude, speed and thrust **OB5** - Manages the flight path to achieve optimum operational performance **OB6** - Maintains the desired flight path during manual flight whilst managing other tasks and distractions **OB7** - Selects appropriate level and mode of flight guidance systems in a timely manner considering phase of flight and workload **OB8** - Effectively monitors flight guidance systems including engagement and automatic mode transitions
5. Leadership and Teamwork	Demonstrates effective leadership and team working.	**OB1** - Understands and agrees with the crew's roles and objectives. **OB2** - Creates an atmosphere of open communication and encourages team participation **OB3** - Uses initiative and gives directions when required **OB4** - Admits mistakes and takes responsibility **OB5** - Anticipates and responds appropriately to other crew members' needs **OB6** - Carries out instructions when directed **OB7** - Communicates relevant concerns and intentions **OB8** - Gives and receives feedback constructively **OB9** - Confidently intervenes when important for safety **OB10** - Demonstrates empathy and shows respect and tolerance for other people[1] **OB11** - Engages others in planning and allocates activities fairly and appropriately according to abilities **OB12** - Addresses and resolves conflicts and disagreements in a constructive manner **OB13** - Projects self-control in all situations
6.Problem Solving and Decision Making	Accurately identifies risks and resolves problems. Uses the appropriate decision-making Processes.	**OB1** - Seeks accurate and adequate information from appropriate sources **OB2** - Identifies and verifies what and why things have gone wrong **OB3** - Employ(s) proper problem-solving strategies **OB4** - Perseveres in working through problems without reducing safety **OB5** - Uses appropriate and timely decision-making processes **OB6** - Sets priorities appropriately Identifies and considers options effectively. **OB7** - Monitors, reviews, and adapts decisions as required **OB8** - Identifies and manages risks effectively **OB9** - Improvises when faced with unforeseeable circumstances to achieve the safest outcome
7. Situational Awareness	Perceives and comprehends all of the relevant information available and anticipates what could happen that may affect the operation.	**OB1**- Identifies and assesses accurately the state of the aircraft and its systems **OB2** - Identifies and assesses accurately the aircraft's vertical and lateral position, and its anticipated flight path.

ICAO Competency	Description	Observable Behavior (OB)
		OB3 - Identifies and assesses accurately the general environment as it may affect the operation **OB4** - Keeps track of time and fuel **OB5** - Maintains awareness of the people involved in or affected by the operation and their capacity to perform as expected **OB6** - Anticipates accurately what could happen, plans and stays ahead of the situation **OB7** - Develops effective contingency plans based upon potential threats **OB8** - Identifies and manages threats to the safety of the aircraft and people. **OB9** - Recognizes and effectively responds to indications of reduced situation awareness.
8. Workload Management	Manages available resources efficiently to prioritize and perform tasks in a timely manner under all circumstances.	**OB1** - Maintains self-control in all situations **OB2** - Plans, prioritizes and schedules tasks effectively **OB3** - Manages time efficiently when carrying out tasks **OB4** - Offers and accepts assistance, delegates when necessary and asks for help early **OB5** - Reviews, monitors and cross-checks actions conscientiously **OB6** - Verifies that tasks are completed to the expected outcome **OB7** - Manages and recovers from interruptions, distractions, variations and failures effectively

Example of Adapted Competencies Model – Workload Management

Workflow 2 Part 1 provides guidance on how to design adapted competencies model from the ICAO Competency Framework. An example is given below.

Adapted Competency	*Description*	*OB No.*	*Performance Criteria*		
			Observable Behaviors (OB)	*Competency Assessment*	
				Final Competency Standard	*Conditions*
Workload Management	Manages available resources efficiently to prioritize and perform tasks in a timely manner under all circumstances.	8.1	**OB 8.1** Maintains self-control in all situations	Demonstrates the ability to maintain self-control in all situations	In all situations

Attachment B – ICAO Competency Framework for Cabin Crew

ICAO Competency	Description	Observable Behaviour (OB)
1.Application of Policies and Procedures	Identifies and applies appropriate policies and procedures in accordance with published operating instructions and applicable regulations	**OB 1.1** Identifies where to find policies and procedures **OB 1.2** Applies relevant policies and procedures **OB 1.3** Applies procedures or adapts them to ensure safety **OB 1.4** Operates cabin systems and equipment **OB 1.5** Complies with applicable policies and procedures
2.Communication	Communicates through appropriate means in the operational environment, in both normal, abnormal and emergency situations	**OB 2.1** Determines that the recipient is ready and able to receive information **OB 2.2** Selects appropriately what, when, how and with whom to communicate **OB 2.3** Conveys messages clearly, using designated common language (e.g. multilingual flight/cabin crew) **OB 2.4** Confirms that the recipient demonstrates understanding of important information **OB 2.5** Listens actively and demonstrates understanding when receiving information **OB 2.6** Asks relevant and effective questions **OB 2.7** Uses appropriate escalation in communication to resolve identified deviations **OB 2.8** Uses and interprets non-verbal communication in a manner appropriate to the organizational and social culture
3. Leadership and Teamwork	Influences others to contribute to a shared purpose Collaborates to accomplish the goals of the team	**OB 3.1** Encourages crew participation and open communication **OB 3.2** Demonstrates initiative and provides direction when required **OB 3.3** Engages others in planning **OB 3.4** Considers inputs from others **OB 3.5** Gives and receives feedback constructively **OB 3.6** Addresses and resolves conflicts and disagreements in a constructive manner **OB 3.7** Exercises decisive leadership when required **OB 3.8** Accepts responsibility for decisions and actions **OB 3.9** Carries out instructions when directed **OB 3.10** Identifies deviations and safety hazards and applies effective intervention strategies **OB 3.11** Manages cultural and language challenges
4.Passenger Management	Demonstrates effective passenger management techniques	**OB 4.1** Exhibits assertive behaviour, when applicable, e.g. during an evacuation or ditching **OB 4.2** Identifies and manages conflict and disagreements between passengers **OB 4.3** Demonstrates conflict resolution techniques **OB 4.4** Informs and monitors passengers for compliance with operator policies, procedures and regulations **OB 4.5** Uses effective communication and tone of voice appropriate to the circumstances
5.Problem-Solving and Decision-making	Identifies precursors, mitigates problems; and makes decisions	**OB 5.1** Identifies, assesses and manages threats and errors in a timely manner

