# NOTICE OF PROPOSED AMENDMENT (NPA) NO 2008-22C

**DRAFT OPINION OF THE EUROPEAN AVIATION SAFETY AGENCY,**

**FOR A COMMISSION REGULATION establishing the implementing rules for the competent authorities, including general requirements, approved training organisations, aeromedical centres, licensing and medical certification of flight crew.**

**and**

**DRAFT DECISION OF THE EXECUTIVE DIRECTOR OF THE EUROPEAN AVIATION SAFETY AGENCY on**

**acceptable means of compliance and guidance material related to the implementing rules for the competent authorities, including general requirements, approved training organisations, aeromedical centres, licensing and medical certification of flight crew.**

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**FOR A COMMISSION REGULATION establishing the implementing rules for organisations, including general requirements, approved training organisations, flight simulation training devices and aeromedical centres.**

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**DRAFT DECISIONS OF THE EXECUTIVE DIRECTOR OF THE EUROPEAN AVIATION SAFETY AGENCY on**

**acceptable means of compliance, certification specifications and guidance material related to the implementing rules for managements systems, including general requirements, approved training organisations, flight simulation training devices and aeromedical centres.**

***"Authority and Organisation Requirements"***

**C. Organisation Requirements**

**NOTE:** The NPA on "Authority and Organisation Requirements" contains draft Opinion on the Implementing Rules for Authorities, draft Opinion on the Implementing Rules for Organisations and the related draft Decisions and Regulatory Impact Assessments. The NPA is split into six separate NPAs (2008-22**A**, 2008-22**B,** 2008-22**C,** 2008-22**D,** 2008-22**E** AND 2008-22**F**) as indicated in the Table of Contents below. The documents are published in the Comment-Response Tool (CRT) available at http://hub.easa.europa.eu/crt/.

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## III. DRAFT OPINION PART-OR

## ANNEX 1 TO IMPLEMENTING REGULATION

## PART ORGANISATION REQUIREMENTS (OR)

## SUBPART GEN - General requirements

## Section 1 – General

### OR.GEN.001 Competent authority

(a) For the purpose of this Part, the competent authority shall be:

(1) In the case of organisations:

(i) for organisations having their principal place of business in a Member State, the authority designated by that Member State;

(ii) for organisations having their principal place of business located in a third country, the Agency.

(2) In the case of Flight Simulation Training Devices (FSTDs):

(i) For FSTDs used by training organisations certificated by the Agency, or FSTDs located outside the territory of the Member States or FSTDs located within the territory of the Member States, if so requested by the Member State concerned, the Agency;

(ii) In all other cases, the authority designated by the Member State where the training organisation using the FSTD has its principle place of business.

(b) For the purpose of this Part, principal place of business is intended to mean the organisation site from which the majority of the organisation's management personnel specified in OR.GEN.210 directs, controls or co-ordinates its operational activities, ensuring that the organisation complies with the requirements of this Part.

### OR.GEN.010 Definitions

For the purpose of this Part, the following definitions shall apply:

*FSTD User.*

The organisation or person requesting training, checking or testing through the use of an FSTD to an ATO.

*FSTD Qualification.*

The level of technical ability of an FSTD as defined in the compliance document.

*Qualification Test Guide (QTG).*

A document designed to demonstrate that the performance and handling qualities of an FSTD are within prescribed limits with those of the aircraft and that all applicable requirements have been met. The QTG includes both the aircraft and FSTD data used to support the validation.

*Flight simulation training devices (FSTD)*.

A training device which is:

In the case of aeroplanes, a Full Flight Simulator (FFS), a Flight Training Device (FTD), a Flight Navigation Procedures Trainer (FNPT), or a Basic Instrument Training Device (BITD).

In the case of helicopters, a Full Flight Simulator (FFS), a Flight Training Device (FTD) or a Flight Navigation Procedures Trainer (FNPT).

*Other Training Device (OTD).*

A training aid other than an FSTD which provides for training where a complete cockpit environment is not necessary.

*Basic Instrument Training Device Model (BITD Model)*.

A defined hardware and software combination, which has obtained a BITD qualification.

**OR.GEN.015 Application**

(a) An application for an approval or an amendment of an existing approval shall be made on a form and in manner established by the competent authority.

(b) Applicants for an initial approval shall provide the competent authority with documentation demonstrating how they will comply with the requirements established in this Part and associated acceptable means of compliance adopted by the Agency.

**OR.GEN.020 Acceptable Means of Compliance**

(a) When an organisation wishes to use alternative means to establish compliance with the implementing rules other than those adopted by the Agency, it shall, prior to implementing them, provide the competent authority with a full description of the alternative means of compliance, including any revisions to manuals or procedures that may be relevant, as well as a safety assessment demonstrating that the safety objectives set out in the implementing rules are met.

(b) Subject to notification by the competent authority, as prescribed in AR.GEN.020(c), the organisation may implement these alternative means of compliance.

**OR.GEN.025 Terms of approval and privileges of an organisation**

The privileges and scope of the activities that an organisation is approved to conduct shall be specified in the terms of its approval.

**OR.GEN.030 Changes to the organisation's approval**

(a) An approved organisation shall notify the competent authority of any proposed change to the organisation that affects the approval before any such change takes place, in order to enable the competent authority to determine continued compliance with this Part and to amend, if necessary, the organisation approval certificate.

(b) The competent authority may prescribe the conditions under which the organisation may operate during such changes, unless the competent authority determines that the organisation approval shall be suspended.

(c) Failure to inform the competent authority of such changes shall result in suspension or revocation of the organisation approval certificate backdated to the actual date of the changes.

**OR.GEN.035 Continued validity**

(a) An organisation's approval shall be issued for an unlimited duration. It shall remain valid subject to the certificate not being surrendered, suspended or revoked.

(b) Any person authorised by the competent authority shall be granted access, from the organisation, to any facility or document related to its activity, whether it is contracted or not.

(c) Upon revocation, the certificate shall without delay be returned to the competent authority.

**OR.GEN.040 Declaration**

(a) When required to declare its activity to the competent authority, a person or an organisation shall:

(1) provide the competent authority with the relevant information, using the form established in Appendix I to this Part.

(2) maintain compliance with the applicable requirements and with the information given in the declaration;

(3) grant access to the competent authority to determine continued compliance with the applicable requirements

(4) notify the competent authority of any changes affecting its activity and its declaration through submission of an amended declaration.

(b) The organisation or person shall notify the competent authority when it ceases all operations

**OR.GEN.045 Findings**

(a) A level 1 finding is any significant non-compliance with the applicable requirements of the Basic Regulation and its implementing rules, with the organisation's procedures and manuals or the terms of an approval or certificate which lowers the safety standards and seriously hazards flight safety.

The following shall be considered level 1 findings:

(1) failure to give the competent authority access to the organisation's facilities during normal operating hours after two written requests;

(2) the lack of an accountable manager or nominated persons; or

(b) A level 2 finding is any non-compliance with the applicable requirements of the Basic Regulation and its implementing rules, with the organisation's procedures and manuals or the terms of an approval or certificate which could lower the safety standards or possibly hazard flight safety.

(c) After receipt of notification of findings, the organisation shall define a corrective action plan and demonstrate corrective action implementation to the satisfaction of the competent authority within a period agreed with that authority.

## Section 2 –Management

### OR.GEN.200 Management system

(a) An organisation shall establish and maintain a management system that includes:

(1) a safety policy;

(2) a process for identifying safety hazards and for evaluating and managing the associated risks;

(3) clearly defined lines of safety accountability throughout the organisation, including a direct accountability for safety on the part of senior management;

(4) personnel trained and competent to perform their tasks;

(5) a process for reporting and analysing hazards, incidents and accidents and for taking corrective actions to prevent their recurrence;

(6) an organisation manual containing all management system processes, including a process for making personnel aware of their responsibilities and an amendment procedure;.

(7) a function to monitor compliance of the management system with the relevant requirements and adequacy of the procedures. Compliance monitoring shall include a feedback system of findings to the accountable manager to ensure corrective action as necessary; and

(8) any additional requirements that are prescribed in this Part.

(b) The management system shall correspond to the size, nature and complexity of the activities, and the hazards and associated risks inherent in these activities.

### OR.GEN.205 Contracting and purchasing

(a) The organisation shall ensure that when contracting or purchasing any part of its activity, the contracted or purchased service or product conforms to applicable requirements.

(b) When an approved organisation contracts any part of its activity to an organisation that is not itself approved to carry out such activity in accordance with this Part, the contracted organisation shall work under the approval of the contracting organisation. The contracting organisation shall ensure that the competent authority is given access to the contracted organisation, to determine continued compliance with the applicable requirements.

### OR.GEN.210 Personnel requirements

(a) The organisation shall appoint an accountable manager, who has the corporate authority for ensuring that all activities can be financed and carried out in accordance with the applicable requirements.

(b) A person or group of persons shall be nominated with the responsibility of ensuring that the organisation is always in compliance with the applicable requirements. Such person(s) shall be ultimately responsible to the accountable manager.

(c) The organisation shall have sufficient appropriately qualified staff for the planned tasks and activities.

(d) The organisation shall maintain appropriate experience, qualification and training records to show compliance with paragraph (c) above.

(e) The organisation shall ensure that all staff is aware of the rules and procedures relevant to the exercise of their duties.

**OR.GEN.215 Facility requirements**

The organisation shall have adequate:

(a) facilities for all planned tasks and activities.

(b) office accommodation for the management of all planned tasks and activities.

**OR.GEN.220 Record-keeping**

(a) The organisation shall establish a system of record–keeping that allows adequate storage and reliable traceability of all activities developed, covering in particular all the elements indicated in OR.GEN.200.

(b) The format of the records shall be specified in the organisation's procedures.

(c) Records shall be stored in a manner that ensures protection from damage, alteration and theft.

(d) Records shall be accessible to the competent authority.

## SUBPART ATO – APPROVED TRAINING ORGANISATIONS

### Section 1 – General

**OR.ATO.005 Scope**

This Subpart establishes the additional requirements to be met by an organisation to qualify for the issue or continuation of an approval to provide training for pilots, including:

(a) requirements for approved training organisations (ATOs) providing training for licences, ratings and certificates;

(b) requirements for:

(1) ATOs providing training in flight simulation training devices (FSTDs); and

(2) qualification of FSTDs; and

(c) requirements for ATOs providing:

(1) Distance learning courses;

(2) Zero Flight Time Training (ZFTT);

(3) Multi-crew Pilot Licence (MPL) instructor courses;

(4) Flight test qualification courses.

**OR.ATO.010 Legal entity and financial resources**

(a) An ATO shall be an organisation or part of an organisation registered as a legal entity.

(b) An ATO shall demonstrate to the competent authority that sufficient financial resources are available to conduct training to the approved standards.

**OR.ATO.015 Application**

(a) Applicants for an initial approval shall provide the competent authority with:

(1) the following information:

(i) name and address of the organisation;

(ii) date of intended commencement of operations;

(iii) personal details and qualifications of the flight instructors;

(iv) name and address of the aerodromes from which the training is to be conducted, and the name of the aerodrome operator;

(v) list of aircraft to be used for training, including their group, class or type, registration, owners and category of the certificate of airworthiness;

(vi) list of FSTDs that the organisation intends to use;

(vii) the type of training that the organisation wishes to provide, and the corresponding theoretical knowledge and flight instruction syllabi.

(2) the operations and training manuals, except for ATOs wishing to provide training for LPL, PPL, BPL and SPL

(b) In the case of a change to the approval, applicants shall provide the competent authority with the relevant parts of the documentation or manuals referred to in (a).

**OR.ATO.110 Personnel requirements**

(a) A Head of Training (HT) shall be nominated. The HT's responsibilities shall include ensuring that the training provided is in compliance with Part-FCL requirements.

(b) Theoretical knowledge ground instructors shall have appropriate knowledge and experience in aviation.

(c) Flight instructors and flight simulation training instructors shall hold the qualifications required by Part-FCL for the type of training that they are providing.

**OR.ATO.120 Record keeping**

(a) The following records shall be kept for a period of at least 5 years:
  (1) details of ground, flying, and simulated flight training given to individual students;
  (2) detailed and regular progress reports from instructors including assessments, and regular progress flight tests and ground examinations; and
  (3) information of the qualifications of the students, including the expiry dates of medical certificates and ratings.

(b) When the training organisation approval includes the privileges to provide training in FSTDs, the following records shall be kept for as long as the FSTD is in use:
  (1) the FSTD qualification certificate including any changes;
  (2) a copy of the evaluation programme listing the dates when evaluations are due and when evaluations were carried out;
  (3) initial and recurrent evaluation records.

**OR.ATO.125 Training programme**

(a) A training programme shall be developed for each type of course offered.

(b) In the case of type rating courses, the training programme shall be based on the training syllabus for the aircraft type as approved in accordance with Part-21.

**OR.ATO.130 Training aircraft and FSTDs**

(a) An ATO shall have access to an adequate fleet of aircraft or FSTDs appropriate to the courses of training provided.

(b) If the helicopter used for the skill test is of a different type from the flight simulator used for the visual training, the maximum credit shall be limited to that allocated for the FNPT II/III in the relevant flight training programme.

**OR.ATO.135 Aerodromes**

An ATO shall use aerodromes or operating sites that have the appropriate facilities and characteristics to allow training of the manoeuvres relevant, taking into account the training provided and the category and type of aircraft used.

**OR.ATO.140 Pre-requisites for training**

An ATO shall ensure that the students meet all the pre-requisites for training established in Part-FCL.

**OR.ATO.145 Training outside Member States**

When an ATO is approved to provide training outside the territory of the Member States:

(a) the training programme shall include acclimatisation flying in one of the Member States, before the instrument rating skill test is taken;

(b) the instrument rating skill test shall be taken in one of the Member States.

## Section 2 - Additional requirements for ATOs providing training for licences and ratings other than the LPL, PPL, SPL and BPL.

### OR.ATO.210 Personnel requirements

(a) *Head of Training (HT)*. The nominated HT shall:

(1) have overall responsibility for ensuring satisfactory integration of flying training, synthetic flight training and theoretical knowledge instruction, and for supervising the progress of individual students; and

(2) have extensive experience in training as a flight instructor for professional pilot licences and possess a sound managerial capability.

(b) *Chief Flying Instructor (CFI)*. The ATO shall nominate a CFI that shall be responsible for the supervision of flight and synthetic flight instructors and for the standardisation of all flight instruction and synthetic flight instruction. The CFI shall hold an instructor certificate with the privilege to instruct for at least one of the training courses provided.

(c) *Chief Ground Instructor (CGI)*. The ATO shall nominate a CGI that shall be responsible for the supervision of all ground instructors and for the standardisation of all theoretical knowledge instruction. The CGI shall have a practical background in aviation and have undergone a course of training in instructional techniques or have had extensive previous experience in giving theoretical knowledge instruction.

### OR.ATO.225 Training programme

(a) The training programme shall include a breakdown of flying and theoretical knowledge instruction, presented in a week-by-week or phase layout, a list of standard exercises and a syllabus summary.

(b) The content and sequence of the training programme shall be specified in the training manual.

### OR.ATO.230 Training manual and operations manual

(a) An ATO shall establish and maintain a training manual and operations' manual containing information and instructions to enable staff to perform their duties and to give guidance to students on how to comply with course requirements.

(b) An ATO shall make available to staff and, where appropriate, to students the information contained in the training manual, the operations manual and the training organisation's approval documentation.

(c) The training manual shall state the standards, objectives and training goals for each phase of training that the students are required to comply with and shall include the following parts:

- Part 1 – Training Plan
- Part 2 – Briefing and Air Exercises
- Part 3 – Synthetic Flight Training
- Part 4 – Theoretical Knowledge Instruction

(d) The operations manual shall provide relevant information to particular groups of staff, as flight instructors, synthetic flight instructors, ground instructors, operations and maintenance staff, and shall include general, technical, route and staff training information.

(e) The operations manual shall establish flight time limitation schemes for flight instructors, including the maximum flying hours, maximum flying duty hours and minimum rest time between instructional duties in accordance with Subpart OPS.

## Section 3 – Additional requirements for ATOs providing training in FSTDs and the Qualification of FSTDs

### Chapter 1 - Requirements for ATOs providing training in FSTDs

**OR.ATO.300 General**

(a) An ATO shall only provide training in FSTDs, when it demonstrates to the competent authority:
   (1) that it has, directly or through contract, the capability to maintain the performance, functions and other characteristics specified for the FSTD qualification level and to control the installation of the FSTD;
   (2) the adequacy between the FSTD specifications and the related training programme.

(b) The FSTD specifications shall be detailed in the terms of the approval.

