**1.0    PURPOSE**

The purpose of this Advisory Circular is to guide the Air Navigation Service Providers in the implementation and complying with the requirements of competency assessment for personnel offering services in Aeronautical Information Services (AIS) and Aeronautica Charts service provider. This includes the initial and periodic assessments for purposes of endorsement and issuance of Certificate of Competency for the performance of Flight plan Operations, Briefing operations, International NOTAM Office operations, Aeronautical Data and Publications, Aeronautical Charts operations, and Communication Centre Operations (AMHS/AFTN Network monitoring operations).

**2.0    REFERENCE**

2.1    Civil Aviation (Certification of Air Navigation Service Providers) Regulations 2017;

2.2    Civil Aviation (Aeronautical Information Services) Regulations 2025;

2.3    Civil Aviation (Aeronautical Charts) Regulations 2017;

2.4    ICAO Doc 10066 – PANS - AIM;

2.5    ICAO Doc 8126 - Aeronautical Information Services Manual;

2.6    ICAO Doc 9868 - ICAO Training Manual;

2.7    ICAO Doc 9683 - Human Factors Training Manual;

2.8    ICAO DOC 9991 - Manual on Aeronautical Information Services Training; and

2.9    ICAO Doc 9995 - Manual on Evidence Based Training

2.10   ICAO Doc 9941 – Competency Based Training Methodology

**3.0    DEFINITIONS OF TERMS**

*Competency.* A dimension of human performance that is used to reliably predict successful performance on the job. 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.* 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.

*Competency-based training and assessment.* 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.

*Competency standard*. A level of performance that is defined as acceptable when assessing whether or not competency has been achieved.

*Competency unit.* A discrete function consisting of a number of competency elements.

*Conditions.* Anything that may qualify a specific environment in which performance will be demonstrated.

*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.

*Observable behaviour (OB)*. A single role-related behaviour that can be observed and may or may not be measurable

## 4.0 GUIDANCE

## 4.1 WHY COMPETENCY TRAINING AND ASSESSMENT

Competency is a consistent dimension of human performance that is used to reliably predict successful performance on the job. Competency is manifested and observed through behaviours that mobilize the relevant knowledge, skills and attitudes (SKAs) to carry out activities or tasks under specified conditions. A person successfully achieves a competency if its associated standard is met. Competencies allow people to formulate solutions for difficult situations, including situations that are being experienced for the first time. The Aeronautical Information Management (AIM) Officers undertaking the functions of operations, flight planning, and Aeronautical Charts hereinafter referred to as AIM Officers need to be able to deal with these situations effectively and at the same time ensure that they are done and resolved in an effective, safe and secure manner.

### 4.1.1 KNOWLEDGE

Knowledge is specific information that is required for trainees 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. Knowledge is an outcome of the learning process. There are different types of knowledge:

a)  declarative (facts, raw data);

b)  procedural (categorized/contextualized, application of conditional if-then rules);

c)  strategic (synthesis, inference to guide resource allocation for decision-making, problem-solving, behavioural action) and

d)  adaptive (generalization, innovation, invention).

### 4.1.2 SKILL

Skill is the ability to perform an activity or action. There are three different types of skills: motor, cognitive and metacognitive skills. 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. A cognitive skill is any mental skill that is used in the process of acquiring knowledge. These skills include reasoning, perception and intuition.

A metacognitive skill relates to the ability of trainees to monitor and direct their own learning processes (sometimes described as "thinking about thinking"). For example, planning how to approach a given learning task, monitoring comprehension, and evaluating progress towards the completion of a task are metacognitive skills. Skills are developed over time and with practice. Oftentimes, new and complex tasks are initially seen as cognitively demanding; however, when they are practiced more frequently, these cognitive processes become automatized, and the skill requires less effort to perform.

### 4.1.3    ATTITUDE

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

### 4.2    BENEFITS OF IMPLEMENTING THE COMPETENCY ASSESSMENT FRAMEWORK

The key benefits to an entity which implements a competency-based training and assessment are:-

a)    Assurance that officers can demonstrate sufficient expertise

b)    A competency-based approach ensures that trainees achieve a level of performance that enables them to work independently and safely.

c)    Ongoing performance evaluation of operational personnel

d)    Early identification of performance gaps, and design of more effective training to close the performance gap. Using well-defined performance criteria to identify gap(s) can ensure that the training is more targeted and effective for the trainee.

e)    Training to meet individual needs

A one-size fits all training approach will not lead to success. Being able to identify and address specific learning gaps and specific trainee needs will ensure the development of the required competencies in each trainee.