ICAO Competency	Description	Observable Behaviour (OB)
		OB 5.2 Seeks accurate and adequate information from appropriate sources **OB 5.3** Identifies and verifies what and why things have gone wrong, if appropriate **OB 5.4** Perseveres in working through problems while prioritizing safety **OB 5.5** Identifies and considers appropriate options **OB 5.6** Applies appropriate and timely decision-making techniques **OB 5.7** Monitors, reviews and adapts decisions as required **OB 5.8** Adapts when faced with situations where no guidance or procedure exists **OB 5.9** Demonstrates resilience when encountering an unexpected event
6.Situation Awareness and Management of Information	Perceives, comprehends and manages information and anticipates its effect on the operation.	**OB 6.1** Monitors and assesses passenger and crew behaviour **OB 6.2** Monitors and assesses the general environment, state of the aircraft and cabin systems as these may affect the operation **OB 6.3** Validates the accuracy of information and checks for errors **OB 6.4** Maintains awareness of the people involved in or affected by the operation and their capacity to perform as expected **OB 6.5** Develops effective contingency plans based upon risks associated with threats and errors **OB 6.6** Responds to indications of reduced personal situation awareness
7.Workload Management	Maintains available workload capacity by prioritizing and distributing tasks using appropriate resources	**OB 7.1** Plans, prioritizes and monitors tasks through the utilization of all available resources **OB 7.2** Manages time efficiently when carrying out tasks **OB 7.3** Offers and gives assistance **OB 7.4** Delegates tasks **OB 7.5** Seeks and accepts assistance, when appropriate **OB 7.6** Monitors, reviews and cross-checks actions **OB 7.7** Verifies that tasks are completed to the expected outcome **OB 7.8** Manages and recovers from interruptions, distractions, variations and failures effectively while performing tasks

Example of Adapted Competencies Model - Communication

Workflow 2 Part 1 provides guidance on how to design adapted competencies model from the ICAO Competency Framework. An example is provided below.

Adapted Competency	*Description*	*OB No.*	*Performance Criteria*		
			Observable Behaviors (OB)	*Competency Assessment*	
				Final Competency Standard	*Conditions*
Application of Policies and Procedures	Identifies and applies appropriate policies and procedures in accordance with published operating instructions and applicable regulations	1.1	**OB 1.1** Identifies where to find policies and procedures	Demonstrates the ability to identify and find the correct policies and procedures	In all situations

Attachment C – ATCO Competency Framework

General

The purpose of developing an air traffic controller (ATCO) competency framework is to encourage standardized performance and to enable the use of existing best practices in ATCO training and assessment.

The ATCO competency framework describes the competency units, competency elements and performance criteria that shall be translated into the operating environment of the ANSP, taking into account the applicable air traffic control ratings and the required competencies for such ratings within the context and level of the training taking place.

The ATCO competency framework shall be used by ATOs or ANSPs as the basis for developing their own training and assessment and should be adapted to suit the operational, technical and organizational environment in which the ATCO duties will be exercised. The authority should use the ATCO competency framework, with due consideration for the local environment, when evaluating ATCO training programmes submitted for approval.

The use of such a competency framework is not an obligation but is recommended in order to achieve the best performance in ATCO training.

It is recommended that ATOs as well as ANSPs use the ATCO competency framework as a flexible tool to help them define the ATCO competencies. The competency framework is generic and applies to all phases of training. It shall be adapted to develop curricula that are appropriate to the phase of training and the challenges of the operating environment. Establishing different levels of taxonomy in the training to describe the required performance may be an effective method for differentiating between the performance criteria for each phase of training. The application of this taxonomy is explained in the *Manual on Competency-based Training of Air Traffic Controllers* (Doc 10056).

The framework constitutes a high-level structure of ATCO competencies. It may be further specified under broad rating categories such as area, approach and aerodrome. The framework is independent of the type of equipment in use or of the major areas of application (en-route, approach, tower, etc.) or of the sharing of tasks on the controller working position. Certain competencies might relate exclusively to a dedicated or separate air traffic control function — this would be determined by the local organizational context. Crisis management, collaborative decision making as well as air traffic flow management functions have been left out of the scope of the ATCO competency framework.