**OR.ATO.305 FSTD qualification maintenance**

(a) In order to maintain the qualification of the FSTD, the complete master QTG shall be run progressively between each annual evaluation conducted by the competent authority.

(b) The results shall be dated and retained in order to demonstrate that the FSTD standards are being maintained.

(c) A configuration control system shall be established to ensure the continued integrity of the hardware and software of the qualified FSTD.

**OR.ATO.310 Modifications**

(a) An ATO shall establish and maintain an information system with the competent authority and the relevant FSTD manufacturers to incorporate any important modifications into the FSTDs, especially:
   (1) any aircraft modifications that are essential for training and checking, whether or not enforced by an airworthiness directive;
   (2) any modification of FSTDs, including motion and visual systems, when essential for training and checking, as in the case of data revisions.

(b) Modifications of the FSTD hardware and software that affect handling, performance and systems operation or any major modifications of the motion or visual system shall be evaluated to determine the impact on the original qualification criteria. ATOs shall prepare amendments for any affected validation tests. The ATO shall test the FSTD to the new criteria.

(c) The competent authority shall be advised in advance of any major changes to determine if the tests carried out by the ATO are satisfactory. A special evaluation of the FSTD may be necessary prior to returning it to training following the modification.

**OR.ATO.315 Installations**

(a) The ATO shall ensure that:
   (1) the FSTD is housed in a suitable environment that supports safe and reliable operation;
   (2) all FSTD occupants and maintenance personnel are briefed on FSTD safety to ensure that they are aware of all safety equipment and procedures in the FSTD in case of emergency.

(b) The FSTD safety features, such as emergency stops and emergency lighting, shall be checked at least annually and recorded.

**OR.ATO.320 Additional equipment**

Where additional equipment has been added to the FSTD, even though not required for qualification, it will be assessed by the competent authority to ensure that it does not adversely affect the quality of training.

## Chapter 2 -Requirements for the qualification of FSTDs

### OR.ATO.350 Application for FSTD qualification

An application for an FSTD qualification shall be made, in a form and manner established by the competent authority, by the ATO, except for BITDs, for which the applicant shall be the BITD manufacturer.

### OR.ATO.355 Certification specifications for FSTDs

(a) The Agency shall issue in accordance with Article 14 of the Basic Regulation certification specifications as standard means to show compliance of FSTDs with the essential requirements of Annex III to the Basic Regulation.

(b) Such certification specifications shall be sufficiently detailed and specific to indicate to applicants the conditions under which qualifications will be issued.

### OR.ATO.360 Qualification basis

(a) The qualification basis for the issuance of an FSTD qualification shall consist of the applicable certification specifications established by the Agency that are effective on the date of the application for the initial qualification, and any special conditions prescribed by the competent authority if the related certification specification do not contain adequate or appropriate safety standards for the FSTD because:

(1) the FSTD has novel or unusual design features relative to the design practices on which the applicable certification specifications are based;

(2) the intended use of the FSTD is novel or unconventional;

(3) experience with similar FSTDs already used in training has shown that unsafe conditions may develop.

(b) The qualification basis shall be applicable for future recurrent qualification of the FSTD, unless re-categorised.

### OR.ATO.365 Issue of an FSTD qualification

An FSTD qualification shall be issued by the competent authority when, after completion of an evaluation of the FSTD, the applicant has shown that the FSTD meets the applicable qualification basis in accordance with OR.ATO.360.

### OR.ATO.370 Interim FSTD Qualification

(a) In the case of introduction of new aircraft programmes, when compliance with the requirements established in this Subpart for FSTD qualification is not possible, the competent authority shall issue an interim FSTD qualification level.

(b) For FFS for helicopters, an interim qualification level shall only be granted at levels A, B or C.

(c) This interim qualification level shall be valid until a final qualification level can be issued and, in any case, shall not exceed 3 years.

### OR.ATO.375 Duration and continued validity

(a) An FFS, FTD or FNPT qualification shall be issued for an unlimited duration, and shall remain valid subject to:

(1) The FSTD and the training organisation remaining in compliance with the applicable requirements;

(2) The FSTD being evaluated on a recurrent basis for compliance with the applicable qualification basis at periods not exceeding 12 months;

(3) The qualification not being surrendered or revoked.

(b) This period of 12 months established in (a)(2) may be extended to 36 months, in the following circumstances:

(1) The FSTD has been subject to an initial and at least one recurrent evaluation that has established its compliance with the qualification basis;

(2) All the FSTDs of the ATO have been subject to positive evaluations of compliance over the last 3 years;

(3) The ATO has been approved for at least 3 years;

(4) The competent authority performs a formal audit of the compliance monitoring system as defined in OR.GEN.200 (a)(7) of the ATO every 12 months; and

(5) An accountable person of the ATO with FSTD and training experience reviews the regular re-runs of the QTG and conducts the relevant function and subjective tests every 12 months and sends a report of the results to the competent authority.

(c) A BITD qualification shall be issued for an unlimited duration and shall remain valid subject to regular evaluation for compliance with the applicable qualification basis by the competent authority at the request of the ATO. This evaluation shall be made at periods not exceeding 36 months.

(d) Upon surrender or revocation, the FSTD qualification certificate shall be returned to the competent authority.

**OR.ATO.380 Changes to the qualified FSTD**

(a) The ATO operating a qualified FSTD shall inform the competent authority of any proposed major changes to the FSTD, such as:

(1) aircraft modifications, which could affect the FSTD qualification;

(2) FSTD hardware or software modifications that could affect the handling qualities, performances or system representations;

(3) Relocation of the FSTD; and

(4) Any de-activation of the FSTD.

(b) The ATO may apply to the competent authority for an upgrade of the FSTD qualification level. This organisation shall run all validation tests for the requested qualification level. Results from previous evaluations shall not be used to validate FSTD performance for the current upgrade.

(c) When an FSTD is moved to a new location, the ATO shall inform the competent authority before the planned activity along with a schedule of related events.

An evaluation of the FSTD in accordance with its original qualification basis shall be required by the competent authority.

Prior to returning the FSTD to service at the new location, the ATO shall perform at least one third of the validation tests, and functions and subjective tests to ensure that the FSTD performance meets its original qualification standard. A copy of the test documentation shall be retained together with the FSTD records for review by the competent authority.

(d) If an ATO plans to remove an FSTD from active status for prolonged periods, the competent authority shall be notified and suitable controls established for the period during which the FSTD is inactive.

The ATO shall agree with the competent authority to ensure that the FSTD can be restored to active status at its original qualification level.

**OR.ATO.385 Transferability of an FSTD qualification**

(a) When there is a change of the ATO operating an FSTD, the new organisation shall inform the competent authority in advance in order to agree upon a plan of transfer of the FSTD.

(b) An evaluation in accordance with the initial qualification basis of the FSTD shall be performed by the competent authority.

(c) When the FSTD no longer complies with its initial qualification basis, the ATO shall apply for a new FSTD qualification.

## Section 4 -Additional requirements for ATOs providing specific types of training

## Chapter 1 – Distance learning courses

### OR.ATO.400 General

An ATO may be approved to conduct modular course programmes using distance learning in the following cases:

(a) modular courses of theoretical knowledge instruction;

(b) courses of additional theoretical knowledge for a class or type rating for a single pilot high performance aeroplane; or

(c) courses of approved pre-entry theoretical knowledge instruction for a first type rating for a multi-engine helicopter.

### OR.ATO.405 Classroom instruction

(a) An element of classroom instruction shall be included in all subjects of modular distance learning courses.

The amount of time spent in actual classroom instruction shall not be less than 10% of the total duration of the course.

(b) To this effect, classroom accommodation shall be available either at the principal place of business of the training organisation or within a suitable facility elsewhere.

### OR.ATO.410 Instructors

(a) All instructors shall be fully familiar with the requirements of the distance learning programme.

(b) The instructors' initial training shall take place at the principal place of business of the ATO.

## Chapter 2 -Zero Flight Time Training

### OR.ATO.430 General

(a) Approval for ZFTT, as specified in Part-FCL, shall only be given to an ATO that also has the privileges to conduct commercial air transport or an ATO having a specific arrangement with a commercial air transport operator.

(b) Approval for ZFTT shall only be given if the operator has at least 90 days of operational experience on the aeroplane type.

In the case of ZFTT provided by an ATO having a specific arrangement with an operator, the 90 days operational experience requirements will not apply if the TRI(A) involved in the additional take-offs and landings, as required in subpart OPS, has sufficient operational experience on the aeroplane type.

### OR.ATO.435 Flight Simulation Training Devices

(a) The flight simulator approved for ZFTT shall be serviceable according to the management system criteria of the ATO.

(b) The motion and the visual system of the flight simulator shall be fully serviceable.

## Chapter 3 – MPL courses

### OR.ATO.450 General

The privileges to conduct MPL integrated training courses and MPL instructor courses shall only be given to an ATO if it also has the privilege to conduct commercial air transport or a specific arrangement with a commercial air transport operator.

## Chapter 4 – Flight testing qualification courses

### OR.ATO.455 General

(a) The privileges to conduct flight testing qualification courses shall only be given to an ATO that demonstrates that:

(1) its fleet of training aircraft contains an adequate number of aircraft appropriately equipped with flight testing instrumentation.

(2) The head of training has extensive experience in the flight test activity as a test pilot in the relevant flight test category.

(3) The ground instructors have an adequate background to deliver theoretical instruction taking into account particular aspects relevant to flight testing.

(4) The flight instructors have experience in the flight test category for which they are demonstrating or monitoring any specific type of flight tests.

(b) The training records shall include a written report by the student for any flight performed including, where applicable, data processing and analysis of recorded parameters relevant to the type of flight testing.

## SUBPART AEMC -AEROMEDICAL CENTRES

### Section 1 – General

**OR.AeMC.005 Scope**

This Subpart establishes the additional requirements to be met by an organisation to qualify for the issue or continuation of an approval as an Aeromedical Centre (AeMC) to issue medical certificates, including initial class 1 medical certificates.

**OR.AeMC.015 Application**

Applicants for an AeMC approval shall

(a) comply with Part-Medical MED.C.005; and

(b) in addition to the documentation for the approval of an Organisation required in OR.GEN.015, provide details of clinical attachments to a designated hospital or medical institution.

**OR.AeMC.035 Continued validity**

An AeMC approval shall remain valid for an unlimited duration. It shall remain valid subject to holder and the medical staff of the Organisation:

(a) complying with MED.C.030 (a), (b), (d) and (e), and

(b) having performed at least 500 class 1 medical examinations every year;

**OR.AeMC.045 Findings**

The following shall be considered as level 1 findings:

(a) lack of nominating a head of the AeMC,

(b) failure to ensure data protection of aeromedical records.

(c) failure to provide the Medical Assessor with the medical and statistical data for oversight purposes.

## Section 2 –Management

### OR.AeMC 200 Management system

An AeMC shall establish and maintain a management system that includes the items addressed in OR.GEN.200 (a) (2), (4) and (6) and, in addition, processes:

(a) for medical certification in compliance with Part-Medical;

(b) to conduct aeromedical research and publish the results;

(c) to ensure medical confidentiality at all times.

### OR.AeMC.210 Personnel requirements

An AeMC shall:

(a) nominate an AME as head of the AeMC, with privileges to issue class 1 medical certificates and sufficient experience in aviation medicine to exercise their duties. They shall be responsible for coordinating the assessment of results and sign reports and certificates;

(b) have on staff an adequate number of fully qualified Authorised Medical Examiners (AMEs);

### OR.AeMC.215 Facility requirements

An AeMC shall be equipped with medico-technical facilities adequate to perform extensive aeromedical examinations necessary for the exercise of the privileges included in the scope of the approval.

### OR.AeMC.220 Record keeping

In addition to the records required in OR.GEN.220 the AeMC shall:

(a) maintain records with details of medical examinations and assessments performed for the issue, revalidation or renewal of medical certificates and their results, in accordance with applicable national rules.

(b) keep all medical records in a way that ensures that medical confidentiality is respected at all times.

## IV. Draft Decision AMC and GM to PART-OR

### Acceptable Means of Compliance and Guidance Material to Annex I - Part Organisation requirements (OR)

### SUBPART GEN - GENERAL REQUIREMENTS

### Section 1 – General

**AMC OR.GEN.030 Changes to the organisation's approval**

APPLICATION TIME FRAMES – AOC HOLDERS

1. The application for the amendment of an air operator certificate should be submitted at least 30 days, before the date of intended operation.
2. However, in the case of a change of a nominated post holder, the operator should inform the competent authority at least 10 days before the date of the proposed change.

**AMC OR.GEN.035. Continued validity-OPS**

ACCESS TO THE ORGANISATION

Any person authorised by the competent authority should be permitted at any time to board and fly in any aircraft operated in accordance with an Air Operator Certificate and to enter and remain on the flight deck provided that the pilot-in-command may refuse access to the cockpit if, in his opinion, the safety of the aircraft would thereby be endangered.

**AMC OR.GEN.040 Declaration**

CHANGES

Changes should be submitted 14 days before the change becoming effective.

## Section 2 –Management

### AMC to OR.GEN.200(a)(1) Management System

SAFETY POLICY

1. The safety policy should:
   a. be endorsed by the accountable manager;
   b. reflect organisational commitments regarding safety; and
   c. be communicated, with visible endorsement, throughout the organisation.
2. Senior management should:
   a. continuously promote the safety policy to all staff and demonstrate their commitment to it;
   b. provide necessary human and financial resources for its implementation;
   c. establish safety objectives and performance standards. The safety objectives and performance standards should be linked to the safety performance indicators, safety performance targets and safety requirements.

### AMC 1 to OR.GEN.200(a)(2) Management System

SAFETY MANAGEMENT SYSTEM – SAFETY RISK MANAGEMENT

SMALL ORGANISATIONS

1. The safety risk management system for small organisations should include hazard identification, risk analysis and mitigation process, but would be expected to do so in a simplified manner.
2. The safety risk management system may use hazard checklists or similar risk management tools or processes, which are integrated into the activities of the organisation.

### AMC 2 to OR.GEN.200(a)(2) Management System

SAFETY MANAGEMENT SYSTEM – SAFETY RISK MANAGEMENT

OTHER ORGANISATIONS

1. Hazard identification processes.
   a. Proactive hazard identification processes should be the formal means of collecting, recording, analysing, acting on and generating feedback about hazards and the associated risks that affect the safety of the operational activities of the organisation.
   b. Hazards, events or safety concerns should be assessed, analysed, reported, the data collected and stored.
   c. Information provided by analysis should be distributed.
   d. Confidential reporting systems should be based on established human factors principles including an effective feedback process.
2. Risk assessment and mitigation processes.
   a. A formal risk management process should be developed and maintained that ensures analysis (in terms of probability and severity of occurrence), assessment (in terms of tolerability) and control (in terms of mitigation) of risks to an acceptable level.
   b. The levels of management who have the authority to make decisions regarding safety risks tolerability should be specified.
3. Internal safety investigation.

a. The scope of internal safety investigations should include occurrences that are not required to be investigated or reported to the competent authority

4. Safety performance monitoring and measurement.
   a. Safety performance monitoring and measurement should be the process by which the safety performance of the organisation is verified in comparison to the safety policies and objectives.
   b. This process should include:
      i. safety reporting;
      ii. safety studies;
      iii. safety reviews including trends reviews;
      iv. safety audits; and
      v. surveys.
   c. The process should be proportional to the size of the organisation and complexity of the activities and be compatible with other management systems and processes used by the organisation.
5. The management of change.
   a. The management of change should be a formal process that identifies external and internal change that may affect the activities of the organisation. It utilises the organisation's existing hazard identification, risk assessment and mitigation processes to ensure that there is no adverse effect on safety.
6. Continuous improvement of the safety system.
   a. Continuous improvement should determine the immediate causes of below standard performance and their implications for the management system, and rectify situations involving below standard performance identified through safety assurance activities. The changes should be tracked to ensure that they are effective.
   b. Continuous improvement should be achieved through proactive evaluation of:
      i. facilities, equipment, documentation and procedures through safety audits and surveys;
      ii. Individual performance to verify the fulfilment of their safety responsibilities; and
      iii. reactive evaluations in order to verify the effectiveness of the system for control and mitigation of risk.

**AMC 1 to OR.GEN.200(a)(3) Management System**

SAFETY MANAGEMENT SYSTEM – ORGANISATION AND ACCOUNTABILITIES

SMALL ORGANISATIONS

The management system of a small organisation should encompass safety by implementing the following items in a simplified manner:

1. Safety accountabilities.
   a. Within the organisation responsibilities should be identified for hazard identification, risk assessment and mitigation..
2. Coordination of emergency response planning.
   a. The organisation should develop, coordinate and maintain an emergency response plan that ensures orderly and efficient transition from normal to emergency operations, and return to normal operations.
3. Documentation.
   a. The organisation should develop and maintain SMS documentation to describe the safety policy, procedures and processes.
   b. The SMS documentation should contain a safety management manual (SMM).

c. The SMM may be a chapter in the organisation manual.

