



# **NAMIBIAN CIVIL AVIATION AUTHORITY**

Advisory Pamphlet (AP)

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**GUIDANCE ON TRAINING AND COMPETENCY OF ATS PERSONNEL**

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## **GUIDANCE ON TRAINING AND COMPETENCY OF ATS PERSONNEL**

### **1. PURPOSE**

This Advisory Pamphlet (AP) provides guidance to ATS providers on establishment of ATS personnel training and competency. It provides information on the ATS personnel training and competency to meet the requirements of the NAMCARs, Part 172 and the associated technical standards.

### **2. BACKGROUND**

- (a) The NAM-CARs Parts 172 requires an ATS provider to ensure that ATS personnel are trained and competent to perform the air traffic services listed in its manual of procedure.
- (b) NAM-CATs Part 172 further requires an ATS provider to develop, implement and maintain training and competency programmes for its ATS personnel.
- (c) Below are the extracts from the Civil Aviation Regulations Part 172 – Air traffic services provider, to which this Advisory Pamphlet apply.

### **3. EXTRACTS FROM NAM-CARS, PART 172 – AIR TRAFFIC SERVICES**

#### **172.03.4 Training and competency of ATS personnel**

- (1) An ATS provider may not give to a person responsibility for an air traffic control function to be performed in connection with any air traffic service that it provides unless the person

- (a) holds an ATS licence with a rating issued in terms of Part 65 for the function and an endorsement for the controlled aerodrome for which, or the airspace in relation to which, the person performs the function; or
- (b) performs the function under the supervision of another person who holds an ATS licence with a rating issued in terms of Part 65 for the function and an endorsement for the controlled aerodrome for which, or the airspace in relation to which, the person performs the function.
- (2) An ATS provider may not give to a person the responsibility for providing an air traffic control function in connection with any air traffic service that it provides, if the person is subject to a direction in terms of Part 65.
- (3) An ATS provider may not give to a person responsibility for an air traffic control function, unless that person undergoes regular competency training in accordance with Parts 65 and 170, and any requirements set out in Document NAM-CATS-ATS.
- (4) An ATS provider must have in place a training policy and programme with basic, specialisation, and continuation trainings to ensure that all air traffic service activities can be performed.
- (5) An ATS provider must maintain individual training records for each of its staff in accordance with the provisions of Part 170.

#### **4. EXTRACTS FROM NAM-CATS-ATS**

##### **172.02.3 Training and competency of ATS personnel**

- 1.1 An ATS provider must develop, implement and maintain training and competency programmes for ATS personnel to ensure that persons performing an air traffic service holds the necessary qualifications, knowledge, experience and competencies to perform the services for which the service provider has been approved.

## **GUIDANCE ON TRAINING AND COMPETENCY OF ATS PERSONNEL**

### **1. Introduction**

- 1.1 The training of ATS personnel must include formal training, on-the-job training, proficiency training, specialised training and management training. This Pamphlet provides detailed guidance for training and checking of ATS personnel. Procedures for Unit training programme are also included.

### **2. Formal training**

- 2.1 The curriculum for initial training of air traffic control (ATC) personnel must consist of the following:
- (a) Basic ATC training for a period of 16 weeks at a formal ATC training school
  - (b) Familiarization and initial on-the-job training at an ATC unit for a period of at least 24 weeks following basic training;
  - (c) Aerodrome and approach control training for a period of 16 weeks at a specialised training school;
  - (d) Area control training for a period of 16 weeks at a specialised training school;
  - (e) Further on-the-job training at an assigned ATS unit for a maximum of 24 weeks.
- 2.2 Synthetic training devices, mock ups and, where necessary, radar simulators for aerodrome control, approach control (APP) and area control centre (ACC), are useful training aids which may be used to provide a more realistic training and to reduce on-the-job training time.
- 2.3 Flying training may be included in the ATC training curriculum, for the purpose of knowledge of the rules of the air, ATC navigational aids, meteorology, altimetry, communication and aircraft performance. Where provided, actual flying period may be limited to that required for a private pilot licence.