ICAO Competency	Description	Observable Behaviour (OBs)
1.Situational Awareness	Comprehend the current operational situation and anticipate future events	**OB1** - Monitors air traffic in own area of responsibility and nearby airspace **OB2** - Monitors the meteorological conditions that impact on own area of responsibility and nearby airspace **OB3** - Monitors the status of the ATC systems and equipment **OB4** - Monitors the operational circumstances in nearby sectors to anticipate impact on own situation **OB5** - Acquires information from available surveillance and flight data systems, meteorological data, electronic data displays and any other means available **OB6** - Integrates information acquired from monitoring and scanning into the overall picture **OB7** - Analyses the actual situation based on information acquired from monitoring and scanning **OB8** - Interprets the situation based on the Analysis **OB9** - Predicts the future operational situation **OB10** - Identifies potentially hazardous situations (e.g. amount of separation with other aircraft, objects, airspace and ground, consequences of adverse weather, navigational deviations and capacity overload) **OB11** - Verifies that information is accurate and assumptions are correct **OB12** - Uses available tools to monitor, scan, comprehend and predict operational situations
2.Traffic and Capacity Management	Ensure a safe, orderly and efficient traffic flow and provide essential information on environment and potentially hazardous situations	**OB1** - Manages arriving, departing and/or enroute traffic using prescribed procedures **OB2** - Takes aircraft performance into account when issuing clearances and instructions **OB3** - Uses a variety of techniques to effectively manage the traffic (e.g. speed control, vectoring, traffic sequencing, assigning climb/descent rate)

ICAO Competency	Description	Observable Behaviour (OBs)
		OB4 - Increases safety margins when deemed necessary **OB5** - Takes action when appropriate to ensure that demand does not exceed sector capacity **OB6** - Maintains focus despite varying traffic Levels **OB7** - Reacts appropriately to situations that have the potential to become unsafe **OB8** - Issues clearances and instructions to the flight crew that result in an efficient traffic flow **OB9** - Issues appropriate clearances and Instructions **OB10** - Issues clearances and instructions in a timely manner **OB11** - Uses available tools to reduce delays and optimize flight profiles **OB12** - Provides flight information and status of facilities in a timely manner **OB13** - Issues hazard and safety alerts to the flight crews when necessary **OB14** - Issues traffic proximity information to flight crews in a relevant, accurate and timely manner **OB15** - Issues weather information to flight crews when necessary
3. Separation and Conflict Resolution	Manage potential traffic conflicts and maintain separation	**OB1** - Identifies traffic conflicts **OB2** - Selects the most appropriate separation Method **OB3** - Applies appropriate air traffic separation and spacing **OB4** - Issues clearances and instructions that ensure separation is maintained **OB5** - Issues clearances and instructions that take into account aircraft performance, terrain obstacles, airspace constraints and weather **OB6** - Issues clearance and instructions that resolve traffic conflicts **OB7** - Resolves conflicts through coordination with adjacent sectors or units **OB8** - Monitors the execution of separation actions **OB9** - Adjusts control actions, when necessary, to maintain separation
4.Communication	Communicate effectively in all Operational situations	**OB1** - Selects communication mode that takes into account the requirements of the situation, including speed, accuracy and level of detail of the communication **OB2** - Speaks clearly, accurately and concisely **OB3** - Uses appropriate vocabulary and expressions to convey clear messages **OB4** - Uses standard radiotelephony phraseology, when prescribed **OB5** - Adjusts speech techniques to suit the Situation **OB6** - Demonstrates active listening by asking relevant questions and providing feedback **OB7** - Verifies accuracy of read backs and corrects as necessary **OB8** - Uses plain language when standardized phraseology does not exist or the situation warrants it **OB9** - Where applicable, uses eye contact, body movements and gestures that are consistent with verbal messages and the Environment **OB10** - Writes or inputs messages according to protocol or in a clear and concise manner where protocol does not exist **OB11** - Communicates relevant concerns and intentions
5. Coordination	Manage coordination between personnel in operational positions and with other affected stakeholders	**OB1** - Coordinates with personnel in other operational positions and other stakeholders, in a timely manner **OB2** - Selects coordination method based on circumstances, including urgency of coordination, status of facilities and prescribed procedures

ICAO Competency	Description	Observable Behaviour (OBs)
		OB3 - Coordinates the movement, control and transfer of control for flights using the prescribed coordination procedures **OB4** - Coordinates changes of status of operational facilities such as equipment, systems and functions **OB5** - Coordinates changes of status of airspace and aerodrome resources **OB6** - Uses clear and concise terminology for verbal coordination **OB7** - Uses standard ATS message formats and protocol for non-verbal coordination **OB8** - Uses clear and concise non-standard coordination methods when required **OB9** - Conducts effective briefings during position handover
6.Management of Non-routine situations	Detect and respond to emergency and unusual situations related to aircraft operations and manage degraded modes of ATS operation	**OB1** - Recognizes, from the information available, the possibility of an emergency or unusual situation developing **OB2** - Determines the nature of the emergency **OB3** - Prioritizes actions based on the urgency of the situation **OB4** - Decides upon the most appropriate type of assistance that can be given **OB5** - Follows prescribed procedures for communication and coordination of urgent situations **OB6** - Provides assistance and takes action, when necessary, to ensure safety of aircraft in area of responsibility **OB7** - Detects that ATS systems and/or equipment have degraded **OB8** - Assesses the impact of a degraded mode of operation **OB9** - Follows prescribed procedures for managing, coordinating and communicating a degraded mode of Operation **OB10** - Creates solutions when no procedure exists for responding to non-routine situations
7.Problem-solving and decision making	Find and implement solutions for identified hazards and associated risks	**OB1** - Takes into account the existing rules and operating procedures when determining possible solutions to a problem **OB2** - Implements an appropriate solution to a problem **OB3** - Determines the situations that have the highest priority **OB4** - Organizes tasks in accordance with an appropriate order of priorities **OB5** - Applies an appropriate mitigation strategy for the hazards identified **OB6** - Perseveres in working through problems without impacting safety **OB7** - Considers timeliness in decision making
8.Self-management and continuous development	Demonstrate personal attributes that improve performance and maintain an active involvement in self-learning and self-development	**OB1** - Takes responsibility for own performance, detecting and resolving own errors **OB2** - Improves performance through self-evaluation of the effectiveness of actions **OB3** - Seeks and accepts feedback to improve Performance **OB4** - Maintains self-control and performs adequately in adverse situations **OB5** - Changes behaviour and responds as needed to deal with the demands of the changing situation **OB6** - Maintains, through personal initiative, awareness of developments and changes in aviation **OB7** - Participates in learning activities (e.g. team meetings, briefings and training sessions)
9.Workload Management	Use available resources to prioritize and perform tasks in	**OB1** - Manages tasks effectively in response to current and future workload **OB2** - Manages interruptions and distractions Effectively