### 4.3    THE PRINCIPLES OF ASSESSMENT IN A COMPETENCY-BASED ENVIRONMENT

In developing and implementing a competency-based assessment the ANSP shall take the following principles into consideration: -

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 components that comprise the adapted competency model must be assessed. There must be sufficient evidence to ensure that the trainee meets the competency specified by the interim and/or final competency standard. The trainee must not be asked to provide evidence for or be assessed against activities that are outside the scope of the adapted competency

model. The scope of the assessment shall be within the developed course syllabi and/or training programme.

e) 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 reliability. The stations should be able to identify and document the personnel to whom this function or responsibility is assigned to. The officers assigned the responsibility should have an equivalent qualification or higher on the area that is under assessment.

## 4.4 ASSESSMENT METHODS

The primary method for assessing performance is the conduct of practical assessments because the focus is on an integrated performance of competencies. It may also be necessary to supplement the practical assessments with other forms of evaluation such as examinations, oral assessments, projects or simulation. 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. There are two types of practical assessments namely formative assessments and summative assessments.

### 4.4.1 FORMATIVE ASSESSMENTS

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 very end of the training, they 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.

Formative assessments should serve to:

a) motivate trainees;

b) identify strengths and weaknesses; and

c) promote learning.

### 4.4.2 SUMMATIVE ASSESSMENTS

Summative assessments provide the method whereby a trainee demonstrates competence. This method enables the instructor or assessor to work with a trainee to collect evidence of competence.

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". 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.

Summative assessments that are conducted during the on job training programme 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 are not the same instructors who work routinely with the trainee.

Summative assessments conducted at the end of training and that lead to the issue of a certificate of competency and thus the personnel carrying out these assessments should have the necessary competencies to assess objectively and meet the authority's requirements. These personnel should be provided with the tools necessary to collect evidence in a systematic and reliable manner in order to ensure inter-rater reliability.

### 4.4.3 PRACTICAL ASSESSMENT

Practical assessments are used to assess skills, behaviours and attitudes. They work best where the task is "live" and as close to the real world as possible. A practical activity is set up where the candidate is required to complete a defined set of work tasks. The candidate is observed, the assessor noting performance and recording achievement using a qualitative and quantitative pro forma. Practical assessment has some limitations including:

a) difficulty to observe a representative cross-section of all the competencies and/or the unit's operation; and

b) it is not feasible to enter into discussions with trainees whilst they are undertaking the practical assessment.

### 4.4.4 ORAL ASSESSMENT

Oral assessment is a method that may be used to supplement a summative assessment.

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, seasonal issues) and to refocus on certain actions observed during the practical assessment that may have been cause for some concern.

Oral assessments may be conducted in front of a simulator or away from the practical environment (e.g. office environment). Oral assessments are usually scenario-based and are designed around the 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.

### 4.5 DEVELOPMENT OF THE STATION ON JOB TRAINING AND ASSESSMENT

4.5.1 The ANSP is required to develop a structured training programme or methodology and a unit training and assessment plan for each job function or every competency area whereby trainees will have to demonstrate the successful performance of the tasks, including:

a) knowledge of the unit's environment and relevant procedures;

b) practical skills related to the unit, systems and equipment; and

c) competencies identified as necessary for the particular competency area;

4.5.2 The Training officers will use the training plan to develop the training and assessment materials that is relevant to the competent area. There may be need to break or divide the training into milestones when the duration or the complexity of unit training is such that it makes pedagogic sense to check that a trainee is progressing towards competence at an acceptable pace.

4.5.3 On successful completion of unit training, trainees will have achieved the final competency standard. 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 AIM competency assessment policy.

4.5.4    AIS/Charts Provider shall develop and implement training and procedures manuals that describes the administrative procedures relating to:

a)    which personnel may conduct assessments and their qualifications;

b)    roles and responsibilities of personnel during the conduct of assessments;

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

d)    conditions under which the assessment is undertaken;

e)    record-keeping; and

f)    actions to be taken when a trainee fails to meet the requirements of the assessment.

