CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR

ASC FCL 1.055-1
Training Organisations for Pilot Licences and Ratings
(FTOs and TRTOs)
(PLM Chapter 1, 1.2.8.2 refers)

Amendment 1, 06 July 2009

Part A
Flying Training Organisation (FTO)   [Appendix 1a to JAR–FCL 1.055]

INTRODUCTION

1. A Flying Training Organisation (FTO) is an organisation staffed, equipped and operated in a suitable environment offering flying training, and/or synthetic flight instruction and/or theoretical knowledge instruction for specific training programmes.

2. A FTO wishing to offer approved training to meet Personnel Licensing Manual (PLM) requirements shall obtain the approval of CAD. No such approval will be granted by CAD unless the FTO meets all requirements of PLM and this ASC.
    This ASC gives the requirements for the issue, revalidation and variation of the approval of a FTO. A FTO needs only to meet the requirements to the instruction it is providing.

OBTAINING APPROVAL

3. A FTO seeking approval shall provide to CAD such operations and training manuals as required by paragraph 31. A FTO shall establish procedures acceptable to CAD to ensure compliance with all relevant Personnel Licensing Manual requirements. The procedures shall include a quality system (see Appendix A) within the FTO to readily detect any deficiencies for self-remedial action. After consideration of the application the FTO will be inspected to ensure that it meets the requirements set out in this ASC. Subject to satisfactory inspection, approval of the FTO will be granted for a period of two years, and may be renewed, every two years, upon FTO submitting the applicable fees and meeting the requirements of this ASC. CAD is not obliged to grant an approval for a FTO outside Maldives if the personnel resources are not available or the cost of processing the application for approval and inspections puts undue burden on CAD.

Organisations approved under JAR FCL by EU countries do not require an inspection for the approval.

4. All training courses shall be approved.

5. CAD will monitor course standards and will sample training flights with students. During such visits, access shall be given by the FTO to training records, authorisation sheets, technical logs, lectures, study notes and briefings and any other relevant material. A copy of the report on a visit to a FTO will be made available by CAD to that FTO.

6. Approval will be varied, suspended or revoked by CAD if any of the approval requirements or standards cease to be maintained to the minimum approved level.

7. If a FTO wishes to make changes to an approved course or to its operations or training manual the approval of CAD shall be obtained before the changes are implemented. FTOs need not advise CAD of minor changes in day-to-day operations. Where any doubt exists as to whether a proposed change is minor, CAD shall be consulted.

8. A FTO may make training arrangements with other training organisations or make use of alternative base aerodromes as part of its overall training organisation, subject to the approval of CAD.

FINANCIAL RESOURCES

9.

  (a)   A FTO shall satisfy CAD that sufficient funding is available to conduct training to the approved standards.

  (b)   A FTO shall nominate a person acceptable to CAD who shall satisfy CAD that sufficient funding is available to conduct training to the approved standard. Such person shall be known as the accountable manager.

MANAGEMENT AND STAFFING

10. The management structure shall 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, shall be included in the FTO's Operations Manual.

11. The FTO shall satisfy CAD that an adequate number of qualified, competent staff are employed. For integrated courses, three persons on the staff shall be employed full time in the following positions:
- Head of Training (HT)
- Chief Flying Instructor (CFI)
- Chief Ground Instructor (CGI)

For modular training courses, these positions may be combined and filled by one or two persons, full time or part time, depending upon the scope of training offered. At least one person on the staff must be full time. At FTOs conducting theoretical knowledge instruction only, the positions of HT and CGI may be combined. The

nominated person shall have a sound managerial capability and shall meet the requirements set out in paragraph 19 below.

12. The number of part time instructors in relation to the scope of training offered shall be acceptable to CAD.

13. The ratio of all students to flight instructors, excluding the HT, shall not normally exceed 6:1. Class numbers in ground subjects involving a high degree of supervision or practical work shall not normally exceed 12 students.

Note: *"a high degree of supervision" refers to CPL courses and/or higher*

HEAD OF TRAINING (HT)

14. The HT shall 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. The HT shall have had extensive experience in training as a flight instructor for professional pilot licences and possess a sound managerial capability. The HT shall hold or have held in the three years prior to first appointment as a HT, a professional pilot licence and rating(s) issued in accordance with ICAO Annex 1, related to the flying training courses conducted.