ICAO Competency	Description	Observable Behaviour (OBs)
	an efficient and timely manner	**OB3** - Determines if and when support is necessary based on workload **OB4** - Asks for help, when necessary OB5 - Delegates tasks when necessary to reduce Workload **OB6** - Accepts assistance, when necessary **OB7** - Adjusts the pace of work according to Workload **OB8** - Selects appropriate tools, equipment and resources to support the efficient achievement of tasks **OB9** - Uses the automated capabilities of ATS equipment to improve efficiency
10.Teamwork	Operate as a team member	**OB1** - Provides both positive and negative feedback constructively **OB2** - Accepts both positive and negative feedback objectively **OB3** - Shows respect and tolerance for other people **OB4** - Carries out actions and duties in a manner that fosters a team environment **OB5** - Manages interpersonal conflicts to maintain an effective team environment **OB6** - Uses negotiating and problem-solving techniques to help resolve unavoidable conflict when encountered **OB7** - Raises relevant concerns in an appropriate manner **OB8** - Anticipates and responds appropriately to the needs of others **OB9** - Shares experiences with the aim of continuous improvement

Example of Adapted Competencies Model - Situational Awareness

Chapter 6.2.3 Workflow 2 Part 1 provides guidance on how to design adapted competencies model from the ICAO Competency Framework. An example is given below.

Adapted Competency	*Description*	*OB No.*	*Performance Criteria*		
			Observable Behaviors (OB)	*Competency Assessment*	
				Final Competency Standard	*Conditions*
1.Situational Awareness	Comprehend the current status of the ATM system and anticipate future events	1.1	Monitors air traffic in own area of responsibility and nearby airspace	Demonstrates the ability to monitor CNS/ATM system in own area of responsibility and contributing areas as well	In all situations

Attachment D – ICAO Competency Framework for AME

ICAO Competency	Description	Observable Behavior (OB)
1.Application of Procedures	Identify and apply procedures following appropriate documents and applicable regulations, using the appropriate knowledge	**OB1** - Identifies correct processes and Procedures associated with a specific task **OB2** - Demonstrates proper use of documents **OB3** - Applies system knowledge appropriately **OB4** - Demonstrates compliance with applicable regulations **OB5** - Documents work performed or accomplished correctly
2.Work Management	Manage available resources efficiently to prioritize and perform tasks in a safe and efficient manner	**OB1** - Plans, prioritizes and schedules tasks effectively **OB2** - Identifies where and when assistance is needed **OB3** – Requests assistance when and where required **OB4** - Selects appropriate tools, equipment and resources to support the efficient achievement of tasks **OB5** - Uses available tools safely, efficiently and effectively **OB6** - Inspects work area after completion of task **OB7** - Verifies that tasks are completed to the relevant procedures
3.Situational Awareness	Recognize and understand the maintenance environment and relevant information; anticipate future events	**OB1** - Maintains awareness of the maintenance environment **OB2** – Maintains awareness of hazard situations **OB3** - Verifies that information is accurate and assumptions are Correct **OB4** - Is cognisant of ongoing concurrent activities
4. Technical Expertise	Apply and improve technical knowledge and skills to perform maintenance safely and efficiently	**OB1** - Applies technical knowledge and skills as appropriate for the task **OB2** – Answers technical questions accurately **OB3** – Applies appropriate procedures following the applicable standards

Example of Adapted Competencies Model – Work Management

Chapter 6.2.3 Workflow 2 Part 1 provides guidance on how to design adapted competencies model from the ICAO Competency Framework. An example is given below.

Adapted Competency	*Description*	*OB No.*	*Performance Criteria*			
			Observable Behaviors (OB)	*Competency Assessment*		
				Interim Competency Standard	*Final Competency Standard*	*Conditions*
2.Work Management	Manage available resources efficiently to prioritize and perform tasks in a safe and efficient manner	2.1	Plans, prioritizes and schedules tasks effectively	Identify the manpower requirement for the task performed • Identify requirements for independent inspections • Ability to identify appropriate equipment, tooling and resources to accomplish tasks	• Demonstrate task knowledge to effectively prioritize and schedule work • Ability to explain when additional help is needed • Exhibit willingness to seek assistance when required	During summative assessment (practical/hangar, ramp, shop)