**AMC 2 to OR.GEN.200(a)(3) Management System**

SAFETY MANAGEMENT SYSTEM – ORGANISATION AND ACCOUNTABILITIES

OTHER ORGANISATIONS

The management system of an organisation should encompass safety by implementing the following:

1. SMS organisational structure.
   a. Typically this should include a safety manager, a safety review board and a safety action group.
2. The safety manager.
   a. The safety manager should be responsible and the focal point for the development, administration and maintenance of an effective safety management system.
   b. The functions of the safety manager should be to:
      i. manage the implementation plan on behalf of the accountable manager;
      ii. facilitate hazard identification, risk analysis and management;
      iii. monitor corrective action to ensure their accomplishment;
      iv. provide periodic reports on safety performance;
      v. maintain safety documentation;
      vi. plan and organise staff safety training;
      vii. provide independent advice on safety matters;
      viii. advise senior managers on safety matters;
      ix. assist line managers;
      x. oversee hazard identification systems;
      xi. be involved in occurrence / accident investigations; and
      xii. monitor compliance.
3. Safety review board.
   a. The Safety review board should be a high level committee that considers strategic safety functions.
   b. The board should be chaired by the accountable manager and be composed of heads of functional areas.
   c. The safety review board should monitor:
      i. safety performance against the safety policy and objectives;
      ii. the effectiveness of the SMS implementation plan; and
      iii. the effectiveness of the safety supervision of contracted operations.
   d. The safety review board should ensure that appropriate resources are allocated to achieve the established safety performance.
   e. The safety review board should give strategic direction to the safety action group.
4. Safety action group.
   a. The safety action group should report to and take strategic direction from the safety review board; and should be comprised of managers, supervisors and staff from operational areas.
   b. The safety action group should:
      i. oversee operational safety;
      ii. resolve identified risks;
      iii. assess the impact on safety of operational changes;

iv. implement corrective action plans; and

v. ensure that corrective action is achieved within agreed timescales.

c. The safety action group should review the effectiveness of previous safety recommendations, and safety promotion.

5. Safety accountabilities and responsibilities.

a. The organisation should define the accountabilities of the accountable manager and the safety responsibilities of key personnel.

6. SMS implementation plan.

a. The SMS implementation plan should be a realistic strategy for the implementation of SMS that meets the needs of the organisation and defines the approach taken for managing safety. The plan should be endorsed by senior management and completed within a period of 2 years.

b. SMS implementation plan – contents:

i. safety policy;

ii. safety planning, objectives and goals;

iii. system description;

iv. gap analysis;

v. SMS components;

vi. safety roles and responsibilities;

vii. safety reporting policy;

viii. means of personnel involvement;

ix. safety communication;

x. safety performance measurement; and

xi. management review of safety performance.

7. The Emergency Response Plan.

a. An Emergency Response Plan (ERP) should be established that provides the actions to be taken by the organisation or specified individuals in an emergency and reflects the size, nature and complexity of the activities performed by the organisation.

b. The Emergency Response Plan should ensure:

i. an orderly and efficient transition from normal to emergency operations; and

ii. safe continuation of operations or return to normal operations as soon as practicable.

8. Documentation

a. Documentation should consist of:

i. applicable regulations;

ii. safety management system manual;

iii. SMS records; and

iv. records management.

b. Safety policy should include a commitment to:

i. achieve the highest safety standards;

ii. observe all applicable legal requirements, standards and best practices;

iii. provide appropriate resources;

iv. enforce safety as one primary responsibility of all managers; and

v. ensure that the policy is implemented and understood at all levels both internally and externally.

c. The safety management manual (SMM) should be the key instrument for communicating the approach to safety for the whole of the organisation and

documents all aspects of the SMS, including the safety policy, objectives, procedures and individual safety accountabilities. The contents of the safety management system manual should include:

i. scope of the safety management system;
ii. safety policy and objectives;
iii. safety accountabilities;
iv. key safety personnel;
v. documentation control procedures;
vii. hazard identification and risk management schemes;
viii. safety performance monitoring;
ix. emergency response planning;
x. management of change;
xi. safety promotion; and
xii. contracted activities.

d. The SMM may be a chapter in the organisation manual.

**AMC 1 to OR.GEN.200(a)(4) Management System**

TRAINING AND COMMUNICATION ON SAFETY

SMALL ORGANISATIONS

1. Training.
   a. All personnel should receive safety training as appropriate for their safety responsibilities.
   b. The safety training programme for a small organisation may consist of e-learning or similar training provided by training service providers.
2. Communication.
   a. The organisation should establish communication about safety matters that:
      i. ensures that all staff are fully aware of the SMS;
      ii. conveys safety critical information, and especially that related to assessed risks and analysed hazards;
      iii. explains why particular actions are taken; and
      iv. explains why safety procedures are introduced or changed.
   b. Regular meetings with personnel where information, actions and procedures are discussed may be used for the purpose of communications on safety matters.

**AMC 2 to OR.GEN.200(a)(4) Management System**

TRAINING AND COMMUNICATION ON SAFETY

OTHER ORGANISATIONS

1. Training.
   a. All staff should receive safety training as appropriate for their safety responsibilities.
   b. In particular all managers, supervisors and operational personnel should be trained and be competent to perform their SMS duties.
2. Communication.
   a. The organisation should establish communication about safety matters that:
      i. ensures that all staff are fully aware of the SMS;
      ii. conveys safety critical information, and especially that related to assessed risks and analysed hazards;

iii. explains why particular actions are taken; and

iv. explains why safety procedures are introduced or changed.

**AMC to OR.GEN.200(a)(5) Management System**

OCCURRENCE REPORTING SCHEME

1. The overall objective of the scheme is to use reported information to improve the level of flight safety and not to attribute blame.
2. The objectives of the scheme are:
   a. to enable an assessment of the safety implications of each relevant incident and accident to be made, including previous similar occurrences, so that any necessary action can be initiated; and
   b. to ensure that knowledge of relevant incidents and accidents is disseminated, so that other persons and organisations may learn from them.
3. The scheme is an essential part of the overall monitoring function and it is complementary to the normal day-to-day procedures and 'control' systems and is not intended to duplicate or supersede any of them. The scheme is a tool to identify those occasions where routine procedures have failed.
4. Occurrence reports should remain in the database when judged reportable by the person submitting the report as the significance of such reports may only become obvious at a later date.

**AMC to OR.GEN.200(a)(6) Management System**

ORGANISATION MANUAL – CONTENT

1. The organisation manual should at least include the following information:
   (i) a statement signed by the accountable manager to confirm that the organisation will continuously work in accordance with Part-OR and the organisation manual at all times;
   (ii) the organisation's scope of activity;
   (iii) the titles and names of persons referred to in OR.GEN.210 (a) and (b);
   (iv) an organisation chart showing associated chains of responsibility between the persons referred to in OR.GEN.210;
   (v) a general description and location of the facilities referred to in OR.GEN.215;
   (vi) procedures specifying how the organisation ensures compliance with this Part;
   (vii) the organisation manual amendment procedure.
2. The organisation manual and its amendments should be made available to the competent authority.

**GM to OR.GEN.200(a)(6) Management System**

ORGANISATION MANUAL

The organisation manual is the top level document in the organisation. It is not required to duplicate information in several manuals. The information may be contained in other manuals, e.g. aerodrome manual, operations manual or training organisation manual.

**AMC 1 to OR.GEN.200(a)(7) Management System**

COMPLIANCE MONITORING SYSTEM - GENERAL

1. Compliance Monitoring System.
   a. The implementation and employment of a Compliance Monitoring System should enable the organisation to monitor compliance with relevant requirements of Part-OR and other applicable Parts, and any other standards as established by that organisation, to ensure safe and efficient activities.

b. The organisation should specify the basic structure of the Compliance Monitoring System applicable to the activities conducted.

c. The Compliance Monitoring System should be structured according to the size of the organisation and the complexity of the activities to be monitored.

2. Organisations should monitor compliance with the procedures they have designed to ensure safe activities. In doing so, they should as a minimum, and where appropriate, monitor:

a. Organisational structure;

b. Plans and objectives;

c. Privileges of the organisation;

d. Manuals, Logs, and Records;

e. Training standards.

3. Tasks.

a. To ensure that the organisation continues to meet the requirements of this Part, the Accountable Manager should designate a manager whose role is to verify, by monitoring the activities of the organisation, that the standards required by Part-OR and other applicable Parts, and any additional requirements as established by the organisation, are being carried out properly under the supervision of the relevant nominated post holder.

b. The manager should be responsible for ensuring that the Compliance Monitoring Programme is properly implemented, maintained and continuously reviewed and improved.

c. The manager should:

i. have direct access to the Accountable Manager;

ii. not be one of the nominated post holders; and

iii. have access to all parts of the organisation, and as necessary, any contracted organisation.

d. In the case of a small organisation, this task may be exercised by the Accountable Manager.

4. Scope.

a. A Compliance Monitoring System should address the following:

i. Policy;

ii. Processes;

iii. The provisions of Part-OR and other applicable Parts;

iv. The organisational structure of the organisation;

v. Responsibility for the development, establishment and management of the Compliance Monitoring System;

vi. Documentation, including manuals, reports and records;

vii. Compliance Monitoring Programme;

viii. The required financial, material, and human resources;

ix. Training requirements; and

x. Additional standards and procedures as stated by the organisation.

b. The Compliance Monitoring System should include a feedback system to ensure that corrective actions are both identified and promptly addressed. The feedback system should also specify who is required to rectify discrepancies and non-compliance in each particular case, and the procedure to be followed if corrective action is not completed within an appropriate timescale.

5. Documentation.

a. Relevant documentation should include the relevant part(s) of the organisation manual.

b. In addition, relevant documentation should also include the following:
   i. Compliance policy;
   ii. Terminology, Corporate core values and governance criteria;
   iii. Specified activity standards;
   iv. A description of the organisation;
   v. The allocation of duties and responsibilities;
   vi. Procedures to ensure regulatory compliance;
   vii. The Compliance Monitoring Programme, reflecting:
      A. Schedule of the monitoring programme;
      B. Audit procedures;
      C. Reporting procedures;
      D. Follow-up and corrective action procedures; and
      E. Recording system.
   viii. The training syllabus; and
   ix. Document control.

6. Training.
   a. Correct and thorough training is essential to optimise compliance in every organisation. In order to achieve significant outcomes of such training, the organisation should ensure that all staff understands the objectives as laid down in the Organisation Manual.
   b. Those responsible for managing the Compliance Monitoring System should receive training covering:
      a. An introduction to the concept of Compliance monitoring;
      b. Compliance management;
      c. Concept of compliance monitoring;
      d. Manuals;
      e. Audit techniques;
      f. Reporting and recording; and
      g. The way in which the Compliance Monitoring System will function in the organisation.
   c. Time should be provided to train every individual involved in compliance management and for briefing the remainder of the employees.
   d. The allocation of time and resources should be governed by the size and complexity of the activities concerned.

**AMC2 OR.GEN.200(a)(7) Management System - ATO**

COMPLIANCE MONITORING PROGRAMME – APPROVED TRAINING ORGANISATION

1. Typical subject areas for compliance monitoring inspections for ATOs should be:
   a. Facilities;
   b. Actual flight and ground training;
   c. Technical Standards.
2. ATOs should monitor compliance with the training and operations manuals they have designed to ensure safe and efficient training. In doing so, they should as a minimum, and where appropriate, additionally monitor:
   a. Training procedures;
   b. Flight Safety;
   c. Flight and Duty Time Limitations, Rest Requirements, and Scheduling;
   d. Aircraft Maintenance/Operations interface.

**AMC3 OR.GEN.200(a)(7) Management System - OPS**

COMPLIANCE MONITORING SYSTEM– LARGE OPERATORS

1. Typical subject areas for compliance monitoring inspections for operators should be:
   a. Actual flight operations;
   b. Ground De-icing/Anti-icing;
   c. Flight Support Services;
   d. Load Control;
   e. Technical Standards.
2. Operators should monitor compliance with the operational procedures they have designed to ensure safe operations, airworthy aircraft and the serviceability of both operational and safety equipment. In doing so, they should as a minimum, and where appropriate, additionally monitor:
   a. Operational Procedures;
   b. Flight Safety;
   c. Supervision;
   d. Aircraft Performance;
   e. All Weather Operations;
   f. Communications and Navigational Equipment and Practices;
   g. Mass, Balance and Aircraft Loading;
   h. Instruments and Safety Equipment;
   i. Manuals, Logs, and Records;
   j. Flight and Duty Time Limitations, Rest Requirements, and Scheduling;
   k. Aircraft Maintenance/Operations interface;
   l. Use of the MEL;
   m. Flight Crew;
   n. Cabin Crew;
   o. Dangerous Goods;
   p. Security.



**AMC4 OR.GEN.200(a)(7) Management System-OPS**

COMPLIANCE MONITORING PROGRAMME – SMALL OPERATORS

1. Compliance monitoring inspections
   a. Compliance monitoring inspections should be documented on a "Compliance Monitoring Inspection Checklist", and any findings shall be recorded on a "Deviation Report". The following documents should be used for this purpose.
   b. To report the outcome of the Management Evaluation meeting the "Management Evaluation Report" form should be used.

# COMPLIANCE MONITORING INSPECTION CHECKLIST

**Year:**

| Subject | Date checked | Checked by | Comments / Deviation Report No. |
|---|---|---|---|
| **Flight Operations** | | | |
| Aircraft checklists checked for accuracy and validity. | | | |
| Minimum 5 flight plans checked and verified for proper and correct information. | | | |
| Flight planning facilities checked for updated manuals, documents and access to relevant flight information. | | | |
| Incidents reports evaluated and reported to the appropriate competent authority | | | |
| **Ground Handling** | | | |
| Contracts with ground handling organizations established and valid | | | |
| Instructions regarding fuelling and de-icing issued | | | |
| Instructions regarding Dangerous Goods issued and known by all relevant personnel | | | |
| **Weight & Balance** | | | |
| Min.5 load sheets checked and verified for proper and correct information. | | | |
| Aircraft fleet checked for valid weight check. | | | |
| Minimum one check per aircraft of correct loading and distribution. | | | |
| **Training** | | | |
| Training records updated and accurate | | | |
| All pilot licenses checked for currency, correct ratings and valid medical check | | | |
| All pilots received recurrent training | | | |
| Training facilities & Instructors approved | | | |
| All pilots received Daily Inspection (D.I.) training | | | |
| **Documentation** | | | |
| All issues of OM checked for correct amendment status | | | |
| AOC checked for validity and appropriate Operations Specifications | | | |
| Aviation Requirements applicable and updated | | | |
| Crew flight and duty time record updated | | | |
| Flight documents record checked and updated | | | |
| Quality records checked and updated | | | |

| **- DEVIATION REPORT - No:** | | |
|---|---|---|
| To MANAGER in charge of the compliance monitoring system | Reported by: | Date: |
| Category<br>Flight Operations ☐ Ground Handling ☐ Weight & Balance ☐ Training ☐ Documentation ☐ Other ☐ | | |
| Description: | | Reference: |
| Suggested solution: | | |
| Manager in charge of the compliance monitoring system:<br>☐ Corrective action required ☐ Corrective action not required | | |
| Responsible Person: | | Time limitation: |
| Corrective action: | | Reference: |
| Signature Responsible Person: | | Date: |
| Manager in charge of the compliance monitoring system:<br>☐ Corrective action verified ☐ Report Closed | | |
| Signature Manager in charge of the compliance monitoring system: | | Date: |

**MANAGEMENT EVALUATION REPORT**

| Date; | Attendees; |
|---|---|

Number of Deviation reports recorded during the period from.....to.....

| Flight Operations | Ground Handling | Weight & Balance | Training | Documents | Other | **Total** |
|---|---|---|---|---|---|---|
| | | | | | | |

Significant changes of trend compared with previous evaluation: ☐ No ☐ Yes

Auditors objective review of the QAP effectiveness:

General comments:

Improvements of the CMS or parts thereof regarded necessary:

☐ No ☐ Yes, ref. Deviation Report(s)

No.....

| ..... Signature Manager in charge of the compliance monitoring system | ..... Signature Accountable Manager | ..... Signature Auditor |
|---|---|---|

**AMC to OR.GEN.200(b) Management System - ATO**

SIZE, NATURE AND COMPLEXITY OF THE ACTIVITY – APPROVED TRAINING ORGANISATION

1. Small approved training organisations should have a management system that is appropriate to the size of the organisation and complexity of the activity.
2. For this purpose, approved training organisations that employ 20 or less instructors should be regarded as a "small organisation".
3. Approved training organisations employing more than 20 instructors should be regarded as an "other organisation".
4. In determining complexity, the following factors should be considered among others:
   a. number of aircraft types used for training;
   b. range of training courses offered;
   c. geographical spread of training activities (e.g. the use of satellites); and
   d. range of training arrangements with other approved training organisations.