CHIEF FLYING INSTRUCTOR (CFI)

15. The CFI 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:
    (a)   hold the highest professional pilot licence related to the flying training courses conducted;
    (b)   hold the rating(s) related to the flying training courses conducted;
    (c)   hold a flight instructor rating for at least one of the types of aeroplane used on the course; and
    (d)   have completed 1 000 hours pilot-in-command flight time of which a minimum of 500 hours shall be on flying instructional duties related to the flying courses conducted of which 200 hours may be instrument ground time

INSTRUCTORS, OTHER THAN SYNTHETIC FLIGHT INSTRUCTORS

16. Instructors shall hold:
    (a)   a professional pilot licence and rating(s) related to the flying training courses they are appointed to conduct;
    (b)   an instructor rating relevant to the part of the course being conducted e.g. instrument rating instructor, flight instructor, type/class rating instructor, as appropriate; or
    (c)   an authorisation from CAD to conduct specific training in a FTO.

17. The maximum flying hours, maximum flying duty hours and minimum rest time between instructional duties of instructors shall be acceptable to CAD.

INSTRUCTORS FOR SYNTHETIC FLIGHT TRAINING

18. For flight training duties on a FTD and a FNPT I, instructors shall hold or have held 3 years prior to the first appointment, a professional pilot licence and rating(s), and have had instructional training experience. For flight training duties on a flight simulator and/or FNPT II, instructors shall hold a FI (A), IRI (A), TRI (A) or CRI (A) rating or a SFI (A) or STI (A) or MCCI (A) authorisation relevant to the course the instructor is conducting.

CHIEF GROUND INSTRUCTOR (CGI)

19. The CGI shall be responsible for the supervision of all ground instructors and for the standardization 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.

THEORETICAL KNOWLEDGE INSTRUCTORS

20. Theoretical Knowledge Instructors in licence and ratings examination subjects shall have appropriate experience in aviation and shall, before appointment, give proof of their competency by giving a test lecture based on material they have developed for the subjects they are to teach.

RECORDS

21. A FTO shall maintain and retain the following records for a period of at least 5 years, using appropriate administrative staff:
    (a) details of ground, flying, and simulated flight training given to individual students;
    (b) detailed and regular progress reports from instructors including assessments, and regular progress flight tests and ground examinations; and
    (c) personal information, e.g. expiry dates of medical certificates, ratings, etc.

22. The format of the student training records shall be specified in the Training Manual.

23. The FTO shall submit training records and reports as required by CAD.

TRAINING PROGRAMME

24. A training programme shall be developed for each type of course offered. This programme shall include a breakdown of flying and theoretical knowledge instruction in either a week-by-week or phase presentation, a list of standard exercises and a syllabus summary. In particular, synthetic flight training and theoretical knowledge instruction shall be phased in such a manner as to ensure that students shall be able to apply to flying exercises the knowledge gained on the ground. Arrangements should be made so that problems encountered in instruction can be resolved during subsequent training. The content and sequence of the training programme shall be acceptable to CAD.

TRAINING AEROPLANES

25. An adequate fleet of training aeroplanes appropriate to the courses of training shall be provided. Each aeroplane shall be fitted with duplicated primary flight controls for use by the instructor and the student. Swing-over flight controls shall not be acceptable. The fleet shall include, as appropriate to the courses of training, aeroplane(s) suitable for demonstrating stalling and spin avoidance and aeroplane(s) suitably equipped to simulate instrument meteorological conditions and suitably equipped for the instrument flight training required.
For further guidance see Appendix B

26. Only aeroplanes approved by CAD for training purposes shall be used.

AERODROMES

27. The base aerodrome, and any alternative base aerodrome, at which flying training is being conducted shall have at least the following facilities:
    (a)   at least one runway or take-off area that allows training aeroplanes to make a normal take-off or landing at the maximum take-off or maximum landing mass authorised, as appropriate,
        (i)   under calm wind (not more than four 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 except where, with the approval of CAD, the training requirements may be satisfied safely by another means of air/ground communications.

FLIGHT OPERATIONS ACCOMMODATION

28. The following accommodation shall   be available:
    (a)   An operations room with facilities to control flying operations.
    (b)   A flight planning room with the following facilities:
        –   appropriate current maps and charts
        –   current AIS information
        –   current meteorological information
        –   communications to ATC and the operations room
        –   maps showing standard cross-country routes
        –   maps showing current prohibited, danger and restricted areas
        –   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.

