

	<p style="text-align: center;">TANZANIA CIVIL AVIATION AUTHORITY DIRECTORATE OF SAFETY REGULATIONS AIR NAVIGATION INSPECTORATE</p>	<p>Revision: 3</p> <p style="text-align: center;">Advisory Circular</p>
<p>Document No.: TCAA/QSP/SR/AC/ANI - 33</p>	<p>Title: GUIDANCE ON CERTIFICATION OF AIR TRAFFIC SAFETY ELECTRONICS PERSONNEL</p>	<p>Page 1 of 9</p>

1. Purpose

The purpose of this Advisory Circular is to provide guidance to the CNS Service Provider on the framework, process and implementation of standardized training, rating and licensing of Air Traffic Safety Electronics Personnel (ATSEP).

The certification of Air Traffic Safety Electronics Personnel (ATSEP) ensures that air traffic control systems remain operational, safe, and compliant with international aviation regulations. The certification process includes specialized training, exams, and ongoing professional development, with a strong emphasis on maintaining high standards of safety and technical competence. ATSEPs are crucial in supporting the overall safety of air navigation and air traffic management systems.

1. Roles and Responsibilities of ATSEP

ATSEPs are responsible for the operation, maintenance, and troubleshooting of a variety of air traffic control systems, including:

- a) **Communication systems** (e.g., radio communication systems, satellite communication).
- b) **Navigation systems** (e.g., Instrument Landing Systems (ILS), VOR, DME, and GNSS).
- c) **Surveillance systems** (e.g., ADS-B, PSR, SSR,).
- d) **Backup systems** to ensure continuous operation in case of primary system failure.
 - a. Their work ensures that air traffic control (ATC) operations run smoothly and that any issues with CNS equipment are identified and resolved promptly. They are also involved in the installation and configuration of new equipment and systems.

2. References

- a) Civil Aviation (Radio Navigation) Regulations.
- b) Civil Aviation (Communication Procedures) Regulations.
- c) Civil Aviation (Communication Systems) Regulations.
- d) Civil Aviation (Surveillance and Collision Avoidance systems) Regulations.
- e) ICAO Doc 10057- (Manual on Air Traffic Safety Electronics Personnel

Competency-based Training and Assessment).

3. ABBREVIATIONS

ANS	- Air Navigation Services
ANSP	- Air Navigation Service Provider
ATM	- Air Traffic Management
ATSEP	- Air Traffic Safety Electronics Personnel
ATO	- Aviation Training Organization
CAA	- Civil Aviation Authority
CNS	- Communication Navigation Surveillance
ICAO	- International Civil Aviation Organization
MANSOPS	- Manual of Air Navigation Services
OJT	- On Job Training
PEL	- Personnel Licensing
TRM	- Team Resource Management

4. Definition of Air Traffic Safety Electronics Personnel

ATSEP are personnel proven competent in the installation, operation and/or maintenance of a communications, navigation, surveillance/air traffic management (CNS/ATM) system.

5. GUIDANCE AND PROCEDURES

5.1 General Information

The prescribed application forms, for the issue, renewal or re-issue of an Air Traffic Safety Electronics Personnel (ATSEP) may be obtained from the Authority.

5.2 General requirements concerning ratings and certification for ATSEP personnel

An applicant shall, before being issued with licensing or rating for ATSEP personnel, meet such requirements in respect of age, sufficient knowledge of the CNS/ATM service they are supporting and the working limits to be applied, experience and, where appropriate, medical fitness and skills, as are specified for that certificate or rating:

5.2.1 **Age**

The applicant shall be not less than 25 years of age.

5.2.2 **Knowledge**

The applicant shall have demonstrated a level of knowledge appropriate to the holder of an ATSEP license, in at least the following subjects:

- a) Air law: rules and regulations relevant to the CNS/ATM system;
- b) principles of operation and functioning of CNS/ATM systems;
- c) use and limitations of equipment used in CNS/ATM system;
- d) performances relevant to CNS/ATM operation;
- e) procedures for the management and maintenance of CNS/ATM systems (routine, non routine and emergency); use of the relevant aeronautical documentation;
- f) Safety practices associated with CNS/ATM systems.