Adapted Competency	*Description*	*OB No.*	*Performance Criteria*			
			Observable Behaviors (OB)	*Competency Assessment*		
				Interim Competency Standard	*Final Competency Standard*	*Conditions*
					• Ability to identify appropriate equipment, tooling and resources to accomplish tasks • Ability to use available tools safely, efficiently and effectively • Clean and inspect work area after completion of tasks • All steps and tasks are completed according to relevant procedures	
3.Situational Awareness	Recognize and understand the maintenance environment and relevant information; anticipate future events	3.1	Maintains awareness of the maintenance environment	-Explain if there are any safety issues for the task performed -Understand the safety reporting system	• Demonstrate awareness of weather, hangar, ramp and shop conditions • Monitor safety and hazard conditions • Demonstrate ability to choose information that is correct for the task • Ability to avoid conflicting activities	During summative assessment (practical/hangar, ramp, shop)

Attachment E – ICAO Competency Framework RPL

ICAO Competency	Description	Observable Behavior (OB)
1.Situational Awareness	Perceives and comprehends the operational situation of the moment and all of the relevant information available and anticipates what could happen that may affect the operation	**OB1** - Identifies and assesses accurately the state of the RPAS **OB2** - Identifies and assesses accurately the RPA's vertical and lateral position, and its anticipated flight path **OB3** - Identifies and assesses accurately the general environment as it may affect the flight, including the air traffic neighbouring the RPA operation and the meteorological conditions that could impact the operation **OB4** - Conducts the operation in accordance with the airspace configuration where the RPAS operation is taking place **OB5** - Keeps track of time and energy **OB6** - Maintains awareness of the people involved in or affected by the operation and their capacity to perform as expected **OB7** - Anticipates accurately what could happen, plans and stays ahead of the situation **OB8** - Develops effective contingency plans based upon potential threats **OB9** - Recognizes and effectively responds to indications of reduced situational awareness
2.Application of Procedures	Identifies and applies procedures in accordance with published operating instructions and applicable regulations, using the appropriate knowledge	**OB1** - Identifies the source of operating instructions **OB2** - Follows standard operating procedures (SOPs) unless a higher degree of safety dictates an appropriate deviation **OB3** - Identifies and follows all operating instructions in a timely manner **OB4** - Correctly operates the RPAS and associated equipment **OB5** - Complies with applicable regulations **OB6** - Applies relevant procedural knowledge
3.Communication	Demonstrates effective verbal, written and nonverbal communications, in normal and abnormal situations	**OB1** - Ensures the recipient is ready and able to receive the information **OB2** - Selects appropriately what, when, how and with whom to communicate **OB3** - Conveys messages clearly, accurately and concisely **OB4** -Confirms that the recipient correctly understands important information **OB5** - Listens actively and demonstrates understanding when receiving information **OB6** - Asks relevant and effective questions **OB7** - Adheres to standard radiotelephony phraseology and procedures **OB8** - Accurately reads and interprets required documentation for the operation of RPAS **OB9** - Accurately reads, interprets, constructs and responds to datalink messages **OB10** - Completes accurate reports as required by operating procedures **OB11** - Correctly interprets non-verbal communication **OB12** - Where applicable, uses eye contact, body movement and gestures that are consistent with and support verbal messages
4. RPA flight path management, automation	Controls the RPA flight path through automation, including appropriate use of flight management	**OB1** - Controls the RPA through automation with accuracy and smoothness as appropriate to the situation

ICAO Competency	Description	Observable Behavior (OB)
	system(s) and guidance	**OB2** - Contains the RPA within the normal flight envelope **OB3** - Maintains the desired flight path during flight using automation **OB4** -Takes appropriate action in case of deviations from the desired RPA trajectory **OB5** - Selects appropriate level and mode of automation in a timely manner considering phase of flight and workload **OB6** - Effectively monitors automation, including engagement and automatic mode transitions **OB7** - Controls the RPA safely in degraded automation using only the relationship between RPA attitude, speed and thrust if applicable
5. Leadership, teamwork and self-management	Demonstrates effective leadership, team working and self-management	**OB1** - Understands and agrees with the crew's roles and objectives **OB2** - Creates an atmosphere of open communication and encourages team participation **OB3** - Uses initiative and gives directions when required **OB4** - Admits mistakes and takes responsibility for own performance, detecting and resolving own errors **OB5** - Anticipates and responds appropriately to other crew members' needs **OB6** - Carries out instructions when directed **OB7** - Communicates relevant concerns and intentions **OB8** - Gives and receives feedback constructively **OB9** - Confidently intervenes when important for safety **OB10** - Demonstrates empathy and shows respect and tolerance for other people **OB11** - Engages others in planning and allocates activities fairly and appropriately according to abilities **OB12** - Addresses and resolves conflicts and disagreements in a constructive manner **OB13** - Demonstrates self-control in all situations **OB14** - Self-evaluates the effectiveness of actions
6.Problem-solving and decision-making	Accurately identifies risks and resolves problems. Uses the appropriate decision-making processes	**OB1** - Seeks accurate and adequate information from appropriate sources **OB2** - Identifies and verifies what and why things have gone wrong **OB3** - Employs proper problem solving strategies **OB4** -Perseveres in working through problems without reducing safety **OB5** - Uses appropriate and timely decision-making processes **OB6** - Identifies and considers options effectively **OB7** - Monitors, reviews and adapts decisions as required **OB8** - Identifies and manages risks and threats to the safety of the RPAS and people effectively **OB9** - Changes behaviour and responds as needed to deal with the demands of the changing situation
7.Workload Management	Manages available resources efficiently to prioritize and perform tasks in a timely manner under all circumstances	**OB1** - Plans, prioritizes and schedules tasks effectively **OB2** - Manages time efficiently when carrying out tasks **OB3** - Offers and accepts assistance, delegates when necessary and asks for help early **OB4** - Reviews, monitors and crosschecks actions conscientiously