## 4.6    ASSESSMENT GUIDELINES

4.6.1    The AIS and Aeronautical Charts officers shall always be informed as to how they will be assessed for qualification purposes. The information should include the conditions that will exist during the assessment, the performance that is expected from the officer and the standards of accomplishment that have to be met. The ANSP is required to develop and implement processes and procedures to deal with assessment failures. The officer undergoing the training and assessment should be informed timely of the result of their assessments, and instructors should offer feedback on how to correct a mistaken response or unsatisfactory practical performance.

4.6.2    The assessment plan should describe the process and tools that will be used to determine how an officer's performance compares to the performance criteria. This evidence shall be recorded and stored so as to demonstrate that the officer has attained the required competencies and also to provide feedback for process improvement. Tools such as periodic training reports or checklists on achievements of performance and competencies may be useful in documenting this process.

4.6.3    Once an officer has demonstrated the required performance at station level and completed the cycle of assessment (up to the regulatory level) it is necessary to maintain this level of performance and therefore maintain competency. Continuous training is a mechanism for ensuring competencies are maintained, and therefore a consistent training plan is required. The plan will be influenced by many factors, e.g. activity exposure, technical developments, new procedures or changes in the standards/regulations or procedures targeting the competency areas.

4.6.4    The service provider is required to establish and implement a continuous feedback system gathering data from trainees, instructors and assessors. The feedback system may use different methods (e.g. written feedback, moderated feedback) and technologies (e.g. handwritten, electronic). Any feedback should be documented and traceable.

4.6.5    Training objectives should indicate the conditions under which officer's performance will be performed and assessed and the standard of accomplishment that must be attained. For basic and qualification training, only the standard of accomplishment of training objectives should be achieved. In unit training, trainees should not only meet the standard of accomplishment, but also the competency standards associated with their job description.

The Service provider is required to use a variety of assessment methods. Each assessment method should be selected according to the training objective, the competence to be achieved, and its impact on safety and/or quality. Possible assessment methods could be:

a)    unique and/or multiple choice questionnaire;

b)      written and/or oral examination;

c)      practical examination (demonstration);

d)      test on position; and

e)      test in simulation.

## 4.7      DEVELOPMENT OF AN EXAMINATION REPOSITORY

The ANSP shall build an examination question repository or at least a comprehensive written list of all questions and performance exercises. Due to the rapid evolution of technology and systems, these questions and performance exercises must be kept up to date to ensure the currency of the ANSP officers' knowledge and skills.

It is expected that irrespective of the station where an officer is deployed, the assessment subjected to the officers shall be of the same standard and quality.

## 4.8      AIM ENDORSEMENTS

Holders of AIM endorsements shall be authorized to provide Aeronautical Information/Charts services in accordance with the endorsements and exercise privileges as contained therein.

## 4.6.6      FLIGHT PLAN OPERATIONS

For issue of this endorsement, the holder shall:

i)      have completed AIS 21 Course

ii)      Have successfully completed On-Job Training as per the program acceptable to the Authority; and

iii)      Passed the physical/online assessment.

## 4.6.7      BRIEFING OPERATIONS

For issue of this endorsement, the holder shall have:

i)      flight plan operations endorsement

ii)      successfully completed On-Job Training as per the program acceptable to the Authority; and

iii)      Passed the physical/online assessment.

## 4.6.8      INTERNATIONAL NOTAM OFFICE OPERATIONS / AERONAUTICAL DATA AND PUBLICATIONS OPERATIONS

For issue of this endorsement, the holder shall have:

i)      Briefing operations endorsement

ii)      successfully completed On-Job Training as per the program acceptable to the Authority; and

iii)      Passed the physical/online assessment.

**4.6.9 AERONAUTICAL CHARTS OPERATIONS**

For issue of this endorsement, the holder shall have:

i)   Briefing operations/International NOTAM Office operations / Aeronautical Data and publications operations endorsement

ii)  successfully completed On-Job Training as per the program acceptable to the Authority; and

iii) Passed the physical/online assessment.

**4.6.10 COMMUNICATION CENTRE OPERATIONS (AMHS/AFTN OPERATIONS AND NETWORK MONITORING)**

For issue of this endorsement, the holder shall have:

i)   Briefing operations endorsement

ii)  successfully completed On-Job Training as per the program acceptable to the Authority; and

iii) Passed the physical/online assessment.