For further guidance see Appendix B

THEORETICAL KNOWLEDGE INSTRUCTION FACILITIES

29. The following facilities for theoretical knowledge instruction shall be available:
    (a)   Adequate classroom accommodation for the current student population.
    (b)   Suitable demonstration equipment to support the theoretical knowledge instruction.
    (c)   An R/T training and testing facility.
    (d)   A reference library containing publications giving coverage of the syllabus.
    (e)   Offices for the instructional staff.

    For further guidance see Appendix B

REQUIREMENTS FOR ENTRY TO TRAINING

30. A student accepted for training shall possess the appropriate medical certificate for the licence required and shall meet the entrance requirements set by the FTO, as approved by CAD and as a minimum shall include;
    a)   O' Level passes in English and Mathematics
    b)   Swimming skills

TRAINING MANUAL AND OPERATIONS MANUAL

31. A FTO shall prepare 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. A FTO shall make available to staff and, where appropriate, to students the information contained in the Training Manual, the Operations Manual and the FTO's approval documentation. The amendment procedure shall be stated and amendments properly controlled.

32. The Training Manuals 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:
            Part 1 – The Training Plan
            Part 2 – Briefing and Air Exercises
            Part 3 – Synthetic Flight Training
            Part 4 – Theoretical Knowledge Instruction
    For further guidance see Attachment 3

33. The Operations Manual shall provide relevant information to particular groups of staff, e.g. FIs, synthetic flight instructors, ground instructors, operations and maintenance staff, etc., and shall include the following:
    (a)   General
    (b)   Technical
    (c)   Route
    (d)   Staff Training
    For further guidance see Attachment 3

Part B
Type Rating Training Organisation (TRTO) [Appendix 2 to JAR-FCL 1.055]

INTRODUCTION

1. A Type Rating Training Organisation (TRTO) is an organisation staffed, equipped and operated in a suitable environment offering type rating training, and/or MCC-training, and/or synthetic flight instruction and, if applicable, theoretical instruction for specific training programmes.

2. A TRTO wishing to offer approved training to meet PLM requirements shall obtain the approval of CAD. No such approval will be granted unless the TRTO can enforce the requirements of PLM and this ASC.

   This ASC gives the requirements for the issue, revalidation and variation of the approval of a TRTO.

   ## OBTAINING APPROVAL

3. A TRTO seeking approval shall provide to CAD operations and training manuals, including quality systems, and descriptions of its training schemes as required by paragraph 17 and 25 through 27. After consideration of the application, the TRTO will be inspected to ensure that it meets the requirements set out in this circular. Subject to satisfactory inspection, approval of the TRTO will be granted for a two years, and may be renewed, every two years, upon TRTO submitting the applicable fees and meeting the requirements of this ASC. CAD is not obliged to grant an approval for a TRTO outside Maldives if the personnel resources are not available or the cost of processing the application for approval and inspections puts undue burden on CAD.

   A TRTO approved under JAR FCL by EU countries seeking approval do not require submitting operations and training manuals including quality systems, and descriptions of its training schemes as required by paragraph 17 and 25 through 27.
   After submitting the application including a satisfactory inspection/audit report of the TRTO within the preceding 12 months, approval of TRTO may be granted for a two years, and may be renewed, every two years, upon TRTO/ the requesting organisation submitting the applicable fees and meeting the requirements of this ASC.

   Whenever the TRTO (approved under JAR FCL by EU countries)/the requesting organisation is unable to submit a satisfactory inspection report of the TRTO within the preceding 12 months, the requesting operator shall facilitate an audit for CAD inspector.

4. All training courses shall be approved.

5. Approval will be varied, suspended or revoked by CAD if any of the approval requirements or standards cease to be maintained to the minimum approved level.

6. If a TRTO wishes to make changes to an approved course or to its operations or training manual the approval of CAD shall be obtained before the changes are implemented. TRTOs need not advise CAD of minor changes in day-to-day

operations. Where any doubt exists as to whether a proposed change is minor, CAD shall be consulted.

7. A TRTO may make training arrangements with other training organisations or make use of alternative base aerodromes as part of its overall training organisation, subject to the approval of CAD.