ICAO Competency	Description	Observable Behavior (OB)
		OB5 - Verifies that tasks are completed to the expected outcome **OB6** - Manages and recovers from interruptions, distractions, variations and failures effectively
8.Coordination and Handover	Manages coordination and handover between personnel in operational positions and with other affected personnel	**OB1**- Coordinates with personnel and other stakeholders, in a timely manner **OB2** - Selects coordination/handover method based on circumstances, including urgency of coordination, status of facilities and prescribed procedures **OB3** - Coordinates the handover using the prescribed coordination procedures **OB4** - Coordinates changes of status of operational facilities such as equipment, systems and functions **OB5** - Coordinates changes of status of airspace and aerodrome resources, as applicable **OB6** - Uses clear and concise terminology for verbal coordination **OB7** - Uses standard message formats and protocols for non-verbal coordination **OB8** - Uses clear and concise non-standard coordination methods when required **OB9** - Conducts effective briefings during position handover
9.Management of abnormal situations	Detects and responds to emergency and abnormal situations related to RPAS operations and manages the degraded modes of operation of the RPAS	**OB1** - Identifies the possibility for the development of an emergency or abnormal situation from the information available **OB2** - Determines the nature of the abnormal situation emergency **OB3** - Prioritizes actions based on the urgency of the situation **OB4** - Decides the most appropriate actions to initiate **OB5** - Follows the prescribed procedures for managing the RPAS in emergency situations **OB6** - Detects potential degradation to RPAS and/or equipment with particular attention to the potential loss of the C2 Link **OB7** - Assesses the impact of the degraded mode of operation **OB8** - Takes actions, when required, to ensure the safety of the people overflown **OB9** - Creates solutions when no guidance or procedure for a given abnormal situation

Example of Adapted Competencies Model - Communication

Chapter 6.2.3 Workflow 2 Part 1 provides guidance on how to design adapted competencies model from the ICAO Competency Framework. An example is given below.

Adapted Competency	*Description*	*OB No.*	*Performance Criteria*		
			Observable Behaviors (OB)	*Competency Assessment*	
				Final Competency Standard	*Conditions*
3.Communication	Demonstrates effective verbal, written and nonverbal	3.1	**OB1** - Ensures the recipient is ready and able to receive the information	Demonstrates the ability to communicate effectively using verbal, written and non-verbal	In all situations

	communications, in normal and abnormal situations			communications in normal and abnormal situations	

ATTACHMENT F – ICAO COMPETENCY FRAMEWORK FOR DG

ICAO Competency	Description	Observable Behaviour (OB)
Application of procedures and compliance with regulations	Identifies and applies appropriate procedures in accordance with published operating instructions and in compliance with applicable regulations	**OB1** - Identifies where to find procedures and regulations **OB2** - Follows relevant procedures in a timely manner **OB3** - Complies with applicable regulations **OB4** - Applies relevant procedural knowledge
Communication	Communicates through appropriate means in the work environment, in both normal and no normal situations	**OB1** - Ensures the recipient is ready and able to receive information **OB2** - Selects appropriately what, when, how and with whom to communicate **OB3** - Conveys messages clearly, accurately and concisely **OB4** - Confirms that the recipient correctly understands important information **OB5** - Listens actively and demonstrates understanding when receiving information **OB6** - Asks relevant and effective questions **OB7** - Completes accurate reports as required by operating procedures **OB8** - Announces deviations from normal or intended conditions. Correctly uses and interprets non-verbal communication
Leadership, Teamwork and Self-Management	Demonstrates effective leadership, teamwork and self-management	**OB1**-Encourages team participation and open communication **OB2** - Demonstrates initiative and provides direction when required **OB3** - Engages others in planning **OB4** - Considers inputs from others **OB5** - Gives and receives feedback constructively **OB6** - Addresses and resolves conflicts and disagreements in a constructive manner **OB7** - Exercises decisive leadership **OB8** - Admits mistakes and takes responsibility for own performance, detecting and resolving own errors **OB9** - Carries out instructions when directed and applies effective intervention strategies when necessary **OB10** - Confidently intervenes when important for safety **OB11** - Self-evaluates the effectiveness of actions

ICAO Competency	Description	Observable Behaviour (OB)
Problem-solving and Decision-making	Identifies problem precursors and resolves actual problems using decision-making techniques, in a timely manner	**OB1**- Seeks accurate and adequate information from appropriate sources **OB2** - Identifies and verifies what and why things have gone wrong **OB3** - Employs proper problem-solving strategies **OB4** - Perseveres in working through problems while prioritizing safety **OB5** - Uses appropriate and timely decision-making techniques **OB6** - Sets priorities appropriately **OB7** - Identifies and considers options as appropriate **OB8** - Monitors, reviews and adapts decisions as required **OB9** - Identifies, assesses and manages risks and threats to safety effectively **OB10** - Adapts when faced with situations where no guidance or procedure exists
Workload Management	Maintains available workload capacity by prioritizing and distributing tasks using appropriate resources	**OB1** - Exercises self-control in all situations **OB2** - Plans, prioritizes and schedules tasks effectively **OB3** - Manages time efficiently when carrying out tasks **OB4**- Offers and gives assistance, delegates when necessary **OB5** - Seeks and accepts assistance, when appropriate **OB6** - Monitors, reviews and cross-checks actions conscientiously **OB7** - Verifies that tasks are completed to the expected outcome **OB8** - Manages and recovers from interruptions, distractions, variations and failures effectively while performing tasks