- 2.4 Where no flying training is provided, adequate instruction in the subjects mentioned in 2.3 must be included in the training curriculum.

### **3. On-the-job training**

- 3.1 On-the-job training is aimed at permitting the new employee to integrate his basic knowledge with actual practice. On-the-job training must concentrate on specific local conditions and offer opportunities to perform the functions of each operating or duty position under actual conditions and with adequate supervision.
- 3.2 Training of individuals must be a continuing process. Wherever possible, supervisors of shifts must arrange the duties of their personnel in such a manner as to enable a maximum amount of on-the-job training to be accomplished. It is desirable that as soon as an individual has obtained a rating for one position, training for the next higher grade begins. By this means, a supply of adequately rated staff to fill vacancies at all controller positions can best be assured.
- 3.3 On-the-job training shall be arranged by attaching the individual concerned, whether a basic trainee or otherwise, to the operating position for which he will later be rated. The individual shall be trained by the assigned training officer appointed for this purpose. The training must continue until the trainee has reached the standard necessary for the issue of the licence and appropriate rating. The training officer must certify the competence of the trainee before the issuance of the licence and rating. The objective of on-the-job training is to enable the trainee to provide air traffic services at that position without supervision.
- 3.4 Personnel who are transferred to units (other than to ACCs handling important traffic demands) are normally considered to have acquired the necessary ability to perform their duties after a minimum time of

familiarization. Their need for on-the-job-training may therefore be significantly less than that required by staff assigned to a major ATC unit.

3.5 An ATS provider shall as part of the on-job-training ensure that a new employee is:

- (a) introduced to other staff and indicate lines of authority;
- (b) given information on amenities, transport (if necessary) and the layout of the new environment, including related offices;
- (c) given information on hours of work, shift changes, and methods of making shift assignments;
- (d) assigned to a training officer and informed of the training programme arranged for them.

3.6 The On-job-training syllabus for ATS personnel shall comprise the aspects listed below. However, the extent to which the syllabus is applied must depend, on previous experience and on the formal training already received by the trainee concerned:

- (a) brief description of the organization of the department;
- (b) detailed description of the ATS organization;
- (c) a description of the services provided by the unit as a whole; where possible this should include familiarization visits to local associated units, e.g. MET;
- (d) explanation and demonstration of the equipment to be used;
- (e) explanation of the publications with which the employees undergoing training must be conversant for the performance of his duties;
- (f) explanation of the co-ordination necessary between the operating positions in the unit, providing different services;
- (g) description of the available radio navigation aids and, where applicable, a demonstration of the facilities for monitoring these aids;
- (h) description of airspace, air route network, aerodrome and organization of the flight information region (FIR);
- (i) characteristics of the aircraft types normally operating in the area of responsibility of the ATS unit concerned;

- (j) local and regional SAR procedures and emergency procedures;
  - (k) familiarization tour of the ATS unit and its surroundings to the extent that this is required for the efficient performance of the assigned duties.
- 3.7 On-the-job-training experience must be sufficiently varied to enable the trainee to handle all types of traffic situations likely to be encountered at the unit before the trainee can be cleared for controller duties. An ATS unit manager must exercise care when selecting training officers for the unit to ensure that training is logically conducted with the necessary patience.

#### **4 Proficiency training**

- 1.1 An ATS unit manager must establish and maintain unit proficiency standards for ATS personnel. The appropriate ATS authority must formulate and publish guidelines specifying the required level of knowledge both theoretical and practical required for ATS personnel.
- 1.2 The required level of knowledge must cover individual performance in the following as appropriate to the individual:
- (a) Aerodrome/approach/area procedures;
  - (b) Flight information procedures
  - (c) Radar procedures;
  - (d) Radar approaches;
  - (e) Radar equipment;
  - (f) Radio and telephone;
  - (g) Data display;
  - (h) Loss of communication and alerting service procedures
- 1.3 Proficiency checks are part of the process of assessing efficiency of personnel and must be conducted progressively throughout the year.
- 1.4 An ATS provider must ensure that each air traffic controller receives an annual competence assessment (meeting the rating validation assessment

requirement of Part 65) as part of the renewal of unit license endorsements. Records of rating validation assessments must be submitted to the Executive Director for review and record keeping.