**5.0   SKILL TRAINING FOR ISSUANCE OF AIM ENDORSEMENTS**

Skill training for on-job training (OJT) shall be conducted after successful completion of ab-initial or continuing training at an approved training organization

Skill training shall involve provision of Aeronautical Information/Charts Services with guidance or supervision by a holder of an endorsement equivalent to the one to be issued upon successful completion of the training. This shall be augmented further through additional training and practical exposures/undertakings.

**6.0   APPOINTMENT OF ASSESSORS**

Assessors shall be appointed for a period of two years through a process whereby qualified officers with requisite skills and competencies will be considered and appointed as assessors.

During assessments for various competencies, the Authority shall draw panelists for the specific task from the pool of appointed assessors. The Authority in conjunction with the AIS/Aeronautical Charts provider shall agree upon on the officers to be picked as assessors.

**6.1   LOCAL ASSESSORS (ON-JOB TRAINING (OJT) INSTRUCTORS)**

6.1.1   A person shall not supervise practical training for purpose of meeting the skill requirement unless he/she holds an endorsement for which he/she provides the instructions.

6.1.2   The person supervising an on-job training for skill requirement shall be required to possess an On Job Training Instructor (OJTI) endorsement.

**6.2   ASSESSOR/EXAMINER**

6.2.1   A person shall only carry out assessments when she/he holds an assessor appointment from the regulator.

6.2.2    Holders of an appointment from the Authority shall only exercise privileges of the endorsement if they have:

a)    at least three years' experience in the endorsement(s) they will assess

b)    demonstrated knowledge of current operational practices.

c)    when assessing for the purpose of issue and renewal of an endorsement, and for ensuring supervision on the operational working position, the assessor shall also hold an OJTI qualification.

## 7.0    REGULATORY ASSESSMENT

7.1    An ad-hoc validation panel, constituted by the Authority and consisting of relevant subject matter experts shall conduct the Oral/Practical Assessment and recommend or not recommend the issuance and or renewal of the certificate of competency with specific endorsement types.

7.2    Oral/Practical Assessment shall be conducted by the regulator as a final assessment prior to issuance and or renewal of the certificate of competency with a specific endorsement type.

7.3    The Oral/Practical Assessment shall involve oral and/ or practical demonstration of skills and competencies associated with specific endorsement type.

7.4    The Authority shall allow the participation of the ANSP Quality assurance officer and the head of Section as observers to the practical or oral assessment.

7.5    The Authority may record the proceedings of both the practical and/or the oral assessment undertaken by each candidate. The recorded data/information shall be securely stored and not accessible to any other person except though written request to the Director Safety Regulation.

## 8.0    RELEASE OF RESULTS AND ISSUANCE OF CERTIFICATE OF COMPETENCY

In communicating the results, the regulator shall inform the concerned trainee/officer the specific details on areas requiring improvements. In addition, where the trainee fails, an explanation on the areas of failure shall be made to the trainee and a written report submitted to the Head of AIM Section.

The regulator shall issue the applicable certification/endorsement to successful candidates.

## 9.0    VALIDITY OF THE CERTIFICATE OF COMPETENCY

Certificate of Competency shall be issued with a validity of three (3) years and thereafter triennially renewed through endorsement for each applicable operation.

## 10.0    RENEWAL OF THE CERTIFICATE OF COMPETENCY

10.1    As part of the renewal process the officer must provide proof of having undergone 30 hours of recurrent training on the competency area whose renewal is being sought. The training may be undertaken virtually, physically at a recognized institution /school or at the station and appropriate record prepared and kept.

10.2    An oral / practical assessment may be conducted for officers whose certificate of competency is about to expire.

10.3    Head of AIM Section shall notify the Regulator latest ten (10) Weeks prior to the expiry date for the purpose of renewal of the competency certificate.

## 11.0    PROCEDURE FOR WITHDRAWAL OF AN ENDORSEMENT

11.1    When need arises to suspend, withdraw or revoke an endorsement, the AIM provider shall inform the regulator in writing giving reasons for the action taken.

11.2    The regulator shall acknowledge in writing and take the necessary action and inform the AIM provider of the action taken

11.3    Where an endorsement has been suspended or withdrawn, the holder of such endorsement may re-apply for the endorsement upon meeting the criteria as determined by the regulator

11.4    When the AIM provider is satisfied that the holder of a suspended, revoked or withdrawn endorsement has met the set criteria, the AIM provider shall inform the regulator in writing

11.5    The Authority will take the appropriate steps for re-issuance of the endorsement.


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**Tanzania Civil Aviation Authority**