**AMC1 OR.GEN.200(b) Management System-OPS**

SIZE, NATURE AND COMPLEXITY OF THE ACTIVITY

1. For this purpose, an organisation employing 20 or less full time equivalent (FTE) should be regarded as a "small organisation".
2. An organisation employing more than 20 FTE's should be regarded as a "large organisation".
3. FTE in this context shall mean not less than 35 working hours per week, excluding vacation periods.

**AMC to OR.GEN.205 Contracting and purchasing**

Compliance monitoring responsibility by contracting.

1. Contracted activities.
   a. An organisation may decide to contract certain activities to external organisations.
   b. A written agreement should exist between the organisation and the contracted organisation clearly defining the safety related services and quality to be provided.
   c. The contracted safety related activities relevant to the agreement should be included in the organisation's Compliance Monitoring Programme.
   d. The organisation should ensure that the contracted organisation has the necessary authorisation or approval when required, and commands the resources and competence to undertake the task.
   e. If the organisation requires the contracted organisation to conduct activity which exceeds the contracted organisation's authorisation or approval, the organisation is responsible for ensuring that the contracted organisation's compliance monitoring takes account of such additional requirements.

**GM OR.GEN.205 Contracting and purchasing**

CONTRACTING - OPERATORS

1. Operators may decide to outsource certain activities to external organisations for the provision of services related to areas such as:
   a. Ground De-icing/Anti-icing;
   b. Ground handling;
   d. Flight Support (including performance calculations, flight planning, navigation database and dispatch);

d. Training; and
e. Manual preparation.

2. The ultimate responsibility for the product or service provided by external organisations should always remains with the operator.

**AMC 1 to OR.GEN.215 Facilities – ATO**

Approved Training Organisations not providing training for LPL, BPL, SPL and PPL

1. The following flight operations accommodation should be available:
   a. An operations room with facilities to control flying operations;
   b. A flight planning room with the following facilities:
      i appropriate current maps and charts;
      ii current AIS information;
      iii current meteorological information;
      iv communications to ATC and the operations room;
      v. any other flight safety related material.
   c. Adequate briefing rooms/cubicles of sufficient size and number.
   d. Suitable offices for the supervisory staff and room(s) to allow flying instructors to write reports on students, complete records, etc.
   e. Furnished crew-room(s) for instructors and students.
2. The following facilities for theoretical knowledge instruction should be available:
   a. Adequate classroom accommodation for the current student population.
   b. Suitable demonstration equipment to support the theoretical knowledge instruction.
   c. A radiotelephony training and testing facility.
   d. A reference library containing publications giving coverage of the syllabus.
   e. Offices for the instructional staff.

**AMC 2 to OR.GEN.215 Facilities – ATO**

Approved Training Organisations providing training for LPL, BPL, SPL and PPL only

1. The following flight operations accommodation should be available:
   a. A flight planning room with the following facilities:
      i appropriate current aviation maps and charts
      ii current AIS information
      iii current meteorological information
      iv communications to ATC (if applicable)
      v any other flight safety related material.
   b. Adequate briefing room(s)/cubicles of sufficient size and number.
   c. Suitable office(s) to allow flight instructors to write reports on students, complete records, etc.
   d. Suitable rest areas for instructors and students, where appropriate to the training task.
   e. In the case of training organisations providing training for the BPL or LPL(B) only, the flight operations accommodation listed in (a-d) above may be replaced by other suitable facilities when operating outside aerodromes.
2. The following facilities for theoretical knowledge instruction should be available:
   a. Adequate classroom accommodation for the current student population.

b. Suitable demonstration equipment to support the theoretical knowledge instruction.

c. Suitable office(s) for the instructional staff.

3. In a small training organisation a single room might be sufficient to provide the above mentioned functions.

**AMC to OR.GEN.220(b) – Record-keeping**

RECORDS

1. Records should be kept in paper form or on a computer database or a combination of both methods. Records stored in microfilm or optical disc form are also acceptable. The records should remain legible throughout the required retention period.
2. Paper systems should use robust material which can withstand normal handling and filing.
3. Computer systems should have at least one backup system which should be updated within 24 hours of any new entry. Each terminal is required to contain programme safeguards against the ability of unauthorised personnel to alter the database.

**GM to OR.GEN.220(b) – Record-keeping**

RECORDS

1. Microfilming or optical storage of records may be carried out at any time. The records should be as legible as the original record and remain so for the required retention period.

**AMC to OR.GEN.220 (d)-Record-keeping-OPS**

1. A person authorised by the competent authority should be given access to any documents and records which are related to flight operations.
2. All such documents and records should be produced within a reasonable period of time, when so requested by the competent authority.
3. The pilot-in command should produce within a reasonable time of being requested to do so by the competent authority, the documentation required to be carried on board.

## SUBPART ATO - APPROVED TRAINING ORGANISATIONS

### Section 1 – General

**AMC to OR.ATO.010(b) Legal entity and financial resources**

FINANCIAL RESOURCES – APPROVED TRAINING ORGANISATION

1. Introduction.

   The following paragraphs provide an acceptable means of compliance for approved training organisations on how to prove to the competent authority that sufficient funding is available to conduct training to the approved standards. It is not intended to be a consumer protection provision. The issue and maintenance of an approval cannot therefore be construed as a guarantee of the underlying financial soundness of the organisation. It is an indication, on the basis of financial information provided, that the approved organisation can provide sufficient facilities and qualified staff such that flying training can be, or can continue to be, provided in accordance with the applicable training requirements and standards.

2. Application for initial approval.

   Any application for initial approval should be supported by a plan, which includes at least the following information:

   a. Training facilities and number of students

      Details, as appropriate, of:

      – the number and types of training aircraft that will be used;
      – the number of flight and ground instructors that will be employed;
      – the number of classrooms and other types of training facilities (synthetic training devices, etc.) intended for use;
      – the supporting infrastructure (staff offices, operations room, briefing rooms, rest rooms, hangars, etc.); and
      – planned number of students (by month and course).

   b. Financial Details

      – capital expenditure necessary to provide the planned facilities;
      – costs associated with running each of the courses for which approval is sought;
      – income forecasts;
      – a forecast financial operating statement for the business for which approval is sought; and
      – of any other financial trading arrangement on which the viability of the approved training organisation may be dependent.

   c. The plan submitted in support of an application for initial approval is to be accompanied by a Financial Statement from the applicant's bankers or auditors, which certifies that the applicant has, or has recourse to, sufficient financial resources to meet the applicant's proposals as described in the plan to conduct Part-FCL courses. An appropriately revised Financial Statement should be required whenever the applicants wish to expand their activities in addition to those described in the plan, in order to satisfy the applicable requirements.

3. Ongoing financial monitoring.

   a. After approval has been granted, if the competent authority has reason to believe that the necessary standards of compliance with the applicable requirements are not being met or may not be met due to a lack or apparent

lack of financial resources, the competent authority may require the organisation to demonstrate in a written submission that sufficient funds can and will be made available to continue to meet the terms of approval, or such modifications to it as may have been agreed with the competent authority. Any such submission is to be accompanied by a further Financial Statement signed by the approved organisation's bankers or auditors.

b. The competent authority should also require a Financial Statement if it appears to the competent authority that operation of the course(s) is significantly at variance with the proposals contained in the business plan.

**AMC to OR.ATO.015 Application**

| **APPLICATION FORM FOR APPROVAL OF A TRAINING ORGANISATION** |
|---|

| N° | Question | Supplementary information |
|---|---|---|
| 1. | Name of organisation under which the activity is to take place | address, fax number, Email, Internet URL |
| 2. | Training courses offered | theory and/or flight training |
| 3. | Name of Head of Training | type and number of licence<br>full/part time |
| 4. | Name of Chief Flight Instructor | as (3) |
| 5. | Name of Chief Ground Instructor | as (3) |
| 6. | Name of flight instructor(s), where applicable | as (3) |
| 7. | Aerodrome(s) to be used | IFR approaches<br>night flying<br>air traffic control |
| 8. | Flight operations accommodation | location, number and size of rooms |
| 9. | Theoretical instruction facilities | location, number and size of rooms |
| 10. | Description of training devices( as applicable ) | flight simulators, FNPT I and II<br>flight training devices<br>others |
| 11. | Description of aircraft | type of aircraft<br>registration of aircraft<br>IFR equipped |
| 12. | Proposed administration and Manuals :<br>(submit with application ) | (a) course programmes<br>(b) training records<br>(c) operations manual<br>(d) training manual |
| 13. | Details of proposed compliance monitoring system | |

*Note 1: If answers to any of the above questions are incomplete, the applicant should provide full details of alternative arrangements separately.*

I, *(name)*, on behalf of (name of training organisation) certify that all the above named persons are in compliance with the applicable requirements and that all the above information given is complete and correct.

*(Signature)*

**AMC to OR.ATO.110 Personnel requirements – flight simulation training instructors**

1. Instructors providing training on a FTD and a FNPT I should have instructional experience appropriate to the training courses they are to conduct and hold or have held 3 years a professional pilot licence prior to the first appointment.
2. Instructors providing flight training on a FFS and/or FNPT II, i should hold a FI(A), FI(H), IRI(A), TRI(A), TRI(MPH), CRI(A), STI(A), SFI(A), SFI(H) or MCCI(A) certificate relevant to the course.
3. Instructors providing multi-pilot type rating and/or MCC flight training on a FFS and FTD and FNPT II/III, should hold a TRI(A), TRI(MPH), SFI(A) or SFI(H) certificate.

**AMC 1 to OR.ATO.125 Training programme**

1. Synthetic flight training and theoretical knowledge instruction should be phased in such a manner as to ensure that students should be able to apply to flying exercises the knowledge gained on the ground.
2. Arrangements should be made so that problems encountered in instruction can be resolved during subsequent training.

**AMC 2 to OR.ATO.125 Training programme – type rating courses - aeroplanes**

TYPE RATING COURSE - AEROPLANE

1. Introduction.

1.1 A type rating course should, as far as possible, provide for a continuous process of ground, FSTD and flight training to enable the student to assimilate the knowledge and skills required to operate a specific aircraft type safely and efficiently. The student's ability to do this should be determined by the demonstration of a satisfactory level of theoretical knowledge of the aircraft determined by progressive checking of knowledge and examination, progressive assessment by the approved training organisation during flying training and the successful completion of a practical skill test with an examiner. There should be no difference in the level of knowledge or competency required of the student, irrespective of the intended role of the student as pilot-in-command, co-pilot or flight engineer member of the flight crew.

1.2 A type rating course should normally be conducted as a single, full-time course of study and training. However, in the situation where the course is intended to enable a pilot to fly a further aircraft type while continuing to fly a current type, such as to enable mixed fleet flying with the same operator, some elements of the theoretical knowledge course conducted by self-study may be undertaken while the student continues to fly the current type.

2. Variants.

2.1 Familiarisation training: Where an aeroplane type rating also includes variants of the same aircraft type requiring familiarisation training, the additional familiarisation training may be included in the theoretical knowledge training of the initial type rating course. Flight training should be conducted on a single variant within the type.

2.2 Differences training: Where an aeroplane type rating also includes variants of the same aircraft type for which difference training is required, the initial training course should be directed towards a single variant. Additional training to operate other variants within the same type rating should be completed after successful completion of the initial type rating course, although elements of this differences training may be undertaken at appropriate stages of the initial course, with the agreement of the competent authority.

3. Programme of Theoretical Knowledge and Flight Training.

3.1 The training programme should specify the time allocated to theoretical knowledge training, FSTD training and, if not approved for Zero Flight Time Training, the aeroplane. The initial type rating course should be programmed on the basis that the student has the minimum licensing and experience requirements for entry to the course. For a first type rating on a multi-pilot aeroplane, the course should also provide for consolidation and type-specific training in those elements of basic MCC training relevant to the type or variant.

3.2 If an approved training organisation wishes to provide a training course that includes credit for previous experience on similar types of aircraft, such as those with common systems or operating procedures with the new type, the entry requirements to such courses should be specified by the approved training organisation and should define the minimum level of experience and qualification required of the flight crew member.

3.3 An approved training organisation is permitted to sub-contract elements of training to a third party training provider. In such cases the sub-contracted organisation should normally be approved to conduct such training. When the sub-contracted organisation is not an approved training organisation, the competent authority should, within the approval process of the approved training organisation, include the sub-contracted organisation and be satisfied that the standard of training intended to be given meets the requirements. The other obligations of the approved training organisation, such as student progress monitoring and an adequate management system can be exercised by the approved training organisation seeking approval, and which retains responsibility for the whole course.

GROUND TRAINING

4. Syllabus.

4.1 The ground training syllabus should provide for the student to gain a thorough understanding of the operation, the function and, if appropriate, the abnormal and emergency operation of all aircraft systems. This training should also include those systems essential to the operation of the aircraft, such as 'fly by wire' flight control systems, even if the flight crew have little or no control of their normal or abnormal operation.

5. Theoretical Knowledge Instruction.

5.1 The theoretical knowledge instruction training should meet the general objectives of (but is not limited to):

a. giving the student a thorough knowledge of the aircraft structure, power plant and systems, and their associated limitations, including mass and balance, aircraft performance and flight planning considerations;

b. giving the student a knowledge of the positioning and operation of the cockpit controls and indicators for the aircraft and its systems;

c. giving the student an understanding of system malfunctions, their effect on aircraft operations and interaction with other systems;

d. giving the student the understanding of normal, abnormal and emergency procedures

6. Facilities and Training Aids.

6.1 The approved training organisation should provide adequate facilities for classroom instruction and have available appropriately qualified and experienced instructors. Training aids should enable students to gain practical experience of the operation of systems covered by the theoretical knowledge syllabus and, in the case of multi-pilot aeroplanes, enable such practical application of the knowledge to be carried out in a multi-crew environment. Facilities should be made available for student self-study outside the formal training programme.

7. Computer Based Training (CBT).

7.1 CBT provides a valuable source of theoretical instruction, enabling the student to progress at his own pace within specified time limits. Many such systems ensure that syllabus subjects are fully covered and progress can be denied until a satisfactory assimilation of knowledge has been demonstrated. Such systems may allow self-study or distance learning, if they incorporate adequate knowledge testing procedures. When CBT is used as part of the theoretical knowledge instruction phase, the student should also have access to a suitably qualified instructor able to assist with areas of difficulty for the student.

8. Self-Study and Distance Learning.

8.1 Elements of the theoretical knowledge syllabus may be adequately addressed by distance learning, if approved, or self-study, particularly when utilising CBT. Progress testing, either by self-assessed or instructor-evaluated means should be included in any self-study programme. If self-study or distance learning is included in the theoretical knowledge training, the course should also provide for an adequate period of supervised consolidation and knowledge testing prior to the commencement of flight training.

9. Progress Tests and Final Theoretical Knowledge Examination.

9.1 The theoretical knowledge training programme should provide for progressive testing of the assimilation of the required knowledge. This testing process should also provide for retesting of syllabus items so that a thorough understanding of the required knowledge is assured. This should be achieved by intervention by a qualified instructor or, if using CBT with a self-testing facility, and by further testing during the supervised consolidation phase of the ground course.

9.2 The final theoretical knowledge examination should cover all areas of the theoretical knowledge syllabus. The final examination should be conducted as a supervised written knowledge test without reference to course material. The pass mark of 75% assumes the achievement of satisfactory levels of knowledge during the progressive phase tests of the course. The student should be advised of any areas of lack of knowledge displayed during the examination and, if necessary, given remedial instruction.

9.3 A successful pass of the theoretical knowledge course and final examination should be a pre-requisite for progression to the flight training phase of the type rating course.

FLIGHT TRAINING

10. Flight Simulation Training Devices (FSTDs).

10.1 FSTDs provide the most effective flight training, enabling realistic practice of all abnormal and emergency procedures in a safe and easily controlled environment for both the student and instructor. For multi-pilot aeroplanes they also enable CRM and MCC concepts to be incorporated at all stages of training. Only in exceptional circumstances should a type rating course for a multi-pilot aeroplane not include FSTD training.