- 1.5 The assessment system must not be directed at fault finding, but should be an objective and constructive means through which individual controllers are encouraged and led towards higher personal achievement.
- 1.6 For each controller, a proficiency assessment record must be maintained and each record should include the objective and impartial judgement of an individual's ability based on regular checks and continuous observation.
- 1.7 The acceptance of proficiency checks as a process of personnel assessment and development is determined to a large degree by the objectivity, honesty and integrity with which the checks are administered and the degree of participation and protection afforded the individual controller.
- 1.8 Controllers undergoing the assessment must be made aware, through formal and informal counselling, of the results of the proficiency assessments and remarks made by the assessing officer. Strengths as well as weaknesses must be discussed with the controller.
- 1.9 An ATS provider must publish in its Manual of procedures, the areas and/or topics to be covered when assessing individual performance of a controller in aerodrome, approach and area control services, flight information and radar procedures.

## **5. Management training**

- 4.3 Management and other advanced training for ATS personnel are part of a continuing training system designed to prepare suitable personnel for higher level appointment. An individual controller who is not exposed to management, organizational or administrative duties, will be unable to

assume higher level responsibilities without adequate specialized management training.

- 4.4 ATS personnel must be able to undertake management training including:
- (a) Periodic ATS refresher course for practising controllers who work on the operational units;
  - (b) Operational management course for controllers who have advanced knowledge in air traffic services as defined by the appropriate ATS authority;
  - (c) Supervisory course for controllers who are potential candidates for supervisory positions
  - (d) Specialised management course for controllers intended to assume special functions in ATS (e.g. Technical evaluation, risk management, etc.)
  - (e) Management course for unit chiefs and deputy chiefs, instructors, and supervisors.

## **5 Familiarization flights**

- 6.1 The objective of familiarization flights is to provide an opportunity for controllers, supervisors and ATS management personnel to observe, at first hand, the working environment of pilots of large commercial aircraft and the methods and procedures used in the departure, en-route and arrival phase, including navigation techniques used.
- 6.2 Familiarization flights also provide the opportunity to listen to air-ground communications and to assess how they affect a pilot's workload as well as the opportunity to monitor how well ATS units are performing.
- 6.3 Subject to economic and staffing considerations and agreement by operators concerned, ATS authorities may make arrangements for controllers to undertake familiarization flights aboard both scheduled and non-scheduled commercial aircraft. As these flights require entry into the cockpit of the aircraft, permission to do so must be obtained from the operator concerned prior to the flight.

6.4 Where familiarization flights are considered an operational requirement, they should be carried out in duty hours and taken as part of on-the-job training. Their frequency should be dictated by operational considerations. For administrative purposes flights should include operations both during day and night; however, such flights should be completed normally within one day. A written report should be submitted on the completion of a familiarization flight.

6.5 A familiarization flight programme for ATC operating personnel may be as follows:

(a) aerodrome controller or approach controller - Familiarization with the geographical features, significant points of his area of responsibility and standard instrument approaches to the aerodrome located in the area of responsibility. Liaison visits to neighbouring aerodromes;

(b) area controller - Flight on a controlled ATS route in the area for which his ACC is providing service; familiarization with geographical features and significant points. Liaison visits to important aerodromes located in this area of responsibilities.

6.6 A familiarization flight programme for supervisory personnel may be as follows:

(a) managers of air traffic control - Flight along ATS routes or areas where special requirements exist or may exist;

(b) headquarters' chiefs and supervisors; ATC instructors at a training school - Flight along ATS routes or in areas where special requirements exist.

