

Civil Aviation Authority
of Fiji



AIR TRAFFIC MANAGEMENT SYNTHETIC TRAINING DEVICES (ATM STD)

1st Edition – December 2017

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Civil Aviation Authority of Fiji

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Standards Document – Air Traffic Management Synthetic Training Devices

Standards Document

AIR TRAFFIC MANAGEMENT SYNTHETIC TRAINING DEVICES

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PREFACE

General

Fiji's National Aviation Law consists of a three tier or triple system regulatory system, comprising Acts, Regulations and Standards Documents; the purpose of which is to ensure, where deemed appropriate, compliance and conformance with ICAO Standards and Recommended Practices (SARPS).

The 'three tier' or 'triple system' regulatory system represents Fiji's Primary Legislation System and Specific Operating Regulations to meet Critical Elements CE1 and CE2 of ICAO's Eight Critical Element of a safety oversight system

Standards Documents (SD) are issued by the Civil Aviation Authority of Fiji under the provision of Section 14 (3) (b) of the Civil Aviation Authority Act 1979 (CAP 174A)

Where appropriate, the SD also contains technical guidance (Critical Element CE5) on standards, practices, and procedures that are acceptable to the Authority.

Notwithstanding the above, and where specifically indicated in this Standards Document that such a provision is available, consideration may be given to other methods of compliance that may be presented to the Authority provided they have compensating factors that can demonstrate a level of safety equivalent to or better than those prescribed herein. Accordingly, the Authority will consider each case based on its own merits holistically in the context of and relevancy of the alternative methods to the individual applicant.

When new standards, practices, or procedures are determined to be acceptable, they will be added to this document.

Purpose

This Standards Document – Air Traffic Management Synthetic Training Device is issued by the Civil Aviation Authority of Fiji pursuant to the Civil Aviation Reform Act 1999 (as amended), section 6 (1)(a) and (4) (c). Any ATM STD shall be established in accordance with the requirement contained in this standard document.

Change Notice

This Standards Document has been developed pursuant to the Authority's obligation to provide oversight on the organisation authorised to provide ATM training in respect of ATM equipment, as well as their obligation to comply with standards notified by the Authority and is the means by which such notification is given.



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THERESA LEVESTAM
ACTING CHIEF EXECUTIVE

AMENDMENT RECORD

The following space is provided to keep a record of all amendments.

Amendment No.	Effective Date	Entered By	Date Entered	Amendment No.	Effective Date	Entered By	Date Entered
Amendment no. 1 incorporated in this edition				26			
2				27			
3				28			
4				29			
5				30			
6				31			
7				32			
8				33			
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25				50			

From time to time the Authority will issue amendments to the requirements stipulated in this publication. This will be done in the form of 'Notice of Amendments' including an attachment 'Notification of Approval/Disapproval' of all or part of the proposed amendment.

The Amendments will also be accessible through CAAF website.

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Historical Summary of Amendments

The Civil Aviation Reform Act (1999) requires the Authority to produce standards for the provision of air traffic management synthetic training devices. A draft version of Standard Document- Air Traffic Management Synthetic Training Device (SD-ATMSTD, 1st Edition dated Dec 2017) was developed and circulated internally for comments.

SD-ATMSTD, details the ATM STD standards and the ATS Provider certification requirements.

<i>Amendment</i>	<i>Source(s)</i>	<i>Subject(s)</i>	<i>Effective Date</i>
<i>1st Edition</i>	<i>CAAF</i>	<i>Standards Document – Air Traffic Management Synthetic Training Device (SD-ATMSTD)</i>	<i>7th Dec 2017</i>

SUBPART A — GENERAL

1 Applicability

- 1.1 This document prescribes standards governing the approval and operation of Synthetic Training Devices to be used for air traffic management training and testing.
- 1.2 A Synthetic training device is any type of device by which operational conditions are simulated, including simulators and part-task trainers.
- 1.3 All air traffic management training courses/plans are required to indicate the amount of training, if any, that will be conducted on a synthetic training device. The synthetic training device will be approved by the Authority as part of the course approval process for any particular training course. The training organisation is required to demonstrate how the synthetic training device and the associated exercises will provide adequate support for the particular training.

2 Privileges of Approval

- 2.1 An 'Air Traffic Management Synthetic Training Device (ATM-STD) Approval' specifies the air traffic management training that the holder is authorized to conduct using the approved synthetic training device.
- 2.2 Approved synthetic training devices may be used to accrue air traffic management experience for the purpose of: -
 - Air traffic control (ATC) simulator time for CAAF approved ATC ICAO 051, 052, 053, 054 and 055 training courses;
 - Flight information service (FIS) simulator time for CAAF approved FIS training courses;
 - Aeronautical station operator licence (ASOL) simulator time for CAAF approved ASOL training courses;
 - ATC/FIS/ASOL refresher training;
 - ATC/FIS/ASOL remedial training;
 - ATC/FIS/ASOL training and testing for the issue of an air traffic service licence, rating or validation, where approval has been obtained from CAAF, and
 - ATC/FIS/ASOL proficiency assessments, where approval has been granted from CAAF

3 Duration of Approval

- 3.1 An 'Air Traffic Management Synthetic Training Device Approval' may be granted or renewed for a period of up to 2 years.
- 3.2 Authority policy is that it will establish a surveillance programme, and subject to satisfactory performance, the organization can expect that the approval will be renewed. If performance is less than satisfactory, the approval may be renewed for a lesser period or not renewed.
- 3.3 The valid Approval must be displayed in a prominent position at the organization facility.