10.2 The amount of training required when using FSTDs will depend on the complexity of the aeroplane concerned, and to some extent on the previous experience of the pilot. Except for those courses giving credit for previous experience (para 3.2), a minimum of 32 hours FSTD training should be programmed for a crew of a multi-pilot aeroplane, of which at least 16 hours should be in a Full Flight Simulator operating as a crew. Full Flight Simulator time may be reduced if other qualified FSTDs used during the flight training programme accurately replicate the cockpit environment, operation and aeroplane response. Such FSTDs may typically include FMC training devices using hardware and computer programmes identical to those of the aeroplane, or type specific FNPT IIs.

11. Aeroplane Training with Full Flight Simulator.

11.1 With the exception of courses approved for Zero Flight Time Training (ZFTT), certain training exercises normally involving take-off and landing in various configurations will need to be completed in the aeroplane rather than a Full Flight Simulator. For multi-pilot aeroplanes where the student pilot has more than 500 hours MPA experience in aeroplanes of similar size and performance, these should include at least 4 landings of which at least one should be a full stop landing. In all other cases the student should complete at least 6 landings. This aeroplane training may be completed after the student pilot has completed the FSTD training and has successfully undertaken the type rating skill test, provided it does not exceed 2 hours of the flight training course.

11.2 For courses approved for Zero Flight Time Training

During the specific simulator session before Line Flying under Supervision (LIFUS), consideration should be given to varying conditions, for example:

- runway surface conditions;
- runway length;
- flap setting;
- power setting;
- crosswind and turbulence conditions;
- MTOW and MLW.

The landings should be conducted as full-stop landings. The session should be flown in normal operation.

Special attention should be given to the taxiing technique.

a. A training methodology should be agreed with the competent authority that ensures the trainee is fully competent with the exterior inspection of the aeroplane before conducting such an inspection un-supervised.

b. The LIFUS should be performed as soon as possible after the specific simulator session.

c. The licence endorsement should be entered on the licence after the skill test, but before the first 4 take-offs and landings in the aeroplane. At the discretion of the competent authority, provisional or temporary endorsement and any restriction should be entered on the licence.

Where a specific arrangement exists between the training organisation and the commercial air transport operator, the Operator Proficiency Check (OPC) and the ZFTT specific details should be conducted using the operator's standard operational procedures (SOPs).

12. Aeroplane without Full Flight Simulator.

12.1 Flight training conducted solely in an aeroplane without the use of FSTDs cannot cover the CRM and MCC aspects of MPA flight training, and for safety reasons cannot cover all emergency and abnormal aircraft operation required for the training and skill test. In such cases, the approved training organisation will need to demonstrate to the competent authority that adequate training in these aspects can be achieved by other means. For training conducted solely on a multi-pilot aeroplane where two pilots are trained together without the use of a flight simulator, a minimum of 8 hours flight training as PF for each pilot should normally be required. For training on a single pilot aeroplane, 10 hours flight training should normally be required. It is accepted that for some relatively simple single or multi-engine aircraft without systems such as pressurisation, FMS or electronic cockpit displays, this minimum may be reduced.

12.2 It is widely accepted that aeroplane training normally involves inherent delay in achieving an acceptable flight situation and configuration for training to be carried out in accordance with the agreed syllabus. These could include ATC or other traffic delay on the ground prior to take off, the necessity to climb to height or transit to suitable training areas and the unavoidable need to physically reposition the aircraft

for subsequent or repeat manoeuvres or instrument approaches. In such cases it should be ensured that the training syllabus provides adequate flexibility to enable the minimum amount of required flight training to be carried out.

SKILL TEST

13. Upon completion of the flight training, the pilot will be required to undergo a skill test with an examiner to demonstrate adequate competency of aircraft operation for issue of the type rating. The skill test is separate from the flight training syllabus, and provision for it cannot be included in the minimum requirements or training hours of the agreed flight training programme. The skill test may be conducted in a flight simulator, the aeroplane or, in exceptional circumstances, a combination of both.

COURSE COMPLETION CERTIFICATE

14. The Head of Training, or a nominated representative, is required to certify that all training has been carried out before an applicant undertakes a skill test for the type rating to be included in the pilot's licence.

**AMC 3 to OR.ATO.125 Training programme – type rating courses - helicopters**

1. Introduction.

   The course should, as far as possible, provide for integrated ground, flight simulator and flight training designated to enable the student to operate safely and qualify for the grant of a type rating. The course should be directed towards a helicopter type, but where variants exist, all flying and ground training forming the basis of the course should relate to a single variant.

2. Variants.

   Additional training should be required in accordance with Part-FCL.

3. Training in Helicopter and Flight Simulation Training Devices (FSTDs).

   The training programme should specify the amounts of flight training in the helicopter type and in FSTDs (full flight simulators, flight training devices (FTDs), or other training devices (OTDs)). Where a suitable full flight simulator is geographically remote from the normal training base, the competent authority may agree to some additional training being included in the programme at a remote facility.

4. Skill Test.

   The content of the flying training programme should be directed towards the skill test for that type. The practical training given in Part-FCL should be modified as necessary. The skill test may be completed in a helicopter, in a full flight simulator or partially in a helicopter and in a flight simulator. The use of a FSTD for skill tests is governed by the level of approval of the flight simulator and the previous experience of the candidate. Where a flight simulator is not available, abnormal operations of systems should not be practised in a helicopter other than as allowed for in the skill test form for the type.

5. Phase Progress Tests and Final Theoretical Knowledge Examination.

   Prior to the final theoretical knowledge examination covering the whole syllabus, the training programme should provide for phase progress tests associated with each phase of theoretical knowledge instruction. The phase progress tests should assess the candidate's knowledge on completion of each phase of the training programme.

6. Facilities: Ground School Equipment, Training Facilities and Aids.

   An approved training organisation should provide, as a minimum, facilities for classroom instruction. Additional classroom training aids and equipment including, where appropriate, computers, should reflect the content of the course and the complexity of the helicopter. For multi-pilot helicopters, the minimum level of ground training aids should include equipment that provides a realistic cockpit working environment. Task analysis and the latest state of the art training

technology is encouraged and should be fully incorporated into the training facilities wherever possible. Facilities for self and supervised testing should be available to the student.

7. Training Devices.

A Flight Training Device or Other Training Device may be provided to supplement classroom training in order to enable students to practice and consolidate theoretical instruction. Where suitable equipment is not available, or is not appropriate, a helicopter or flight simulator of the relevant variant should be available. If a FTD represents a different variant of the same helicopter type for which the student is being trained, then differences and/or familiarisation training is required.

8. Computer Based Training (CBT).

Where CBT aids are used as a training tool, the organisation should ensure that a fully qualified ground instructor is available at all times when such equipment is being used by course students. Other than for revision periods, CBT lessons should be briefed and debriefed by a qualified ground instructor.

9. Theoretical Knowledge Instruction.

The Theoretical knowledge instruction training should meet the general objectives of:

a. giving the student a thorough knowledge of the helicopter structure, powerplant and systems, and their associated limitations;

b. giving the student a knowledge of the positioning and operation of the cockpit controls and indicators for the helicopter and its systems;

c. giving the student an understanding of system malfunctions, their effect on helicopter operations and interaction with other systems;

d. giving the student the understanding of normal, abnormal and emergency procedures.

The amount of time and the contents of the theoretical instruction will depend on the complexity of the helicopter type involved and, to some extent, on the previous experience of the student.

10. Flight Training.

10.1 Flight Simulation Training Devices (FSTDs)

The level of qualification and the complexity of the type will determine the amount of practical training that may be accomplished in a FSTD, including completion of the skill test. Prior to undertaking the skill test, a student should demonstrate competency in the skill test items during the practical training.

10.2 Helicopter (with flight simulator)

With the exception of courses approved for zero flight time the amount of flight time in a helicopter should be adequate for completion of the skill test.

10.3 Helicopters (without flight simulator)

Whenever a helicopter is used for training, the amount of flight time practical training should be adequate for the completion of the skill test. The amount of flight training will depend on the complexity of the helicopter type involved and, to some extent, on the previous experience of the applicant.

**AMC to OR.ATO.130 Training aircraft and FSTDs**

1. The number of training and testing aircraft may be affected by the availability of flight simulation training devices.

2. Each aircraft should be:

a. except in the vase of balloons, fitted with duplicated primary flight controls for use by the instructor and the student. Swing-over flight controls should not be used;

b. equipped as required in the training specifications concerning the course in which it is used.

3 The fleet should include, as appropriate to the courses of training:

a. aircraft suitably equipped to simulate instrument meteorological conditions and for the instrument flight training required. For flight training and testing for the IR, an adequate number of IFR certificated aircraft should be available;

b. In the case of aeroplanes and sailplanes, aircraft suitable for demonstrating stalling and spin avoidance;

c. In the case of helicopters, helicopters suitable for auto-rotation demonstration.

**AMC to OR.ATO.135 Aerodromes**

1. Except in the case of balloons, the base aerodrome and any alternative base aerodromes at which flying training is being conducted should have at least the following facilities:

a. at least one runway or take-off area that allows training aircraft to make a normal take-off or landing at the maximum take-off or maximum landing mass authorised, in the following conditions:

(i) under calm wind (not more than 4 knots) conditions and temperatures equal to the mean high temperature for the hottest month of the year in the operating area;

(ii) clearing all obstacles in the take-off flight path by at least 50 feet;

(iii) with the powerplant operation and the landing gear and flap operation (if applicable) recommended by the manufacturer; and

(iv) with a smooth transition from lift-off to the best rate of climb speed without exceptional piloting skills or techniques.

b. a wind direction indicator that is visible at ground level from the ends of each runway;

c. adequate runway electrical lighting if used for night training; and

d. an air traffic control service.

2. In addition to 1, for helicopter training sites should be available for:

a. confined area operation training;

b. simulated engine off auto-rotation;

c. sloping ground operation.

3. In the case of balloons, the take off sites used by the training organisation should allow a normal take-off and clearing of all obstacles in the take-off flight path by at least 50 feet.

## Section 2 - Additional requirements for ATOs providing training for licences and ratings other than the LPL , PPL, SPL and BPL

### AMC 1 to OR.ATO.210 Personnel requirements

GENERAL

1. The management structure should ensure supervision of all grades of staff by persons having the experience and qualities necessary to ensure the maintenance of high standards. Details of the management structure, indicating individual responsibilities, should be included in the training organisation's operations manual.
2. The training organisation should demonstrate to the competent authority that an adequate number of qualified, competent staff is employed.
3. In the case of integrated courses, the HT, the CFI and the CGI should be employed full time.
4. In the case of modular training courses, at least one of these positions should be occupied by a person employed full time, with extensive experience in the training conducted by the training organisation.
5. In the case of modular courses, the positions of HT, CFI and CGI may be combined and filled by one or two persons, full time or part time, depending upon the scope of training offered.
6. The ratio of all students to flight instructors, excluding the HT, should not exceed 6:1.
7. Class numbers in ground subjects involving a high degree of supervision or practical work should not exceed 12 students.

THEORETICAL KNOWLEDGE GROUND INSTRUCTORS

8. The theoretical knowledge instruction for type or class ratings should be conducted by ground instructors holding the appropriate type/class rating, or having appropriate experience in aviation and knowledge of the aircraft concerned.
9. Theoretical knowledge ground instructors should, before appointment, prove their competency by giving a test lecture based on material they have developed for the subjects they are to teach.
10. For this purpose, a flight engineer, a maintenance engineer or a flight operations officer should be considered as having appropriate experience in aviation and knowledge of the aircraft concerned.

### AMC 2 to OR.ATO.210 Personnel requirements

1. *Head of Training (HT)*. The nominated HT should hold or have held in the three years prior to first appointment as an HT, a professional pilot licence and associated ratings issued in accordance with Part-FCL, related to the flying training courses conducted.
2. *Chief Flying Instructor (CFI)*. The CFI should:
   (i) hold the highest professional pilot licence and the ratings related to the flying training courses conducted;
   (ii) have completed 1000 hours of flight time as pilot-in-command of which at least 500 hours shall be on flying instructional duties related to the flying courses conducted, of which 200 hours may be instrument ground time.

### AMC to OR.ATO.230(c) Training manual and operations manual

TRAINING MANUAL

Training Manuals for use at an approved training organisation conducting integrated or modular flying training courses should include the following:

Part 1 – The Training Plan

| | |
|---|---|
| The aim of the course (ATP(A), CPL/IR(A), CPL(A) as applicable) | A statement of what the student is expected to do as a result of the training, the level of performance, and the training constraints to be observed. |
| Pre-entry requirements | Minimum age, educational requirements (including language), medical requirements. |
| | Any individual State requirements. |
| Credits for previous experience | To be obtained from the competent authority before training begins. |
| Training Syllabi | The flying syllabus (single-engine), the flying syllabus (multi-engine), the synthetic flight training syllabus and the theoretical knowledge training syllabus. |
| The time scale and scale, in weeks, for each syllabus | Arrangements of the course and the integration of syllabi time. |
| Training programme | The general arrangements of daily and weekly programmes for flying, ground and synthetic flight training. |
| | Bad weather constraints. |
| | Programme constraints in terms of maximum student training times, (flying, theoretical knowledge, synthetic), e.g. per day/week/month. |
| | Restrictions in respect of duty periods for students. |
| | Duration of dual and solo flights at various stages. |
| | Maximum flying hours in any day/night; maximum number of training flights in any day/night. |
| | Minimum rest period between duty periods. |
| Training records | Rules for security of records and documents. |
| | Attendance records. |
| | The form of training records to be kept. |
| | Persons responsible for checking records and students' log books. |
| | The nature and frequency of record checks. |
| | Standardisation of entries in training records. |
| | Rules concerning log book entries. |
| Safety training | Individual responsibilities. |
| | Essential exercises. |
| | Emergency drills (frequency). |
| | Dual checks (frequency at various stages). |
| | Requirement before first solo day/night/navigation etc. |

| | |
|---|---|
| Tests and examinations | Flying<br>(a) Progress checks<br>(b) Skill tests<br>Theoretical Knowledge<br>(a) Progress tests<br>(b) Theoretical knowledge examinations<br>Authorisation for test.<br>Rules concerning refresher training before retest.<br>Test reports and records.<br>Procedures for examination paper preparation, type of question and assessment, standard required for 'Pass'.<br>Procedure for question analysis and review and for raising replacement papers.<br>Examination resit procedures. |
| Training effectiveness | Individual responsibilities.<br>General assessment.<br>Liaison between departments.<br>Identification of unsatisfactory progress (individual students).<br>Actions to correct unsatisfactory progress.<br>Procedure for changing instructors.<br>Maximum number of instructor changes per student.<br>Internal feedback system for detecting training deficiencies.<br>Procedure for suspending a student from training.<br>Discipline.<br>Reporting and documentation. |
| Standards and Level of performance at various stages | Individual responsibilities.<br>Standardisation.<br>Standardisation requirements and procedures.<br>Application of test criteria. |

Part 2 – Briefing and Air Exercises

| | |
|---|---|
| Air Exercise | A detailed statement of the content specification of all the air exercises to be taught, arranged in the sequence to be flown with main and sub-titles. This should normally be the same as the air exercise specification for the flight instructor rating course. |
| Air exercise reference list | An abbreviated list of the above exercises giving only main and sub-titles for quick reference, and preferably in flip-card form to facilitate daily use by flight instructors. |
| Course structure – Phase of training | A statement of how the course will be divided into phases, indication of how the above air exercises will be divided between the phases and how they will be arranged to ensure that they are completed in the most suitable learning sequence and that essential (emergency) exercises are repeated at the correct frequency. Also, the syllabus hours for each phase and for groups of exercises within each phase should be stated and when progress tests are to be conducted, etc. |

| | |
|---|---|
| Course structure integration of syllabi | The manner in which theoretical knowledge, synthetic flight training and flying training will be integrated so that as the flying training exercises are carried out students will be able to apply the knowledge gained from the associated theoretical knowledge instruction and synthetic flight training. |
| Student progress | The requirement for student progress and include a brief but specific statement of what a student is expected to be able to do and the standard of proficiency he must achieve before progressing from one phase of air exercise training to the next. Include minimum experience requirements in terms of hours, satisfactory exercise completion, etc. as necessary before significant exercises, e.g. night flying. |
| Instructional methods | The ATO requirements, particularly in respect of pre- and post-flying briefing, adherence to syllabi and training specifications, authorisation of solo flights, etc. |
| Progress tests | The instructions given to examining staff in respect of the conduct and documentation of all progress tests. |
| Glossary of terms | Definition of significant terms as necessary. |
| Appendices | Progress test report forms.<br>Skill test report forms.<br>ATO certificates of experience, competence, etc. as required. |

Part 3 – Synthetic Flight Training

Structure generally as for Part 2.