Note. ICAO Doc 10057 (Manual on Air Traffic Safety Electronics Personnel Competency-based Training and Assessment) contains guidance material on the necessary training requirement for ATSEP license/certification/rating.

5.2.3 **Experience**

The applicant shall have:

- a) satisfactorily completed an approved training course;
- b) successfully performed the relevant tasks for the domain under the supervision of an appropriately rated ATSEP.

5.2.4 **Skill / Competence**

The applicant shall have satisfactorily completed an approved competency check.

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5.2.5 Human Factors

Lapses in human performance are cited as causal factors in the majority of aviation accidents and therefore ATSEP must be trained and tested in human factors and how they impact on CNS/ATM operational technical and engineering tasks.

CNS Service provider should include human factors in Initial Training. The human factors training shall be based on the ICAO Doc 10057 (Manual on Air Traffic Safety Electronics Personnel Competency-based Training and Assessment). This document contains a human factors module with the following topics:

- a) introduction to human factors,
- b) working knowledge and skills,
- c) psychological factors,
- d) medical,
- e) organizations and social factors,
- f) communication,
- g) stress,
- h) human error,
- i) Working methods.

Once qualified on CNS/ATM operational equipment the CNS Service provider shall continue to check throughout an ATSEP's operational career that he understands the importance of human factors and how they affect his operational tasks, particularly working as team members in the operational environment. To facilitate this, CNS Service provider is expected to include Team Resource Management (TRM) training in their continuation training programme.

Note: Guidance material to design training programmes on human performance can be found in the Human Factors Training Manual (Doc 9683). Communication, Navigation, Surveillance and Air Traffic Management (CNS/ATM) system

6. Certification process

Certification process will ensure the cascading of responsibility for the installation, operation and maintenance of facilities to an individual officer with a rating. The officer will be expected to be fully familiar with the facilities and to work in accordance with this policy. This process will provide the Maintenance and Installation personnel with the confidence and environment that will facilitate effective and efficient work operations.

The Certification process further reinforces the requirements of the Civil Aviation Regulations. The Authority will be responsible for the update of the Civil Aviation Regulations.

The Director Air Navigation Services will oversee the implementation of the standards and incorporate the applicable procedures into the Manual of ANS Operations. The Director ANS shall ensure that the MANSOPS remains relevant and updated.

7. Training of ATSEP

The Training requirement for the different ratings and certification shall be as per the training curriculum prepared in line with ICAO Doc 10057 (Manual on Air Traffic Safety Electronics Personnel Competency-based Training and Assessment). The training shall be carried out in the following phases;

- a) Phase 1: Initial training
- b) Phase 2: Unit training
- c) Phase 3: Continuation training
- d) Phase 4: Developmental training

8. CNS Service provider's obligation to provide currency training and assessment

The CNS Service provider shall set up and maintain programmes for:

- a) continuing assessment of its employees' competency for the purposes of ensuring that they continue to satisfy the currency requirements in relation to ratings and endorsements; and
- b) familiarization, retraining and assessment of any of its employees who at any time do not satisfy the currency requirement in relation to an endorsement.

The CNS Service provider shall include details of the program, including necessary training and tests of competency, in the operations manual (MANSOPS)

9. Rating of ATSEP

There shall be four categories of licenses as follows:-

- a) Auxiliary (A)
- b) Communication (C)

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- c) Navigation (N)
- d) Surveillance (S)

Each licence shall have specific ratings as prescribed by the Authority.

Rating will be an indication of the level of proficiency and a confirmation of the ATSEPs ability to perform installation, service and maintenance of a particular system.

9.1 Rating Process

ATSEP rating shall be a three stage process:

- a) induction through OJT by equipment rated officer,
- b) validation by CNS Provider validation board; and
- c) rating by the CAA rating and certification board.