Attachment G – ICAO Competency Framework Air Traffic Safety Electronics Personnel (ATSEP)

ICAO COMPETENCY	DESCRIPTION	OBSERVABLE BEHAVIOURS (OB)
Engineering	Collaborate in developing, modifying and integrating systems, networks and equipment	**OB1** - Demonstrates technical knowledge and reasoning **OB2** - Demonstrates ability of engineering reasoning and problem solving **OB3** - Demonstrate the knowledge and reasoning of interoperability in terms of global systems and environments **OB4** - Demonstrates ability to set system requirements

ICAO COMPETENCY	DESCRIPTION	OBSERVABLE BEHAVIOURS (OB)
		OB5 - Develops modelling of system and ensures requirements can be met **OB6** - Manages development projects effectively **OB7** - Designs implementation process effectively **OB8** - Tests, verifies, validates and certifies new systems, equipment or installations **OB9** - Supports system and equipment implementation **OB10** - Optimizes systems and network elements **OB11** - Supports system life cycle **OB12** - Anticipates and organizes system and equipment Decommissioning **OB13** - Contributes to risk management processes **OB14** - Determines, prescribes and ensures compliance of systems and network elements with the performance-based operational context **OB15** - Manages system resources and safeguards them (e.g. frequency spectrum)
Situational Awareness	Comprehend the current status of the ATM system and anticipate future events	**OB1** - Monitors the CNS/ATM systems in own area of responsibility and contributing areas as well **OB2** - Monitors the environmental conditions that have an impact on own and adjacent areas of responsibility and understands the impact on systems and services **OB3** - Monitors the relevant elements of the ATC operational situation **OB4** - Maintains awareness of the people involved in or affected by the operation **OB5** - Obtains information from all available monitoring sources **OB6** - Analyses information from all available monitoring sources **OB7** - Predicts future system load (e.g. network, computing capacity and other parameters) **OB8** - Identifies potentially hazardous situations **OB9** - Checks for data integrity
Service Provision	Ensure availability and reliability of CNS/ATM systems and capabilities	**OB1** - Uses systems monitoring and diagnostic capabilities effectively **OB2** - Evaluates the operational consequences of CNS/ATM system anomalies or failures **OB3** - Switches from monitoring to intervention in a timely manner **OB4** - Uses prescribed operation procedures properly **OB5** -Ensures that technical interventions take into account the ATC operational situation **OB6** - Coordinates technical interventions with other technical units, the different stakeholders and ATC **OB7** - Monitors the execution of technical interventions **OB8** - Uses a variety of methods to effectively manage system anomalies and degraded situations
Coordination	Manage coordination with operational stakeholders and with other affected stakeholders	**OB1** - Coordinates effectively with internal stakeholders **OB2** - Coordinates effectively with external stakeholders **OB3** - Selects the coordination method based on circumstances and in a timely mannerOB4 - Uses common coordination terminology as required by the prescribed operational procedures **OB4** - Adjusts timing of coordination, taking into account current factors affecting the technical team **OB5** - Conducts effective briefings during position handovers and transfer of maintenance tasks
Management of Non-routine situation	Detect and respond to emergency and unusual situations related to the ATC operation and/or	**OB1** - Recognizes, from the information available, the possibility of an emergency, urgent or degraded situation developing **OB2** - Determines the nature of the emergency

ICAO COMPETENCY	DESCRIPTION	OBSERVABLE BEHAVIOURS (OB)
	CNS/ATM systems and capabilities	**OB3** - Prioritizes actions based on the urgency of the situation **OB4** - Follows prescribed procedures for responding to non-routine situations **OB5** - Follows prescribed procedures for communication and coordination of urgent situations **OB6** - Creates solutions when no procedure exists for responding to non-routine situations **OB7** - Identifies potentially hazardous events requiring coordination with stakeholders
Problem-solving and decision making	Find and implement solutions for identified hazards and associated risks	**OB1** - Takes into account the existing rules and operating procedures when determining possible solutions to a problem **OB2** - Implements a chosen solution to a problem **OB3** - Organizes tasks in accordance with determined priorities **OB4** - Applies appropriate mitigation strategies for the identified hazards **OB5** - Works through problems without reducing safety **OB6** - Considers expediency and efficiency in decision making
Self-Management and continuous Learning	Demonstrate personal attributes that improve performance and maintain an active involvement in self-learning and self development	**OB1** - Takes responsibility for own performance, detecting and resolving own errors **OB2** - Improves performance through self-evaluation of the effectiveness of actions **OB3** - Seeks and accepts feedback to improve performance **OB4** - Maintains self-control and performs adequately in adverse situations **OB5** - Changes behaviour and responds as needed to deal with the demands of the changing situation **OB6** - Maintains awareness of developments in aviation and technological evolution **OB7** - Participates in learning activities
Workload Management	Use available resources to prioritize and perform tasks in an efficient and timely manner	**OB1** - Manages tasks effectively in response to current and future workload **OB2** - Determines if and when support is necessary based on workload **OB3** - Delegates tasks when necessary to reduce workload Selects appropriate tools, equipment and resources to support the efficient achievement of tasks **OB4** - Contributes to balancing team workload in normal and non-routine situations
Teamwork	Operate as a team member	**OB1** - Provides feedback constructively **OB2** - Shows respect and tolerance for other people **OB3** - Carries out actions and duties in a manner that supports a team environment **OB4** - Uses negotiating and problem-solving techniques to manage unavoidable conflict when encountered **OB5** - Raises relevant concerns in an appropriate manner **OB6** - Accepts feedback constructively **OB7** - Shares experiences with the aim of continuous improvement
Communication	Communicate effectively in all situations	**OB1** - Selects communication methods that take into account the requirements of the situation **OB2** - Speaks clearly, accurately and concisely **OB3** - Uses appropriate vocabulary and expressions for communications with Stakeholders **OB4** - Demonstrates active listening by asking relevant questions and providing feedback **OB5** - Verifies comprehension of counterparts and corrects as necessary