Part 4 – Theoretical knowledge instruction

| | |
|---|---|
| Structure of the theoretical knowledge course | A statement of the structure of the course, including the general sequence of the topics to be taught in each subject, the time allocated to each topic, the breakdown per subject and an example of a course schedule. Distance learning courses should include instructions of the material to be studied for individual elements of the course. |
| Lesson Plans | A description of each lesson or group of lessons including teaching materials, training aids, progress test organisation and inter-connection of topics with other subjects. |
| Teaching materials | Specification of the training aids to be used (e.g. study materials, course manual references, exercises, self-study materials, demonstration equipment). |
| Student progress | The requirement for student progress, including a brief but specific statement of the standard that must be achieved and the mechanism for achieving this, before application for theoretical knowledge examinations. |
| Progress testing | The organisation of progress testing in each subject, including topics covered, evaluation methods and documentation. |
| Review procedure | The procedure to be followed if the standard required at any stage of the course is not achieved, including an agreed action plan with remedial training if required. |

**AMC to OR.ATO.210(d) Training manual and operations manual**

OPERATIONS MANUAL

Operations Manual for use at an approved training organisation conducting integrated or modular flying training courses should include the following:

1. General
   - A list and description of all volumes in the Operations Manual
   - Administration (function and management)
   - Responsibilities (all management and administrative staff)
   - Student discipline and disciplinary action
   - Approval/authorisation of flights
   - Preparation of flying programme (restriction of numbers of aircraft in poor weather)
   - Command of aircraft
   - Responsibilities of pilot-in-command
   - Carriage of passengers
   - Aircraft documentation
   - Retention of documents
   - Flight crew qualification records (licences and ratings)
   - Revalidation (medical certificates and ratings)
   - Flying duty period and flight time limitations (flying instructors)
   - Flying duty period and flight time limitations (students)
   - Rest periods (flying instructors)
   - Rest periods (students)
   - Pilots' log books
   - Flight planning (general)
   - Safety (general) – equipment, radio listening watch, hazards, accidents and incidents (including reports), safety pilots etc.
2. Technical
   - Aircraft descriptive notes
   - Aircraft handling (including checklists, limitations, maintenance and technical logs, in accordance with relevant requirements, etc.)
   - Emergency procedures
   - Radio and radio navigation aids
   - Allowable deficiencies (based on MMEL, if available)
3. Route
   - Performance (legislation, take-off, route, landing etc.)
   - Flight planning (fuel, oil, minimum safe altitude, navigation equipment etc.)
   - Loading (loadsheets, mass, balance, limitations)
   - Weather minima (flying instructors)
   - Weather minima (students – at various stages of training)
   - Training routes/areas
4. Staff Training
   - Appointments of persons responsible for standards/competence of flying staff
   - Initial training
   - Refresher training
   - Standardisation training
   - Proficiency checks
   - Upgrading training

   ATO staff standards evaluation

## Section 3 – Additional requirements for ATOs providing training in FSTDs and the qualification of FSTDs

## Chapter 1 - Requirements for ATOs providing training in FSTDs

### AMC 1 to OR.ATO.300(a)(1) General

COMPLIANCE MONITORING PROGRAMME – APPROVED TRAINING ORGANISATION OPERATING FSTDs

1. Introduction.
   a. The purpose of this AMC is to provide additional and specific information and guidance to an approved training organisation operating FSTDs on how to establish a Compliance Monitoring Programme that enables compliance with the applicable requirements.
2. Compliance Monitoring Programme.
   a. Typical subject areas for inspections are:
      i. Actual FSTD operation;
      ii. Maintenance;
      iii. Technical Standards; and
      iv. Full Flight Simulator safety features.
3. Audit Scope.
   a. ATOs operating FSTDs are required to monitor compliance with the procedures they have designed to ensure specified performance and functions.

      In doing so they should as a minimum, and where appropriate, monitor:
      i. Organisation;
      ii. Plans and objectives;
      iii. Maintenance procedures;
      iv. FSTD qualification level;
      v. Supervision;
      vi. FSTD technical status;
      vii. Manuals, Logs, and Records;
      viii. Defect deferral;
      ix. Personnel training; and
      x. Aircraft modification management.



### AMC 2 to OR.ATO.300(a)(1) General

COMPLIANCE MONITORING PROGRAMME – APPROVED TRAINING ORGANISATION OPERATING FSTDs

*Standard Measurements for Full Flight Simulator Compliance*

It is recognised that a Compliance Monitoring System tied to measurement of FSTD performance will probably lead to improving and maintaining training quality. One acceptable means of measuring FSTD performance is as defined and agreed by industry in ARINC report 433 (May 15th, 2001 or as amended) entitled "Standard Measurements for Flight Simulator Quality".

### AMC 3 to OR.ATO.300(a)(1) General

COMPLIANCE MONITORING PROGRAMME – APPROVED TRAINING ORGANISATION OPERATING BITDs

1. A Compliance Monitoring Programme together with a statement acknowledging completion of a periodic review by the Accountable Manager should include the following:
2. A maintenance facility which provides suitable BITD hardware and software test and maintenance capability.
3. A recording system in the form of a technical log in which defects, deferred defects and development work are listed, interpreted, actioned and reviewed within a specified time scale.
4. Planned routine maintenance of the BITD and periodic running of the QTG with adequate manning to cover BITD operating periods and routine maintenance work.
5. A planned audit schedule and a periodic review should be used to verify that corrective action was carried out and that it was effective. The auditor should have adequate knowledge of BITDs and should be acceptable to the competent authority.

**GM 1 to OR.ATO.300 General**

COMPLIANCE MONITORING SYSTEM - APPROVED TRAINING ORGANISATION OPERATING FSTDs- GENERAL

1. The concept of Compliance Monitoring Systems (CMS) is a fundamental requirement for ATOs operating of FSTDs. An effective CMS is vitally important in supporting operation of the devices, in a structured way, to ensure they remain in compliance with the technical standards of CS-FSTD(A) and CS-FSTD (H) and continue to be effective training tools. An effective CMS is also essential to support any level of extended qualification as permitted by OR.ATO.375(b).
2. OR.ATO.375(b) provides the requirements on what is expected in a CMS. However, the experience of the Authorities indicates that there remain many areas of misunderstanding in the FSTD operating community with regard to CMS. The following guidance has been developed to provide additional material to help both ATOs operating FSTDs and Authorities in developing effective CMS that satisfy the applicable requirements and ensure the highest standards of training are maintained.
3. For ease of use this guidance material has been laid out in the same way as AMC 2 to OR.GEN.200(a)(7). Although this guidance material uses this AMC as its basis, the advice is equally applicable to other levels of FSTDs and both aeroplanes and helicopters. Where the expected standard differs this has been detailed in the guidance material.
4. Also included, as Appendices to this guidance material and Subpart are an ATO operating FSTDs Compliance Checklist (GM 2 to OR.ATO.300) and guidance detailing the preparation for an Authority Evaluation (GM 3 to OR.ATO.300). The Compliance Checklist should be used by the Authorities as a standardised checklist for the elements that are expected in an ATO operating FSTDs CMS. The ATO should complete the third column of the checklist by providing appropriate manual or procedure references for each of the identified elements of the CMS. This would then be provided to the Authority. Use of this checklist should assist in ensuring a consistent approach by the Authorities and also provide the ATOs with additional guidance on all the elements of a CMS that the Authorities will expect to be reflected in an effective CMS. The guidance is provided to help ATOs to prepare for Authority visits and to facilitate the preliminary briefing that is the first step of any initial or recurrent evaluation of a Flight Simulation Training Device carried out by an Authority.
5. The documentation of the CMS may be electronic provided the necessary controls can be demonstrated. This should include control of any paper copies that may be downloaded for use by individuals. It is recommended that any such copies are automatically designated as uncontrolled as part of the download process. Whilst electronic signatures on master documents may be accepted, with appropriate protections, it still remains a requirement for a hard-copy master, with wet-ink signatures to be held by the applicant.

6. It should be recognised that whatever CMS is developed, it will not be effective unless it becomes an integral part of the way in which the organisation works. It includes both the necessary procedures for maintaining compliance with all the applicable requirements and a Compliance Monitoring Programme (CMP) to monitor the execution of these procedures. A successful CMS will ensure that the highest training tool is available at all times. If the CMS is viewed as an add-on to existing processes it will become a burden and it will never be wholly effective. It should also be noted that Compliance Control or Inspection is only a small part of a CMS. If the CMS is working effectively, inspections such as fly-outs should become routine revealing little beyond day-to-day unserviceabilities. Systematic defects should be captured by the CMP.

7. The Accountable Manager and the Safety Manager have to be acceptable to the Authority. For the Accountable Manager, the acceptability is based on an assessment of the nominated person's level of responsibility and authority. The Authority should be satisfied that the Accountable Manager is able to adequately provide the required level of resources to properly support the FSTD. Detailed knowledge of FSTD requirement standards are not necessary, only sufficient to understand his/her responsibility for ensuring the FSTD is properly supported. The assessment of the Safety Manager should concentrate on establishing that the nominee has sufficient knowledge and experience of both compliance monitoring management and FSTD operations to operate a CMS within an ATO. This is likely to require experience of working in the compliance monitoring field and sufficient knowledge of FSTD's and the technical standards with which they should comply.

8. Many ATOs may be ISO 9000 certified, often as part of a much wider company approval. Whilst ISO 9000 provides a good basis for a CMS, in most cases, it may not provide full compliance with all elements of the applicable requirements. Elements more directly related to the operation of FSTD's will normally be required.

9. For small organisations, it is perfectly acceptable to combine the roles of Safety Manager and Accountable Manager. For other organisations that hold multiple approvals and may cover multiple sites, it is advantageous to have a common CMS with an overall Safety Manager. However, it is essential, particularly where sites may be significantly separated geographically, that there is a nominated Representative/focal at each site and possibly for each approval. These Representatives should hold the delegated responsibility of the Safety Manager for the day-to-day compliance monitoring role at their site and in their function and have the necessary direct reporting lines to the overall Safety Manager and Accountable Manager. In most cases it will also be necessary to ensure that local Representatives are also acceptable to the local NAA. In many cases the local Representatives may perform other functions in addition to this role. This is acceptable provided the necessary independence of any compliance monitoring activity is maintained.

10. The CMS, as a whole, begins with the requirements with which the system seeks to comply. These include both the Technical Standards, in this case the relevant parts of CS-FSTD plus any other ATO specific standards, for example Health and Safety codes and the compliance monitoring objectives, such as defect rates and rectification intervals and FSTD reliability targets. The CMS should define the process by which these standards are made available to those who require them.

11. The next part of the CMS is that part which defines the day-to-day procedures or working practices by which the standards will be achieved. These procedures should include as a minimum defect reporting systems, defect rectification processes, tracking mechanisms, preventative maintenance programmes, spares handling, equipment calibration and configuration management of the device. They should include checks to assess the compliance of the performed actions. These procedures and standards should be made readily available to anybody involved in the maintenance and day-to-day operation of the FSTD.

12. The third part of the CMS is the method by which the ATO operating a FSTD confirms the device is maintained in compliance with the defined standards and is being operated in accordance with the defined procedures. This is the CMP and includes the audit

methods, reporting and corrective action procedures and feedback, management reviews and schedules for audits of all aspects of the FSTD operation.

13. Across all aspects of the CMS, and most important to it, are the people. The CMS includes the definition of the responsibilities of all staff and should include a declaration of the minimum levels of resource proposed for the direct support of the FSTD plus the levels of support and managerial staff proposed. The levels of resource can be affected by factors such as local health and safety regulations, existence of weekend and/or night usage of the device(s), etc. The CMS also includes definition of the skills and experience required for staff and leads to definition of any required training programmes. Training needs cover both technical training and audit training, including QTG running and checking and fly-out techniques for flight crew. All the above would be documented in, as a minimum, a manual and a procedures manual with appropriate cross-referencing both up and down the document hierarchy.

14. The documentation of the CMS may be provided in any number of documents provided there are appropriate cross-references in all documents such that the system is fully traceable in both directions from end to end. For all but small organisations at least two documents would be expected.

15. Firstly, a CMS manual containing the policy, terminology, organisational charts and responsibilities, an overview of all processes, within the system, and certainly including those for maintaining regulatory compliance such as QTG running and fly-outs (Function and Subjective testing), CMP including the audit schedule and audit procedures including reporting and corrective action procedures. In addition, the CMS manual should include, either directly or by reference, the identification of skills and experience and associated training.

16. Secondly, a Procedures Manual containing, as a minimum, software and hardware control procedures, configuration control procedures including, for example, control of training loads, updates to visual models, navigation and IOS data bases, QTG running and checking procedures, fly-out procedures, maintenance procedures including both defect rectification and preventative maintenance processes. Any standard forms and checklists should also be included.

17. The CMS documentation also includes all records such as technical logs, QTG runs, fly-out reports and maintenance job cards.

18. For ATOs with several approvals, separate and modular procedures manuals with a single CMS Manual covering all approvals, may be acceptable.

19. It is important to understand the difference between Compliance Assurance and Compliance Control. An effective CMS will contain elements of both. Compliance Control is normally done by inspection of the product; it provides confirmation at the time of the inspection that the product conforms to a defined standard.

20. The Compliance Assurance element is essential to ensure the standard is maintained throughout the periods between product inspections. Within a CMP, the processes are defined that are necessary to provide confidence that the FSTD(s) is being supported and maintained to the highest possible standard and in compliance with the relevant requirements. A programme of internal audits is then set in place to confirm that the processes are being followed and are effective. The Authority would normally oversee an approved organisation by process and system audit, however, in the case of FSTDs, Authority oversight includes an inspection element in the form of the annual simulator fly-out.

21. In addition to the normal process and system audits, the Compliance Assurance audit schedule should include the schedule for each FSTD, for fly-outs and QTG running through the audit year.

22. The audit procedure should include, at least, the following: statement of scope, planning, initiation of audit, collection of evidence, analysis, reporting of findings, identification and agreement of corrective actions and feedback, including reporting significant findings to the Authority, where appropriate. The review of published material could include, in addition to the CMS and Procedures manuals, QTG records,

fly-out reports, technical log sheets, maintenance records and configuration control records.

23. In addition to knowledge of FSTD requirements and operation, it is expected that auditors have received training in CMS and audit techniques.

24. The routine fly-outs of the device are a specialised part of the audit programme. It is essential that the pilots tasked with carrying out these fly-outs are adequately experienced. They would be expected to be TRI/TRE qualified on the type, and should have experience of simulator evaluations carried out by the Authority. The assignment of such pilots can present difficulties, particularly for the independent ATO operating FSTDs not directly associated with an airline. It is vital for the ATO to ensure their users are aware of the importance of the fly-outs as part of the continued qualification of the device and the need to assist in the provision of suitably qualified pilots to carry them out. It is worth noting that simulator users are required to satisfy themselves that the training devices they use are assessed for continued suitability, as part of there own CMP. Involvement in fly-outs assists in meeting this need.

25. Whilst it is accepted that the number of audits required in an ATO with a single device will be significantly less than those in larger ATOs with multiple devices, the CMP should still meet the same criteria, and cover all aspects of the operation within a twelve-month period. The independence of the audit personnel should be maintained at all time. The audit programme, whether by full audit or by using a checklist system should still be sufficiently comprehensive to provide the necessary level of confidence that the device is maintained and operated to the highest possible standard. This includes monitoring and review of corrective actions and feedback processes.

26. In addition to the documents listed, it is also important that other documentation is retained such as QTG runs, fly-out reports, technical log, obsolete procedures and forms and, certainly, update and modification history of the device, for a similar five year period.

27. The successful use of sub-contractors by an ATO is reliant on the sub-contractor operating a CMS of equal effectiveness to that of the ATO. All requirements that an ATO is expected to meet are equally applicable to his sub-contractor. For example, ISO 9000 does not fully address the relevant requirements for FSTDs. It follows, therefore, if ISO 9000 does not provide full compliance for an ATO, neither will it provide full compliance for their sub-contractor. The ultimate responsibility for an effective CMS within sub-contractors lies with the ATO, but it is likely that the Authority will include at least one subcontractor in the audit of an ATO if the sub-contractor plays a significant role in the provision of devices to users.

28. It cannot be emphasised too strongly that for a CMS to be fully effective there has to be buy-in from the entire workforce. It is essential, therefore, that a proper understanding of the system and how it applies to each and every staff member is provided by appropriate training to all, not just those directly involved in operating the CMS such as the Safety Manager, Representative and the Auditors. The training given to those directly involved in the CMS should cover the CMS, audit techniques and applicable technical standards. CMS familiarisation training should be an integral part of any induction training and recurrent training. Update training on technical standards for audit personnel, is also of particular importance.