FINANCIAL RESOURCES

8.
   (a) A TRTO shall satisfy CAD that sufficient funding is available to conduct training to the approved standards.
   (b) A TRTO shall nominate a person acceptable to CAD who shall satisfy CAD that sufficient funding is available to conduct training to the approved standard. Such person shall be known as the accountable manager.

INSPECTION

9. In addition to the initial inspection, CAD will make certain inspections to determine the TRTO's compliance with this ASC.

10. During such visits, access shall be given by the TRTO to training records, authorisation sheets, technical logs, lectures, study notes and briefings and any other relevant material. A copy of any report on a visit to a TRTO will be made available to that TRTO.

MANAGEMENT AND STAFFING

11. The management structure shall 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, shall be included in the TRTO's Operations Manual.

12. A Head of Training (HT) acceptable to CAD shall be nominated. The HT's responsibilities shall include ensuring that the TRTO is in compliance with the requirements of this circular. This person is ultimately directly responsible to CAD.

13. The TRTO shall have adequate personnel necessary to accomplish the training objectives. The duties of each instructor shall be identified and documented.

TYPE RATING INSTRUCTOR

14. Type Rating Instructors (TRI) shall hold:
   (a) a professional pilot licence and rating(s) related to the flying training courses they are appointed to conduct;
   (b) a type rating instructor rating for the aeroplanes used on the course(s); or
   (c) an authorisation from CAD to conduct specific training in a TRTO.

INSTRUCTORS FOR SYNTHETIC FLIGHT TRAINING

15. For flight training duties on a FTD, instructors shall have instructional experience appropriate to the training courses they are appointed to conduct and hold or have held 3 years prior to the first appointment, a professional pilot licence. For multi-pilot type rating and/or MCC flight training on a flight simulator and/or FTD and/or FNPT II, instructors shall hold a TRI rating or a SFI authorisation.

THEORETICAL KNOWLEDGE INSTRUCTION

16. The theoretical knowledge instruction shall be conducted by an authorised instructor holding the appropriate type/class rating or any instructor having appropriate experience in aviation and knowledge of the aircraft concerned, e.g. flight engineer, maintenance engineer, flight operations officer.

TRAINING STANDARDS

17. The TRTO shall establish a system to ensure that the training centre operations and training are run efficiently and effectively. The quality system shall determine the effectiveness of TRTO policies, procedures, and training.

RECORDS

18. A TRTO shall maintain the following records and retain for a period of at least 5 years, using appropriate administrative staff:
    (a)   pilot trainee's assessments before and during the course;
    (b)   details of theoretical knowledge, flying, and simulated flight training given to individual trainees; and
    (c)   personal information, (expiry dates of medical certificates, ratings, etc.), related to TRTO's personnel.

19. The format of the trainee's training records shall be specified in the Training Manual.

20. The TRTO shall submit training records and reports as required by CAD.

TRAINING PROGRAMME

21. A training programme shall be developed for each type of course offered. This programme shall include a breakdown of flying and ground training in either a week-by-week or phase presentation, a list of standard exercises and a syllabus summary. In particular, synthetic flight training and theoretical knowledge instruction shall be phased in such a manner as to ensure that trainees shall be able to apply to flying exercises the knowledge gained on the ground. Arrangements should be made so that problems encountered in instruction can be resolved during subsequent flight training.

TRAINING AEROPLANES

22. Each aeroplane must be equipped as required in the training specifications concerning the approved course in which it is used.

FACILITIES

23. Suitable training facilities shall be provided.

REQUIREMENTS FOR ENTRY TO TRAINING

24. The TRTOs shall be responsible for ensuring that trainees meet at least the pre-requisite conditions for type rating training as set out by TRTO.

TRAINING MANUAL AND OPERATIONS MANUAL

25. A TRTO shall provide and maintain a Training Manual and Operations Manual containing information and instructions to enable staff to perform their duties and to give guidance to trainees on how to comply with course requirements. A TRTO shall make available to staff and, where appropriate, to trainees the information contained in the Training Manual, the Operations Manual and the TRTO's approval documentation. The amendment procedure shall be stated and amendments properly controlled.