(c) regional senior supervisors, training and evaluation specialists - Flight along at least one main domestic ATS route of operational concern to the FIR should be made every 12 months. In addition a flight should be made on any ATS route on which a major change occurs in the route structure, including a flight on the flight deck of any new type of aircraft introduced on that route.

## **7. Unit Training Programs**

7.1 An ATS provider must have a Unit training programme (UTP) for each ATS unit at which they provide ATS services, which details the processes by which air traffic controllers are trained and their competence maintained. The UTP forms part of the ATS provider's Manual of Procedure.

### **7.2 Development of the Unit training programme**

7.2.1 In developing a unit training programme, the following, among other aspects, may be considered:

- (a) provide the trainee with a written unit training guide;
- (b) explain to trainees the objectives of the training;
- (c) before commencing training, list each step of the work in logical sequence, emphasizing any points which tend to make the work safer or easier;
- (d) programme the training in such a way that theoretical aspects of the work (phraseology, separation standards, etc.) can be fitted in during quiet traffic periods;
- (e) programme in easy steps, bearing in mind that what is familiar to the instructor is strange to a trainee;
- (f) make clear to trainees a willingness to answer questions, or discuss suggestions;
- (g) prepare the working position the way it is expected to be maintained;
- (h) introduce the trainees to an operating position and put them at ease. Stress the importance of the work and try to find out what is already known;
- (i) demonstrate and explain one part of the task at a time, being careful, at this stage, not to overload trainees with too much information;
- (j) permit trainees to take over the duty position under close supervision. Frequently check knowledge of significant aspects- of the job by questioning;

- (k) as trainees progress, supervise at a distance, always being ready to advise and assist without destroying initiative by hovering over them;
- (l) do not leave trainees in doubt as to how they are performing. Compliment them if they are improving; but if their progress is slow do not criticize in any way that will damage confidence. However, if a trainee is over-confident, it is sometimes salutary to increase workload, or to emphasize that over-confidence invites operational danger;
- (m) when satisfied that trainees are sufficiently advanced, supervise as unobtrusively as possible so that they may learn to work independently;
- (n) finally, advise the responsible supervisor when specific trainees are ready for rating examination.

7.2.2 The unit training programmes must consider the following elements:

- (a) **Emergency Training** to specifically prepare a candidate for unforeseen circumstances. This must be included in all training courses;
- (b) **Unit Recurrent (or Refresher) Training** involving periodic training and assessment of individuals performing functions in air traffic services in those competencies (knowledge and skills) which are essential, but infrequently or rarely used (e.g. abnormal and emergency operations, degraded equipment modes, contingency plan implementation). The content of, and period between, refresher training must be sufficient to ensure competency and must cover the subject of human performance including principles of threat and error management;
- (c) **Ongoing Training**, as necessary, to ensure that staff are competent in the use of new or emerging standards, procedures, techniques, facilities and equipment identified as essential to task performance;
- (d) **Remedial Training** involving a process which identifies deficiencies in knowledge or application, and must have a process to ensure these deficiencies are rectified; and
- (e) **Checking**, to ensure that the individual subject to the check meets the competency standards specified in Part 65, and the ATS provider's own standards where these are additional to Part 65.