29. Any effective CMS will include measurement of its effectiveness. The ATO should develop performance measures that can be monitored against objectives. Such measures, often referred to as Metrics, should be reviewed by the Authority as part of its oversight of the CMS within the ATO, and should normally be examined for each FSTD on, at least, an annual basis.

30. ARINC 433 provides good guidance on simulator compliance measurement. Metrics should monitor not only individual simulator performance but, for larger ATOs, how each simulator is performing within the fleet. It is also recommended that metrics data be shared, regularly, with the simulator manufacturers to allow monitoring for generic problems such as design issues, which may be best addressed with a fleet wide solution.

**GM 2 to OR.ATO.300 General**

COMPLIANCE MONITORING SYSTEM – ASSESSMENT FOR ATOs OPERATING FSTDs

**COMPLIANCE MONITORING SYSTEM ASSESSMENT FOR APPROVED TRAINING ORGANISATIONS OPERATING FSTDs**

| | |
|---|---|
| **Approved Training Organisation:** | |
| **Site Assessed:** | |
| **Date of Assessment:** | |
| **Accountable Manager:** | |
| **Safety Manager:** | |
| **Number and Type of FSTDs:** | |
| **CMS Manual Reference:** | |

| **Audit Area** | **CMS/Proc Ref** | **Comments** | **Satis Y/N** |
|---|---|---|---|
| **1. ACCOUNTABLE MANAGER** | | | |
| Has an Accountable Manager with overall responsibility for the Compliance Monitoring System (CMS) been nominated? | | | |
| Does the Accountable Manager have corporate authority to ensure all necessary activities can be financed and carried out to the standard required by the Authority? | | | |
| Is the Accountable Manager acceptable to the Authority? | | | |
| Has a formal written Compliance Policy statement been established, included in the CMS Manual and signed by the Accountable Manager? | | | |
| **2. SAFETY MANAGER** | | | |
| Has a Safety Manager been nominated? | | | |
| Is the Safety Manager acceptable to the Authority? | | | |

| Audit Area | CMS/Proc Ref | Comments | Satis Y/N |
|---|---|---|---|
| Are the posts of SM and AM combined? If so, is the required independence of Compliance Audits assured? | | | |
| Does the SM have overall responsibility and authority to:<br>a) verify that standards are met and<br>b) ensure that the Compliance Monitoring Programme is established, implemented and maintained? | | | |
| Does the SM have direct access to the AM? | | | |
| Does the SM have access to all parts of the ATO operating a FSTD and as necessary any subcontractor's organisation? | | | |
| **3. COMPLIANCE MONITORING SYSTEM (CMS)** | | | |
| Has a CMS been established by the operator? | | | |
| Is the CMS properly documented? (see Section 4) | | | |
| Is the CMS structured according to the size and complexity of the operator? | | | |

| **Audit Area** | **CMS/Proc Ref** | **Comments** | **Satis Y/N** |
|---|---|---|---|
| Does the CMS include the following as a minimum:<br>a. Monitoring of compliance with required technical standards<br>b. Identification of corrective actions and person responsible for rectification<br>c. Feedback system to Accountable Manager to ensure corrective action are promptly addressed<br>d. Reporting of significant non-compliances to the Authority<br>e. A Compliance Monitoring Programme to verify continued compliance with applicable requirements, standards and procedures | | a.<br>b.<br>c.<br>d.<br>e. | |
| Are the responsibilities of the Safety Manager defined to include, as a minimum:<br>a) Monitoring of corrective action programme<br>b) To ensure that the corrective actions contain the necessary elements<br>c) Provide management with an independent assessment of corrective action, implementation and completion<br>d) Evaluation of the effectiveness of the corrective action programme | | a)<br>b)<br>c)<br>d) | |
| Are adequate financial, material and human resources in place to support the CMS? | | | |
| Are management evaluations/reviews of the CMS<br>a) held<br>b) how often | | a)<br>b) | |

| Audit Area | CMS/Proc Ref | Comments | Satis Y/N |
|---|---|---|---|
| Does the management evaluation ensure that the CMS is working effectively and is it comprehensive and well documented? | | | |
| Does the Compliance Monitoring Programme identify the processes necessary and the persons within the company who have the training, experience, responsibility and authority to carry out the following:<br>a. Perform quality inspections and audits as part of ongoing Compliance Assurance;<br>b. Identify and record any concerns or findings, and the evidence necessary to substantiate such concerns or findings;<br>c. Initiate or recommend solutions to concerns or findings through designated reporting channels;<br>d. Verify the implementation of solutions within specific timescales; | | a.<br>b.<br>c.<br>d. | |
| Is there sufficient auditor resource available and can their required level of independence be demonstrated? | | | |
| Do the Auditors report directly to the Safety Manager? | | | |

| **Audit Area** | **CMS/Proc Ref** | **Comments** | **Satis Y/N** |
|---|---|---|---|
| Does the defined audit schedule cover the following areas, within each 12 month period?<br><br>a. Organisation<br><br>b. Plans and objectives<br><br>c. Maintenance procedures<br><br>d. FSTD qualification level;<br><br>e. Supervision<br><br>f. FSTD technical status<br><br>g. Manuals, Logs, and Records<br><br>h. Defect deferral<br><br>i. Personnel training<br><br>j. Aircraft and simulator configuration management, including Airworthiness Directives | | <br><br>a)<br><br>b)<br><br>c)<br><br>d)<br><br>e)<br><br>f)<br><br>g)<br><br>h)<br><br>i)<br><br>j) | |
| Does the audit schedule allow flexibility and unscheduled audits when required? | | | |
| Have any checks or follow-up audits taken place in order to verify that corrective actions were<br>a) taken, and<br>b) effective | | | |
| Are significant changes in management or organisation considered in the audit schedule? | | | |
| How are audit non-compliances recorded? | | | |
| Have audit non-compliances been identified? | | | |
| Are procedures in place to ensure that corrective actions are taken in response to findings? | | | |
| Have corrective actions been identified and implemented? | | | |

| **Audit Area** | **CMS/Proc Ref** | **Comments** | **Satis Y/N** |
|---|---|---|---|
| Have any follow-up audits taken place in order to verify that corrective actions were<br>a) taken and<br>b) effective | | a)<br>b) | |
| Have corrective actions re-established compliance with the standards required by the Authority, and any additional requirements defined by the ATO? | | | |
| Are records of the Compliance Monitoring Programme:<br>a) accurate<br>b) complete and<br>c) readily accessible | | a)<br>b)<br>c) | |
| Is there a document retention policy covering<br>a) Audit schedules<br>b) Inspection and audit reports<br>c) Responses to findings<br>d) Corrective action reports<br>e) Follow-up and closure reports<br>f) Management evaluation reports | | a)<br>b)<br>c)<br>d)<br>e)<br>f) | |
| Is there an acceptable and effective procedure for providing a briefing on the CMS to all personnel? | | | |

| Audit Area | CMS/Proc Ref | Comments | Satis Y/N |
|---|---|---|---|
| Is there an acceptable and effective procedure for ensuring that all those responsible for managing the CMS receive training covering:<br>a) An introduction to the concept of the CMS<br>b) Compliance management<br>c) The concept of Compliance Assurance<br>d) CMS manuals<br>e) Audit Techniques<br>f) Reporting and recording<br>g) How the CMS supports continuous improvement within the organisation | | a)<br>b)<br>c)<br>d)<br>e)<br>f)<br>g) | |
| Are suitable training records maintained? | | | |
| Are activities within the CMS sub-contracted out to external agencies? | | | |
| Do written agreements exist between the ATO and the sub-contractor clearly defining the services and standard to be provided? | | | |
| Are the procedures in place to ensure that the necessary authorisations/approval when required are held by a sub-contractor? | | | |
| Are the procedures in place to establish that the sub-contractor has the necessary technical competence? | | | |
| **4. CMS MANUAL** | | | |
| What is the current status of the CMS Manual – Amendment and Issue Date? | | | |

| Audit Area | CMS/Proc Ref | Comments | Satis Y/N |
|---|---|---|---|
| Is there a procedure in place to control copies and the distribution of the CMS Manual? | | | |
| Have Compliance Monitoring Objectives been developed from the Policy statement, and included either directly or by reference in the CMS manual? | | | |
| Is the CMS Manual signed by the Accountable Manager and the Safety Manager? | | | |
| Does the CMS Manual include, either directly or by reference to other documents, the following:<br>a) A description of the organisation<br>b) Reference to appropriate FSTD technical standards<br>c) Allocation of duties and responsibilities<br>d) Audit procedures<br>e) Reporting procedures<br>f) Follow-up and corrective action procedures<br>g) Document retention policy<br>h) Training records | | a)<br>b)<br>c)<br>d)<br>e)<br>f)<br>g)<br>h) | |

| Audit Area | CMS/Proc Ref | Comments | Satis Y/N |
|---|---|---|---|
| Does the CMS Manual include, either directly or by reference to other documents, the following procedures for day to day operation of the FSTD: | | | |
| a) defect reporting systems | | a) | |
| b) defect rectification processes | | b) | |
| c) tracking mechanisms | | c) | |
| d) preventative maintenance programmes | | d) | |
| e) spares handling | | e) | |
| f) equipment calibration | | f) | |
| g) configuration management of the device including visual, IOS and navigation databases. | | g) | |
| h) Configuration Control System to ensure the continued integrity of the hardware and software qualified. | | h) | |
| i) QTG running and function and subjective tests. | | i) | |
| Does the CMS Manual include, either directly or by reference to other documents, procedures for notification of the Authorities of the following: | | | |
| a) any change in the organisation including Company name, location, management | | a) | |
| b) major changes to a qualified device | | b) | |
| c) deactivation or relocation of a qualified device | | c) | |
| d) major failures of a qualified device | | d) | |
| e) major safety issue associated with the installation | | e) | |

| Audit Area | CMS/Proc Ref | Comments | Satis Y/N |
|---|---|---|---|
| Does the CMS Manual define acceptable and effective procedures to ensure compliance with applicable Health and Safety Regulations, including:<br>a) Safety briefings<br>b) Fire/Smoke detection and suppression<br>c) Protection against electrical, mechanical, hydraulic and pneumatic hazards<br>d) Other items as defined in AMC to OR.ATO.315 | | a)<br>b)<br>c)<br>d) | |
| Does the CMS Manual include acceptable and effective procedures for regularly checking FSTD safety features such as emergency stops and emergency lighting, and are such tests recorded? | | | |
| **5. COMPLIANCE MEASURES** | | | |
| Does the CMS include processes to produce and review appropriate metrics data? | | | |
| Do these Compliance measures track the following:<br>a) FSTD Availability<br>b) Numbers of defects<br>c) Open defects<br>d) Defect closure rates<br>e) Training session interrupt rates<br>f) Training session Compliance Rating | | a)<br>b)<br>c)<br>d)<br>e)<br>f) | |
| Do the Compliance Measures support the Compliance objectives? | | | |

| **Required actions/Comments** |
| --- |
| |

Signature:……

Date:…….

**GM 3 to OR.ATO.300 General**

COMPLIANCE MONITORING SYSTEM – GUIDANCE FOR ATOs OPERATING FSTDs TO PREPARE FOR A COMPETENT AUTHORITY EVALUATION

1. Introduction.

   The following paragraphs provide guidance on what is expected by the Authorities to support the discussion during the preliminary briefing which is a first step of any initial or recurrent evaluation of a FSTD carried out by an Authority.

   This document has been developed as well to standardise working methods throughout Member States and to develop effective CMS spot checks to satisfy the applicable requirements and therefore to ensure the highest standards of training are attained.

2. Document form.

   Different document forms can be considered. Nevertheless, it appears that the best solution is a dossier, which includes all the information required by the Authorities.

3. Contents of the dossier for an initial evaluation:

   - Type of FSTD and qualification level requested;
   - Evaluation agenda: including date of evaluation, name of people involved for the Authority, contact details for the STD operator, schedules for the subjective flight profile, QTG rerun;
   - FSTD identification including, type of FSTD, manufacturer, registration number, date of entry into service, host computer, visual system, motion system, type of IOS, simulated version(s), standards of all the aircraft computers (if applicable);
   - Recent and planned modifications;
   - Subjective open defect(s);
   - Airport visual databases including for each visual scene, name of the airport, IATA and ICAO codes, type of visual scene (specific or generic), additional capabilities (Snow model, WGS 84 compliance, EGPWS);
   - QTG status: the list should include for each QTG test available the status of the tests following the STD operator and Authority reviews;
   - Additional white pages to take notes.

4. Contents of the dossier for a recurrent evaluation:
   - Type of FSTD and qualification level requested;
   - Evaluation agenda, including date of evaluation, name of people involved for the Authority, contact details for the operator, schedules for the subjective flight profile, QTG rerun and QTG review;
   - FSTD identification, including type of FSTD, manufacturer, registration number, date of entry into service, host computer, visual system, motion system, type of IOS, simulated version(s), standards of all the aircraft computers (if applicable);
   - Status of items raised during the last evaluation and date of closure;
   - Reliability data: training hours month by month during the past year, numbers of complains mentioned in the Technical Log, training hours lost, availability rate;
   - Operational data: a list of the simulator users during the 12 last months should be provided with number of training hours;
   - Failure tabulation including categorisation of failures (ATA chapter by ATA chapter and Pareto diagram, ARINC classification);
   - Details of main failures leading to training interruption or multiple occurrences of some failures;
   - Recent and planned modifications;
   - Subjective open defect(s);
   - Airport visual databases including for each visual scene, name of the airport, ATA and ICAO codes, type of visual scene (specific or generic), additional capabilities (Snow model, WGS 84 compliance, EGPWS);
   - QTG status: the list should include for each QTG test available, the date of run during the past year, any comment, and the status of the tests;
   - Additional white pages to take notes.

**AMC to OR.ATO.310(a) Modifications**

1. It is required that the simulator be maintained in a configuration that accurately represents the aircraft being simulated. This may be a specific aircraft tail number or may be a representation of a common standard.
2. Users of the device should always be required to produce a differences list for any device they intend to use, and to identify how any differences should be covered in training. In order to ensure each device is maintained in the appropriate configuration, the ATO operating a FSTD should have a system that ensures that all relevant Airworthiness Directives (ADs) are introduced on affected simulators.
3. In order to do this, ATOs are reminded that ADs from both the State of Design of the aircraft and the State where the FSTD is located need to be monitored. It is common for ADs from the State of Design to be automatically adopted, unless specifically varied by the State of Registry.
4. It may also be necessary to monitor ADs issued by states where users of the device have aircraft registered. In addition to ADs, the STD operator also needs to put in place processes that ensure all aircraft modifications are reviewed for any effect on training and testing. This should usually require review of the aircraft manufacturers Service Bulletins and may require a specific link to the aircraft manufacturer to be developed.
5. It may be necessary for this link to be created through the users of the device, as some aircraft manufacturers have been reluctant to share such information directly with ATOs operating FSTDs who are not also aircraft operators.

**AMC to OR.ATO.310(b) Modifications**

1. It has always proven difficult to provide a comprehensive definition of what level of change should be considered major.
2. Any change that affects the QTG should always be considered major.
3. Introduction of new standards of equipment such as FMGCs and updated aerodynamic data packages would normally be considered major.
4. Re-hosting of the FSTD software would be classified as major.
5. Introduction of features that model new training scenarios; e.g., TCAS, EGPWS would normally be classified as major.
6. ATOs are reminded that the requirement is for the Authority to be notified of such changes.
7. This does not imply that the Authority will always wish to directly evaluate the change. The Authority should be mindful of the potential burden placed on the ATO by a special evaluation and should always consider that burden when deciding if such an evaluation is necessary.
8. A decision by the Authority to evaluate a change does not imply that the ATO does not need its own internal acceptance process to be completed prior to any Authority evaluation.

**AMC to OR.ATO.315 Installations**

1. Introduction.

1.1 This AMC identifies those elements that are expected to be addressed, as a minimum, to ensure that the FSTD installation provides a safe environment for the users and operators of the FSTD under all circumstances.

2. Expected Elements.

2.1 Adequate fire/smoke detection, warning and suppression arrangements should be provided to ensure safe passage of personnel from the FSTD.

2.2 Adequate protection should be provided against electrical, mechanical, hydraulic and pneumatic hazards – including those arising from the control loading and motion systems to ensure maximum safety of all personnel in the vicinity of the FSTD.

2.3 Other areas that should be addressed include:

a. A two-way communication system that remains operational in the event of a total power failure;
b. Emergency lighting;
c. Escape exits and escape routes;
d. Occupant restraints (seats, seat belts etc.);
e. External warning of motion and access ramp or stairs activity;
f. Danger area markings;
g. Guard rails and gates;
h. Motion and control loading emergency stop controls accessible from either pilot or instructor seats; and
i. A manual or automatic electrical power isolation switch.