The Validation Board will be based at the ATSEP work station and shall consist of the Engineer in Charge, OJT Officer and an Officer rated on the equipment. The Validation board shall report to the ATSEP Rating and Certification Board based at the CAA head office for provision of rating.

10. Requirements for ATSEP Ratings

- a) The applicant shall have demonstrated a level of knowledge appropriate to the privileges to be granted and training received from an approved Aviation Training Organization (ATO) or any other training organization recognized by CAA, followed by on job training. The different ratings and the appropriate training shall be as prescribed by the Authority.
- b) The approved ATO includes organizations which conduct site and/or factory training (theoretical, Practical, OJT) for new equipment supplied to CNS Service provider.
- c) There shall be a transitional period as prescribed by the Authority to personnel who will be in practice at the onset of this guidance.

11. Certification of ATSEP

- a) An ATSEP shall be certified in a particular class after attaining at least three ratings in that class.
- b) The ATSEP Rating and Certification Board will consist of three certified officers (holding three ratings in a specific class). At least one of the board members should belong to the same class

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as the officer being rated. The members of this board shall be appointed by the Director General of the Authority.

The ATSEP Rating and Certification Board shall recommend for issuance of Ratings and Certificates to successful candidates.

12. On Job Training

OJT shall be carried out in accordance to the ATSEP training programme.

13. New ATSEP Entrants

An applicant for rating shall complete ATSEP training program and attain at least 18 months relevant experience with an organization engaged in the CNS/ATM maintenance of the operational equipment for which the applicant is to be rated.

14. Privileges of Rated and Certified ATSEP

A certified or rated ATSEP may perform or supervise the installation, maintenance, modification, inspection or approve for return to service, of any CNS/ATM equipment, component or part thereof, for which the holder of the ATSEP rating is rated and carry out system certification provided the holder has;

- a) Satisfactorily achieved the specified minimum performance level requirements;
- b) Demonstrated the ability to perform the work to the satisfaction of the Authority;
- c) Received training acceptable to the Authority on the tasks to be performed; or
- d) Performed the work while working under the direct supervision of a holder of ATSEP rating who is appropriately certified and has-
 - i. Previous experience in the specific operation concerned; or
 - ii. Received training acceptable to the Authority on the task to be performed.

15. Authority of Rated and Certified ATSEP

- a) A certified or rated ATSEP will conduct OJT in accordance with the ATSEP training programme.
- b) A certified ATSEP will participate as a member of a validation board.

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- c) A certified ATSEP will participate as a member of validation /certification board to examine prospective ATSEP for the ratings in which he is appropriately certified.
- d) A certified ATSEP will perform system installation, maintenance, testing, operation and evaluation for commissioning and decommissioning.

16.Examination Data Base

The Authority shall establish an examination database and performance exercises for each rating. Due to the dynamic evolution of technology and systems, these questions and performance exercises must be kept up-to-date to ensure the currency of ATSEPs' knowledge and skills

17.Validity of ATSEP Rating

An air traffic safety electronics personnel rating becomes invalid when the holder has ceased to exercise the privileges of the rating for a period of thirty-six months and shall remain invalid until the holders' ability to exercise the privileges of the rating has been re-established.

18.Discrepancies of Applicants for ATSEP Rating and Certification

If a discrepancy that cannot be immediately corrected exists in any of the documents, the application and all the submitted documents will be returned to the applicant and should not be re-submitted until the discrepancy has been rectified.

19. Suspension and Cancellation of Ratings and Certificates.

Ratings and Licenses may be suspended or cancelled if;

- a) Proved that they were acquired erroneously, fraudulently or issued inappropriately.
- b) The Authority proves deterioration in proficiency.
- c) Facility is decommissioned or equipment is withdrawn from service.
- d) Rated or certified ATSEP is out of practice for reasons related to section 17 above.

20.Issue, Renewal, Re-Issue of the License or Additional Rating

When an applicant has satisfactorily met the requirements for the issue of the license and/or rating and the prescribed Application Form has been completed and presented in the Authority, the applicant will be advised to pay the prescribed fees, after which the license or rating is issued or renewed.



Tanzania Civil Aviation Authority