- 7.2.3 The unit training programmes must be divided into three phases:
- (a) **Pre on-the-job training (POJT).** POJT must adequately prepare student and/or trainee air traffic controllers for OJT by extensive use of simulation based on site specific facilities;
  - (b) **On-the-Job training (OJT).** OJT must prepare a student or trainee air traffic controller to a level of operational proficiency such that he/she is able to provide an air traffic control service in an unsupervised capacity; and
  - (c) **Unit Recurrent (or Refresher) training.** Unit recurrent training must ensure that all operational personnel receive annual recurrent unit training, including issues affecting all units and supplemented with critical and local issues if required.
- 7.2.4 An ATS provider must maintain training records as required in this CATS.
- 7.2.5 An ATS provider must ensure that the unit training programme is fully documented, indicating:
- (a) the objectives of the training;
  - (b) the training processes by which the objectives will be met;
  - (c) the assessment criteria/standard and process by which progress will be judged;
  - (d) the minimum and maximum training time required/allotted to achieve the objectives of the training program;
  - (e) the criteria/standard and process by which successful completion of OJT is to be judged; and
  - (f) in the case of an ATS unit at which controllers may be awarded a Surveillance Radar Approach Endorsement to the Approach Control Surveillance Rating, the minimum number of Surveillance Radar Approaches which a student or trainee controller must complete prior to an assessment of competence being undertaken.
- 7.2.6 An ATS provider must ensure that student and/or trainee air traffic controllers are kept aware of their progress, including any areas where improvement is

required and the goals they must achieve to successfully complete the training.

- 7.2.7 An ATS provider must ensure that a report of the student and/or trainee ATC's performance is completed after each training session. The reports must be sufficiently detailed to enable other OJTs to determine the strengths and weaknesses of the trainee, together with his/her level of competence.

## **8. Roles and Responsibilities for developing, implementing and monitoring training**

**Compliance Note:** *Where the staffing levels at any particular ATS unit are such that it would not be possible or feasible to maintain and manage a unit training programmes, the responsibility for developing, implementing and monitoring the unit training programmes may be assigned on a regional basis i.e., with one manager responsible for unit training programmes management at a number of locations. This must be clearly identified in the ATS provider's manual of procedure.*

- 8.1 An ATS provider must ensure that the over-all responsibility for managing a specific unit training programmes is assigned to the ATS unit Manager who will be responsible for the development, implementation, and monitoring of the unit training programmes.
- 8.2 An ATS provider must ensure that the ATS unit Manager, or his assigned delegate, is responsible for the establishment and maintenance of a quality assurance program for the UTP that adheres to the standards and procedures established by the general manager of the ATS provider.
- 8.3 An ATS provider must ensure that the ATS unit Manager is responsible for assigning a training officer(s), and that detailed terms of reference for the training officer are described in the ATS provider's ATS procedures manual.
- 8.4 An ATS provider must ensure that each ATS unit training officer maintains, in a manner acceptable to the Executive Director, a training record for each

person undergoing training at the ATS unit for the purpose of obtaining a rating or unit endorsement at that unit. The training record must include the certificate number of the air traffic control instructor providing the training and certify that any information entered in the record is correct by signing and dating the entry.

- 8.5 An ATS provider must ensure that at the request of any person who is undergoing or has undergone training at an ATC unit, that person is provided with a copy of his training record.
- 8.6 An ATS provider must ensure, when requested, the Executive Director is provided with a copy of the training record of any person who is undergoing or has undergone training at the ATC unit and who holds an air traffic controller certificate.

## **9. Use of Simulators in training**

- 9.1 In developing a Unit Training Plan, an ATS provider must demonstrate to the Executive Director how a simulator and the associated exercises will provide adequate support for the particular training plan.
- 9.2 All UTPs must indicate the amount of training, if any, that will be conducted on a simulator.
- 9.3 Each simulator must be approved by the Executive Director as part of the course approval process for any particular UTP.

## **10. On-The-Job-Instructors (OJTI)**

- 10.1 An ATS provider must ensure that On-The-Job-Instructors (OJTI) hold a valid air traffic controller instructor (ATCI) certificate issued under Part 65.
- 10.2 An ATS provider must ensure that each OJTI works under the direction of the ATS unit training officer.
- 10.3 An ATS provider must detail the duties of the OJTI in the ATS procedures manual.

## **11. Remedial Training**

- 11.1 An ATS provider must publish instructions for remedial training to ensure that proficiency standards are maintained. These instructions must be published in the ATC procedures manual.
  
- 11.2 An ATS provider must maintain remedial training records.