**GM to OR.ATO.315 Installations**

1. The intent of this requirement is to establish that the ATO operating a FSTD has all the necessary procedures in place to ensure that the FSTD installation remains in compliance with all requirements affecting the safety of the device and its users.
2. The Authority should routinely audit the procedures to establish that they are properly implemented and effective, but should not, necessarily, carry out checks directly.

3. Based on experience, it is likely that the Authority should pay particular attention to the quality of safety briefings provided to users and instructors on the FSTD and to the execution of regular checks on the STD safety features.
4. It is recognised that certain checks, such as that of the emergency stop, can have adverse impact on the FSTD if carried out in full.
5. It is acceptable to develop a procedure that protects elements of the device by shutting them down in advance, in a more controlled manner, provided it can be shown that the procedure still demonstrates the whole device can be shut down by the operation of a single emergency stop button, when required.

## Chapter 2 -Requirements for the qualification of FSTDs

**AMC to OR.ATO.350 Application for FSTD qualification**

LETTER OF APPLICATION FOR INITIAL EASA EVALUATION OF A FSTD; EXCEPT BITD

A sample of letter of application is provided overleaf.

**Part A**

**To be submitted not less than 3 months prior to requested qualification date**

(Date)

PRINCIPAL INSPECTOR

(Office – Competent Authority)

(Address)…….

(City)……..

(Country)…….

| Type of FSTD | Aircraft Type/class | Qualification Level Sought | | | | |
|---|---|---|---|---|---|---|
| Full Flight Simulator<br><br>FFS | | A | B | C | D | Sp./Cat |
| Flight Training Device<br><br>FTD | | 1 | 2 | 3 | | |
| Flight and Navigation Procedures Trainer<br><br>FNPT | | I | II | III | II MCC | III MCC |

Grandfather rights requested (FFS only): YES/NO

Interim Qualification Level requested: YES/NO

Dear,

<*Name of Applicant*> requests the evaluation of its Flight Simulation Training Device for EASA qualification. The <*FSTD Manufacturer Name*> FSTD with its <*Visual System Manufacturer Name, if applicable*> Visual System is fully defined on page <.....> of the accompanying Qualification Test Guide (QTG) which was run on <*date*> at <*place*>.

Evaluation is requested for the following configurations and engine fits as applicable:

e.g. 767 PW/GE and 757RR

1.....

2.....

3.....

Dates requested are: <*date(s)*> and the FSTD will be located at <*place*>.

**The QTG will be submitted by <*date*> and in any event not less than 30 days before the requested evaluation date unless otherwise agreed with the competent authority.**

Comments:

……
……

Signed

……

Print name: ……..

Position/appointment held: ……..

E-mail address: ……..

Telephone number: ……..

**Part B**

**To be completed with attached QTG results**

(Date) …….

We have completed tests of the FSTD and declare that it meets all applicable requirements except as noted below. Appropriate hardware and software configuration control procedures have been established and these are appended for your inspection and approval.

The following MQTG tests are outstanding:

| Tests | Comments |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

(Add boxes as required)

It is expected that they will be completed and submitted 3 weeks prior to the evaluation date.

Signed

……

Print name: ……..

Position/appointment held: ……..

E-mail address: ……..

Telephone number: ……..

**Part C**

**To be completed not less than 7 days prior to initial evaluation**

(Date) …….

The FSTD has been assessed by the following evaluation team:

..... (Name) ..... Qualification .....

..... (Name) ..... Qualification .....

..... (Name) ..... Qualification .....

..... (Name) ..... Pilot's Licence Nr.....

..... (Name) ..... Flight Engineer's Licence Nr (if applicable)

This team attest(s) that it conforms to the aeroplane/helicopter flight deck configuration of ..... (Name of ATO operating the FSTD)..... (type of aeroplane/helicopter) aeroplane/helicopter and that the simulated systems and subsystems function equivalently to those in that aeroplane/helicopter. This pilot has also assessed the performance and the flying qualities of the FSTD and finds that it represents the designated aeroplane.

(Additional comments as required)

…….

…….

…….

Signed

……

Print name: ……..

Position/appointment held: ……..

E-mail address: ……..

Telephone number: ……..

**GM to OR.ATO.350Application for FSTD qualification**

USE OF FOOTPRINT TESTS IN QUALIFICATION TEST SUBMISSION

1. Introduction

1.1. Recent experience during initial qualification of some full flight simulators has required acceptance of increasing numbers of Footprint tests. This is particularly true for simulators of smaller or older aircraft types, where there may be a lack of aircraft flight test data. However, the large number of Footprint tests offered in some QTG's has given rise to concern. The different and, in some areas increased number of QTG tests has exacerbated the problem.

1.2. Although this guidance is only applicable to FFS aeroplane qualifications, the advice and guidance provided is equally applicable to FTD aeroplane, FFS helicopter and FTD helicopter.

2. Terminology

2.1. Footprint test - Footprint test data from the actual training FSTD requiring qualification validated by the competent authority appointed pilot subjective assessment. The result obtained is said to be the footprint validation data for the FSTD.

3. Recommendation

3.1. It is permitted to use footprint data where flight test data is not available. Only when all other alternative possible sources of data have been thoroughly reviewed without success may a footprint test be acceptable, subject to a case by case review with the competent authorities concerned, taking into consideration the level of qualification sought for the FSTD.

3.2. Footprint test data should be:

- Constructed with initial conditions and FFS set up in the appropriate configuration (e.g. correct engine rating) for the required validation data.
- A manoeuvre representative of the particular aircraft being simulated.
- Manually flown out by a type rated pilot who has current experience on type (see Note 1) and is deemed acceptable by the competent authority (see Note 2).
- Constructed from validation data obtained from the footprint test manoeuvre and transformed into an automatic test.
- An automatic test runs as a fully integrated test with pilot control inputs.
- Automatically run for the Initial Qualification and recurrent evaluations.

*Note 1*: In this context, "current" refers to the pilot experience on the aircraft, and not to the Part-FCL standards.

*Note 2*: The same pilot should sign off the complete test as being fully representative.

3.3. A clear rationale should be included in the QTG for each footprint test. These rationales should be added to and clearly recorded within the Validation Data Road map (VDR) in accordance with and as defined in Appendix 2 to AMC No. 1 to CS-FSTD(A).300.

3.4. Where the number of footprint tests is deemed by the competent authority to be excessive, the maximum level of Qualification may be affected. The competent authority should review each area of validation test data where the use of footprint tests as the basis for the validation data, is proposed. Consideration should be given to the extent to which footprint tests are used in any given area.

3.5. For example, it would be unacceptable if all or the vast majority of take-off tests were proposed as footprint tests, with little or no flight test data being presented. It should be recognised, therefore, that it may be necessary for new flight test data to be gathered if the use of footprint tests becomes excessive, not just overall, but also in specific areas.

3.6 For recurrent evaluation purposes an essential match is to be expected. Validation tests using footprint data, which do not provide an essential match, should be justified to the satisfaction of the competent authority.

3.7. The competent authority should be consulted well in advance of the QTG submission if footprint tests are to be used.

**AMC to OR.ATO.370 Interim FSTD qualification**

NEW AIRCRAFT FFS/FTD QUALIFICATION – ADDITIONAL INFORMATION

1. It is usual that aircraft manufacturer's approved final data for performance, handling qualities, systems or avionics will not be available until well after a new or derivative aircraft has entered service. It is often necessary to begin flight crew training and certification several months prior to the entry of the first aircraft into service and consequently it may be necessary to use aircraft manufacturer-provided preliminary data for interim qualification of FSTDs.
2. In recognition of the sequence of events that should occur and the time required for final data to become available, the competent authority may accept certain partially validated preliminary aircraft and systems data, and early release ('red label') avionics in order to permit the necessary programme schedule for training, certification and service introduction.
3. ATOs seeking qualification based on preliminary data should, however, consult the competent authority as soon as it is known that special arrangements will be necessary, or as soon as it is clear that the preliminary data will need to be used for FSTD qualification. Aircraft and FSTD manufacturers should also be made aware of the needs and be agreed party to the data plan and FSTD qualification plan. The plan should include periodic meetings to keep the interested parties informed of project status.
4. The precise procedure to be followed to gain competent authority acceptance of preliminary data should vary from case to case and between aircraft manufacturers. Each aircraft manufacturer's new aircraft development and test programme is designed to suit the needs of the particular project and may not contain the same events or sequence of events as another manufacturer's programme or even the same manufacturer's programme for a different aircraft. Hence, there cannot be a prescribed invariable procedure for acceptance of preliminary data, but instead there should be a statement describing the final sequence of events, data sources, and validation procedures agreed by the FSTD operator, the aircraft manufacturer, the FSTD manufacturer, and the competent authority.
5. There should be assurance that the preliminary data are the manufacturer's best representation of the aircraft and reasonable certainty that final data will not deviate to a large degree from these preliminary, but refined, estimates. Data derived from these predictive or preliminary techniques should be validated by available sources including, at least, the following:
   a. Manufacturer's engineering report. Such report explains the predictive method used and illustrates past success of the method on similar projects. For example, the manufacturer could show the application of the method to an earlier aircraft model or predict the characteristics of an earlier model and compare the results to final data for that model.
   b. Early flight tests results. Such data will often be derived from aircraft certification tests, and should be used to maximum advantage for early FSTD validation. Certain critical tests, which would normally be done early in the aircraft certification programme, should be included to validate essential pilot training and certification manoeuvres. These include cases in which a pilot is expected to cope with an aircraft failure mode including engine failures. The early data available will, however, depend on the aircraft manufacturer's flight test programme design and may not be the same in each case. However it is expected that the flight test programme of the aircraft

manufacturer include provisions for generation of very early flight tests results for FSTD validation.

6. The use of preliminary data is not indefinite. The aircraft manufacturer's final data should be available within 6 months after aircraft first 'service entry' or as agreed by the competent authority, the ATO and the aircraft manufacturer, but usually not later than 1 year. In applying for an interim qualification, using preliminary data, the ATO and the competent authority should agree upon the update programme. This should normally specify that the final data update will be installed in the FSTD within a period of 6 months following the final data release unless special conditions exist and a different schedule agreed. The FSTD performance and handling validation would then be based on data derived from flight test. Initial aircraft systems data should be updated after engineering tests. Final aircraft systems data should also be used for FSTD programming and validation.
7. FSTD avionics should stay essentially in step with aircraft avionics (hardware & software) updates. The permitted time lapse between aircraft and FSTD updates is not a fixed time but should be minimal. It may depend on the magnitude of the update and whether the QTG and pilot training and certification are affected. Permitted differences in aircraft and FSTD avionics versions and the resulting effects on FSTD qualification should be agreed between the ATO and the competent authority. Consultation with the FSTD manufacturer is desirable throughout the agreement of the qualification process.
8. The following describes an example of the design data and sources which might be used in the development of an interim qualification plan.
   a. The plan should consist of the development of a QTG based upon a mix of flight test and engineering simulation data. For data collected from specific aircraft flight tests or other flights the required designed model and data changes necessary to support an acceptable Proof of Match (POM) should be generated by the aircraft manufacturer.
   b. In order that the two sets of data are properly validated, the aircraft manufacturer should compare their simulation model responses against the flight test data, when driven by the same control inputs and subjected to the same atmospheric conditions as were recorded in the flight test. The model responses should result from a simulation where the following systems are run in an integrated fashion and are consistent with the design data released to the FSTD manufacturer:
      (1) Propulsion
      (2) Aerodynamics
      (3) Mass properties
      (4) Flight controls
      (5) Stability augmentation
      (6) Brakes and landing gear.
9. For the qualification of FSTD of new aircraft types, it may be beneficial that the services of a suitably qualified test pilot are used for the purpose of assessing handling qualities and performance evaluation.

**GM to OR.ATO.370 Interim FSTD qualification**

NEW AIRCRAFT FFS/FTD QUALIFICATION – ADDITIONAL INFORMATION

1. A description of aircraft manufacturer-provided data needed for flight simulator modelling and validation is to be found in the IATA Document 'Flight Simulator Design and Performance Data Requirements' – (Edition 6 2000 or as amended).
2. The Proof of Match should meet the relevant AMC No. 1 to CS-FSTD(A).300 tolerances.

**AMC to OR.ATO.380(b) Changes to the qualified FSTD**

UPDATING AND UPGRADING EXISTING FSTDs

1. An update is a result of a change to the existing device where it retains its existing qualification level and the change can be certified through a recurrent inspection or an extra inspection if deemed necessary by the competent authority according to the applicable requirements in effect at the time of initial qualification.
2. If such a change to an existing device would imply, that the performance of the device could no longer meet the requirements at the time of initial qualification, but that the result of the change would, to the opinion of the competent authority, clearly mean an improvement to the performance and training capabilities of the device altogether, than the competent authority might accept the proposed change as an update while allowing the device to retain its original qualification level.
3. An upgrade is defined as the raising of the qualification level of a device, or an increase in training credits, which can only be achieved by undergoing an initial qualification according to the latest applicable requirements.
4. As long as the qualification level of the device does not change, all changes made to the device should be considered to be updates pending approval by the competent authority.
5. An upgrade, and consequent initial qualification according to latest applicable requirements, is only applicable when the ATO requests another qualification level (re-categorisation) for the FSTD.

## Section 4 - Additional requirements for ATOs providing specific types of training

### Chapter 1 – General distance learning courses

**AMC to OR.ATO.400 General**

1. A variety of methods are open to ATOs to present course material. It is, however, necessary for ATOs to maintain comprehensive records in order to ensure that students make satisfactory academic progress and meet the time constraints laid down in Part-FCL for the completion of modular courses.
2. The following are given as planning guidelines for ATOs developing the distance learning element of modular courses:
   a. An assumption that a student will study for at least 15 hours per week.
   b. An indication throughout the course material of what constitutes a week's study.
   c. A recommended course structure and order of teaching.
   d. One progress test for each subject for every 15 hours of study, which should be submitted to the ATO for assessment. Additional self-assessed progress tests should be completed at intervals of 5 to 10 study hours.
   e. Appropriate contact times throughout the course when a student can have access to an instructor by telephone, fax, e-mail or the Internet.
   f. Measurement criteria to determine whether a student has satisfactorily completed the appropriate elements of the course to a standard that, in the judgement of the Head of Training, or CGI, will enable them to be entered for the Part-FCL theoretical examinations with a good prospect of success.
   g. If the ATO provides the distance learning by help of IT solutions, for example the Internet, instructors should monitor students' progress by appropriate means.

## Chapter 2 -Zero Flight Time Training (ZFTT)

**AMC to OR.ATO.430 General**

For an initial approval to conduct ZFTT, the operator should have held an air operator's certificate for commercial air transport for at least one year. This period may be reduced where the operator and the training organisation have experience of type rating training.

**AMC to OR.ATO.435 Flight Simulation Training Devices**

Some equipment may be unserviceable provided that it is not required during the simulator lesson.

## SUBPART AEMC -AEROMEDICAL CENTRES

### Section 1 - General

**AMC to OR.AeMC.015 Application**

1. The documentation for the approval of an AeMC should include the names and qualifications of all medical staff, a list of medical and technical facilities for initial class 1 aeromedical examinations and of supporting specialist consultants.
2. A clinical attachment to a designated hospital or medical institution should consist of a formal agreement with the hospital or medical institution.

## Section 2 –Management

### AMC to OR.AeMC.210 Personnel requirements

1. An AME should have hold class 1 privileges at least 5 years and have performed at least 500 aeromedical examinations for a class 1 medical certificate before being nominated as head of an AeMC.
2. An AeMC may provide practical AME training for persons fully qualified and licenced in medicine.

### AMC to OR.AeMC.215 Facility requirements

The medical-technical facilities of an AeMC should consist of the equipment of a general medical practice and, in addition, of:

1. Cardiology. Facilities to perform:
   a. 12-lead resting ECG,
   b. stress ECG
   c. 24-hour blood pressure monitoring
   d. 24-hour heart rhythm monitoring.
2. Ophthalmology. Facilities for the examination of:
   a. near, intermediate and distant vision;
   b. external eye, anatomy, media and fundoscopy;
   c. ocular motility;
   d. binocular vision;
   e. colour vision (anomaloscopy);
   f. visual fields;
   g. refraction;
   h. heterophoria.
3. Hearing
   Pure-tone audiometer
4. Otorhinolaryngology. Facilities for clinical examination of mouth and throat and:
   a. otoscopy;
   b. rhinoscopy;
   c. tympanometry or equivalent;
   d. clinical assessment of vestibular system.
5. Examination of pulmonary function:
   Spirometry
6. Other:
   a. Clinical laboratory facilities
   b. Ultrasound of the abdomen.