ICAO COMPETENCY	DESCRIPTION	OBSERVABLE BEHAVIOURS (OB)
		OB6 - Where applicable, uses eye contact, body movements and gestures that are consistent with verbal messages **OB7** - Interprets non-verbal communication correctly

Attachment H – ICAO Competency Framework Flight Officers / Flight Dispatchers [Reserved]

ICAO Competency	Description	Observable Behaviour (OB)
1. Application of procedures and regulations	*Identifies and applies procedures in accordance with operating Instructions and applicable regulations.*	**OB1** - Interprets SOPs appropriately and uses flexibility included in these where necessary **OB2** - Identifies and follows all operating instructions in a timely manner **OB3** - Complies with applicable regulations and procedures
2.Technical Expertise	*Applies and improves individual technical knowledge and skills*	**OB1** - Retrieves the applicable data and operating procedures **OB2** - Explains the intent of the applicable procedure for a given context **OB3** -Considers factors of influence to make optimum decisions in operations control using accurate and appropriate operational information (meteorological, airports, crew, aircraft, network, general) **OB4** -Uses standard and non-standard information distribution systems and sources **OB5** - Keeps up to date on technical knowledge and skills
3.Process Improvement	*Contributes to the continuous improvement of the system*	**OB1** - Consistently provides appropriate guidance to stakeholders and colleagues on how to implement procedures **OB2** - Analyses evidence to identify opportunities for process improvement **OB3** - Proposes process improvements for approval or adoption by management **OB4** -Provides suitable justification for proposed improvements **OB5** - Recognizes trends in practice of one's own technical area and anticipates changes
4.Communication	*Communicates through appropriate means in normal and non-normal situations*	**OB1** - Ensures the recipient is ready and able to receive the information **OB2** - Selects appropriately what, when, how and with whom to communicate OB3 - Conveys messages clearly, accurately and concisely **OB4** - Provides clear and concise answers to technical questions and confirms that the recipient correctly understands important information **OB5** - Listens actively and demonstrates understanding when receiving information **OB6** - Asks relevant and effective questions **OB7** - Adheres to standard radiotelephony phraseology and procedures **OB8** - Correctly interprets required company and flight documentation **OB9** - Accurately interprets and responds to communication in English
5.Situational Awareness	*Perceives and comprehends all of the relevant information available and anticipates what could happen that may affect the operation*	**OB1** - Identifies and assesses risks and consequences arising from complex operational situations **OB2** - Assesses the available resources (infrastructure, IT-systems, personnel) and adjusts the operation in response to changes **OB3** - Identifies and assesses the status of the operation (technical status of aircraft, weather conditions, NOTAMs, industrial action etc.)

		Monitors current operations to anticipate and resolve emerging issues **OB4** - Develops contingency plans sufficiently in advance of an identifiable threat or risk **OB5** - Identifies and manages threats to the safety of operations
6.Workload Management	*Manages available resources efficiently to prioritize and perform tasks in a timely manner under all circumstances*	**OB1** - Plans, prioritizes and schedules tasks effectively **OB2** - Manages time efficiently when carrying out tasks **OB3** - Maintains self-control in all situations **OB4** - Offers and accepts assistance, delegates when necessary **OB5** - Anticipates and recognizes overload and asks for help early **OB6** - Reviews, monitors and cross-checks actions **OB7** - Verifies that essential tasks are completed with the expected outcome **OB8** - Manages and recovers from interruptions, distractions and failures **OB9** - Maintains mental and physical fitness required to perform the role safely
7.Problem-solving and decision-making	*Accurately identifies risks and resolves problems. Uses appropriate decision making techniques*	**OB1** - Distinguishes between irrelevant and relevant data required for the analysis of operational situations **OB2** - Abstracts and applies the correct information, relations, coefficients, etc. **OB3** - Makes appropriate decisions when confronted with conflicting, unexpected or incomplete information **OB4** - Adapts decision making to available time **OB5** - Evaluates options in view of safety, costs and operational stability **OB6** - Works through options and defines the limiting deadlines **OB7** - Uses appropriate decision-making processes and tools **OB8** - Evaluates own decision making to improve performance
8.Leadership and Teamwork	*Collaborates up, down and across the organization to foster and promote a clear vision and common goals. Energizes others to achieve the goals and positive results*	**OB1** - Manages professional relationships with appropriate role boundaries **OB2** - Gains the trust and confidence of others Inspires others to collaborate and strive towards excellence **OB3** - Addresses and resolves conflicts and disagreements in a constructive manner **OB4** - Admits mistakes and takes responsibility Identifies and provides relevant information and solutions to others **OB5** - Provides and seeks effective and constructive feedback