26. The Training Manual shall state the standards, objectives and training goal for each phase of training that the trainees are required to comply with, including stating the entry requirements for each course, as applicable. It shall include the following:
    - Part 1 – The Training Plan
    - Part 2 – Briefing and Air Exercises
    - Part 3 – Synthetic Flight Training
    - Part 4 – Theoretical Knowledge Instruction
    For further guidance see Attachment 3

27. The Operations Manual shall provide relevant information to particular groups of staff, e.g. TRIs, synthetic flight instructors, ground instructors, operations and maintenance staff, etc. and shall contain the following:
    (a)   General
    (b)   Technical
    (c)   Route
    (d)   Staff Training
    For further guidance see Attachment 3

Appendix A
Quality system for FTOs/TRTOs   [AMC JAR FCL 1.055]

1   A FTO and a TRTO shall, as a condition for approval, establish and maintain a quality system. This Appendix establishes the objectives of such a system, and offers a means of compliance as to which elements should be included and how the system can be integrated in the organisations

2   The rationale for the requirements of quality systems is the need to establish a distinct assignment of roles between CAD and training organisations by creating an evident division between the regulatory and surveillance responsibility on the one hand, and responsibility of the training activities in itself on the other. Therefore the

training organisations must establish a system whereby they can monitor their activities, be able to detect deviations from set rules and standards, take the necessary corrective actions and thus ensure compliance with CAD regulations and own requirements. A well established and functioning quality system will make it possible for CAD to perform inspections and surveillance efficiently and with a reasonable amount of resources.

3   It is obvious and well recognised that the scope and complexity of a quality system should reflect the size and complexity of the training organisation and its training activities. The objectives and the same principles apply, however, to any training organisation, irrespective of size and complexity. Thus, in small and relatively small training organisations, the quality system may be quite simple and integrated in the basic organisation, whereas larger organisations with more complex training activities will need to establish separate and independent quality organisations within the overall organisational set-up.

4   In determining size and complexity in this context the following guidelines apply:
Training organisations with 5 or less instructors employed are considered very small;
Training organisations employing between 6 and 20 instructors are considered small.
In determining complexity, factors such as number of aircraft types used for training, range of training courses offered, geographical spread of training activities (e.g. the use of satellites), range of training arrangements with other training organisations, etc. will be considered.

5   In a quality system of any FTO or TRTO the following five elements should be clearly identifiable:
   a) determination of the organisation's training policy and training and flight safety standards;
   b) determination and establishment of assignment of responsibility, resources, organisation and operational processes, which will make allowance for policy and training and flight safety standards;
   c) follow up system to ensure that policy, training and flight safety standards are complied with;
   d) registration and documentation of deviations from policy, training and flight safety standards together with necessary analysis, evaluations and correction of such deviations;
   e) evaluation of experiences and trends concerning policy, training and flight safety standards.

6   Attachment 1 describes in more detail objectives, the different elements of a quality system and offers guidance as to the set-up of quality systems in larger and/or more complex training organisations. For very small and small organisations paragraph 23 of Attachment 1 applies.

7   RESERVED

Appendix B
   1.   **Training Aircraft**   [Standards Document 35, Version 2, 7]

   1.1   Only aircraft approved by the CAD for training purposes shall be used.

1.2   In determining fleet size FTO must ensure that a sufficient number of aircraft suitably equipped and appropriate to the courses on offer are provided to achieve continuity of flying training for the number of students attending the courses. The requirements for routine maintenance and use of aircraft for other purposes must be taken into account when determining fleet size.

1.3   CAD will satisfy itself as to the suitability of aircraft to be used by FTO. A basic requirement in all cases is that aircraft provided by a FTO for use on approved courses shall have a valid Certificate of Airworthiness, a Certificate of Maintenance Review and be maintained to public transport standards.

1.4   RESERVED

1.5   Aircraft must be maintained in accordance with the appropriate maintenance program and the following documentation must be available for inspection by CAD Inspectors:

    • Aircraft, Engine and component log books as appropriate

    • Certificates of Airworthiness and Registration

    • Mass and Balance Schedules

    • Certificates of Maintenance Review (Except where exempt) and Release to Service

    • Aircraft Radio Licences

    • Flight Manuals

    • Certificates of Insurance

1.6   For flights made for the purposes of a course, Aircraft Technical Logs must be used to record flight details. The Technical Log shall comply with MCAR M.306 currently in force and must include at least:

    • The date

    • The aircraft registration

    • The times when the aircraft took-off and landed

    • Particulars of any defect known to the commander that might affect the airworthiness or safe operation of the aircraft, or if no such defect is known an entry to that effect

    • Fuel and oil states

1.7   Flight authorisation for all flights made for the purpose of the course shall be confined to instructors employed by the FTO to give instruction on the course.