4 Renewal of Approval

- 4.1 An application for the renewal of an 'Air Traffic Management Synthetic Training Device Approval' shall be made to the Authority.
- 4.2 The Authority requires that an application for renewal be submitted before the application renewal date specified in the Approval or, if no such date is specified, not less than 30 days before the Approval expires. Notwithstanding this requirement, it is the responsibility of the applicant to ensure application is made in sufficient time to avoid approval expiration.

5 Requirements for the Issue of an Air Traffic Management Synthetic Training Device Approval

An applicant for an Air Traffic Management Synthetic Training Device Approval must satisfy the requirements of this Standards Document.

6. Application for an Air Traffic Management Synthetic Training Device Approval

- 6.1 A person or organization may apply to the Authority for the issue of an Air Traffic Management Synthetic Training Device Approval.
- 6.2 An application must be made on the appropriate form.

7. Variation, Suspension or Cancellation of an Approval

- 7.1 An organization operating an approved air traffic management synthetic training device must make an application to the Authority for any variation to the Approval.
- 7.2 If the holder of the Air Traffic Management Synthetic Training Device Approval does not comply with all the requirements of the Approval, the Approval may be suspended or revoked.

8. Safety Inspections and Audit

- 8.1 Each holder of an Air Traffic Management Synthetic Training Device Approval may be required by the Authority to undergo or carry out such inspections and audits of the holder's facilities, documents and records as the Authority considers necessary in the interests of civil aviation safety and security in accordance with the Air Navigation Regulations.
- 8.2 The Authority may require the holder of an Air Traffic Management Synthetic Training Device Approval to provide such information as the Authority considers relevant to the inspection or audit.
- 8.3 The inspection and audit programme will normally be agreed between the Authority and the Approval holder at the time of issue of the Approval. This will allow for forward planning by both parties.
- 8.4 The Authority may also carry out spot checks or additional audits on an opportunity basis, or if the Authority has reasonable grounds to believe that the Approval holder is not in compliance with the requirements of this standards document.

SUBPART B — EVALUATION, ACCREDITATION AND FIDELITY CHECKS

9 Inspection for Evaluation, Accreditation and Fidelity

- 9.1 An air traffic management synthetic training device must be inspected for evaluation, accreditation or fidelity by an Authorised CAAF Inspector.
- 9.2 The evaluation, accreditation or fidelity inspection will require: -
- A fully serviceable synthetic training device, and
 - A synthetic training device instructor
- 9.3 The details of the inspection must be recorded on the appropriate form; ATM Synthetic Training Device Inspection Checklist.
- 9.4 A copy of the completed inspection / check and those subsequently used in recurrent fidelity checks must be retained permanently with the trainer / simulator.
- 9.5 The approval of the air traffic management synthetic training device and the part of the particular training plan/course for which the training organisation proposes to use it will be based on an assessment against the criteria listed below. The extent to which the STD achieves these criteria will be used to determine the adequacy of the STD for the proposed use. As a general principle, the greater the degree of replication of the operational position being represented, the greater the use that will be possible in any particular training plan/course. The criteria are:
- a. the general environment, which should provide an environment in which simulator exercises may be run without undue interference from unrelated activities;
 - b. the simulator layout;
 - c. the equipment provided;
 - d. the display presentation, functionality, and updating of operational information;
 - e. data displays, including strip displays, where appropriate;
 - f. co-ordination facilities;
 - g. aircraft performance characteristics, including the availability of manoeuvres, e.g. holding or ILS operation, required for a particular simulation;
 - h. the availability of real-time changes during an exercise;
 - i. the ability of the simulated environment to enable students to meet the stated objectives of the practical training exercises;
 - j. the ability of the simulator and its exercises to enable the performance objectives to be assessed to the level determined in the training programme;
 - k. the processes by which the training organisation can be assured that staff associated with the conduct of the simulation are competent;
 - l. the degree of realism of any voice recognition system associated with the simulator;
 - m. where a simulator is an integral part of an operational ATC system, the processes by which the training organisation is assured that interference between the simulated and operational environments is prevented.
- 9.5 When a simulator is being used for pre-on-the-job training and the training time is counted as operational training or, being utilised for approved competency requirements, the simulator classification should be a full-size replica of a working position, including all equipment and computer programmes necessary to represent the full task associated with that position. In the case of a tower unit, it includes an out-of-the-tower view.

SUBPART C — OPERATIONAL STANDARDS and REQUIREMENTS

10 General Specifications

10.1 An air traffic management synthetic training device may be granted approval for one of the following:

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1. Provide ATC training;
2. Provide FIS training;
3. Provide ASOL training;
4. Conduct ATC/FIS/ASOL assessments and testing for the issue of an air traffic service licence, rating or validation, where approval has been obtained from CAAF, and
5. ATC/FIS/ASOL proficiency assessments, where approval has been obtained from CAAF.

10.2 ATC Training: -

1. Provide: -
 - Training in air traffic control procedures;
 - Training in the application of air traffic control separation standards;
 - Training in the application of emergency procedures.
2. Require: -
 - ATM equipment simulation;
 - Coordination phones/intercom where required;
 - Radio sets where required;
 - Tower Visual Control Room where required. This includes Flight Progress Strip Bay system and light signaling as appropriate;
 - Replication of airport/aerodrome environs and aircraft – digital or manual;
 - Instructor facilities.

10.3 FIS Training: -

1. Provide: -
 - Training in flight information service procedures;
 - Training in the application of emergency procedures;
2. Require: -
 - ATM equipment simulation;
 - Coordination phones/intercom where required;
 - Radio sets where required;
 - Tower Visual Control Room where required. This includes Flight Progress Strip Bay system and light signaling as appropriate;
 - Replication of airport/aerodrome environs and aircraft – digital or manual;
 - Instructor facilities.

10.4 ASOL Training: -

1. Provide: -
 - Training in aeronautical station operator procedures.

2. Require: -
 - Coordination phones/intercom where required;
 - Radio sets where required;
 - Tower Visual Control Room where required. This includes Flight Progress Strip Bay system and light signaling as appropriate;
 - Replication of airport/aerodrome environs and aircraft – digital or manual;
 - Instructor facilities.

10.5 **ATC/FIS/ASOL assessments and testing: -**

- 1 Provide for the conduct of: -
 - ATC/FIS/ASOL assessments and testing in accordance with approval issued by CAAF.
2. Require: -
 - ATM equipment simulation;
 - Coordination phones/intercom where required;
 - Radio sets where required;
 - Tower Visual Control Room where required. This includes Flight Progress Strip Bay system and light signaling as appropriate;
 - Replication of airport/aerodrome environs and aircraft – digital or manual;
 - Instructor facilities.

11 **Crediting of Training Hours on Air Traffic Management Synthetic Training Device**

- 11.1 Air traffic services training hours accumulated on an approved air traffic management synthetic training device may be credited towards hours conducted under on the job training provided prior approval has been obtained from the Authority and the following conditions are met:
- The training hours credited pertain to emergency simulations;
 - The training hours credited shall not be greater than 10hours;
 - An approved ATS instructor is present and signs off the training hours;
 - The synthetic training device has been approved for that training, and
 - Training is conducted in accordance with the Synthetic Training Device Operations Manual.
- 11.2 A synthetic training device may be used, subject to approval by the Authority, for the maintenance or renewal of competence.
- 11.3 A synthetic training device may be used for refresher training and assessment, subject to approval by the Authority for the particular training plan/course on the basis of its ability to adequately support the training objectives and assessment requirements.

12 **Air Traffic Management Synthetic Training Device Operations Manual**

- 12.1 The approved air traffic management synthetic training device must be operated in accordance with its operations manual.
- 12.2 The Authority may only issue an approval if it is satisfied with the content of the operations manual. Any amendments to the operations manual require the Authority's approval prior to being incorporated in the manual.

12.3 The operations manual shall include but not be limited to the following: -

A copy of the Air Traffic Management Synthetic Training Device Approval;

- i. A list of authorized instructors;
- ii. A minimum equipment list for each type of training listed under 10.2, 10.3, 10.4 and 10.5;
- iii. A fault reporting log for the reporting and clearing of defects;
- iv. A system to record periodic calibration and monitoring;
- v. A section containing adequate operating procedures and instructions for users which must include: -
 - (a) A description of the trainer / simulator;
 - (b) A description of the trainer / simulator systems and capabilities;
 - (c) Operating procedures and checks for normal operations;
 - (d) Operating procedures and checks for simulated emergency operations;
 - (e) Clearly marked instructions or procedures for any real emergencies or limitations.
- vi. A section containing adequate operating procedures and instructions for instructors which must include:
 - (a) Operating procedures and checks for normal operations;
 - (b) Instructions on the use of the instructor's console;
 - (c) Clearly marked instructions or procedures for any real emergencies or limitations.

12.4 The air traffic management synthetic training device operations manual shall contain the training syllabuses and sequences/scenarios for the specific training/assessments conducted on it.

The description of the sequences/scenarios required in each syllabus must be sufficiently detailed to enable the instructor and/or those acting as simulator pilots to operate without further explanation.

13 Air Traffic Management Synthetic Training Device Instructors

13.1 To act as an instructor in a synthetic training device a person shall in addition to any requirements stipulated in the Standards Document Air Traffic Services Personnel Licensing, have completed an approved ATS instructor training course, pass a competency test by a CAAF Authorised Inspector or nominated person and hold an authorisation issued by CAAF.

13.2 Holders of an STD instructor endorsement are authorised by CAAF to provide practical training, assessments and tests on synthetic training devices in accordance with conditions stipulated on that endorsement.