1.8   Where an aircraft is hired for use on an approved course of training, or where an aircraft used for approved training ceases to be used by the FTO; a copy of all Technical Logs relating to the approved training shall be retained by the FTO for a period of 5 years. Technical Logs that belong to an aircraft shall be maintained in accordance with MCAR M.306 currently in force.

1.9   Each aircraft must be fitted with duplicated primary flying controls, for use by the instructor and the student.

1.10   Flight, engine and associated ancillary instruments, as required by MCAR M and appropriate airworthiness requirements must be fitted. These instruments must be readily visible to both the instructor and the student when sitting normally in their customary seats with seat belts and diagonal shoulder straps or safety harness fastened.

1.11   Trim controls, engine controls, fuel controls, steering, brakes and undercarriage controls where appropriate and the cabin fire extinguisher must be either duplicated or positioned so that they are accessible to both the instructor and student when sitting normally in their customary seats with seat belts and diagonal shoulder strap or safety harness fastened. S/E aircraft with fuel controls fitted on the left hand side (not accessible by the instructor) may be acceptable.

1.12   Each aircraft must be equipped with a VHF Transceiver with at least 760 channels, controllable from both the student and instructor stations. Two-way electrical intercommunication must be fitted which permits the monitoring from one station of RTF communication made from the other, for use by the instructor and student. All in flight communications must be carried out using headsets. All radio apparatus must satisfy the requirements of ICAO

1.13   In addition to meeting the provisions of the appropriate airworthiness requirements, each aircraft must be equipped in accordance with MCAR M

1.14   At least one hand fire extinguisher containing halon 1211(Bromochlorodifluro-methane CBrClF2), or equivalent as the extinguishing agent, must be conveniently located on the flight deck for use by the flight crew.

1.15   Aircraft will be inspected for condition and compliance with this document for the purpose of approval. Aircraft will be subject to routine inspections during the course of, or for revalidation of, approvals. Approvals for individual aircraft will be withdrawn if the aircraft fails to meet the requirements of this circular.

1.16   CAD must be informed it if is intended to change any aircraft used on a course and approval sought for use of the replacement aircraft.

1.17   RESERVED

2   **Flight Operations Accommodation and Theoretical Knowledge Instruction Facilities**   [**Standards Document 35, Version 2, 10**]

2.1   The operational accommodation for course approval shall be of a scale appropriate to the population of instructors and of pilots under training. All accommodation must be sited within permanent structures, not shared with the general public.

2.2   All rooms are to be suitably equipped and furnished with provision for heating, light

and ventilation and are not to be combined with any accommodation used continuously for the purpose of administering the FTO, or for non approved courses of training.

2.3   Offices separate from the accommodation provided for instructional staff and students shall be provided for the Head of Training, CFI and CGI.

2.4   Enclosed briefing rooms/cubicles and lecture rooms of adequate size relative to the maximum student capacity, each including a black or white board shall also be available. Temporary partitions and cubicles with walls that do not extend from the floor to ceiling are not considered to be suitable.

2.5   Model aeroplanes with working controls or model helicopters as appropriate shall also be available for use in briefing rooms/cubicles.

2.6   A quiet room for self-study purposes is to be available for students.

2.7   A separate machine room or rooms shall be provided where synthetic training devices are used.

2.8   Subject to local regulations emergency exits and evacuation routes, particularly in simulator bays, should be clearly marked and kept free from obstruction whenever training is taking place.

2.9   Lavatory and washroom facilities are to be provided as well as facilities for rest and refreshment.

2.10   Facilities for theoretical knowledge instruction shall ideally be co-located with the flying and synthetic flight training facilities.

2.11   Suitable demonstration equipment be available to support the theoretical knowledge instruction. This should include where appropriate, sectioned components and instruments, appropriate wall diagrams, transparencies, slides, models, systems demonstration equipment, mock ups and can include computer-generated graphics.

2.12   All classrooms are to be suitably equipped and furnished with provision for heating, light and ventilation and must be protected from external noise and distractions and sufficiently spacious to allow individual students room within which to work without disturbing others.

2.13   A room suitable for the conduct of theoretical knowledge examinations must be provided, free from noise or other distractions. This may be the same room as used for instruction but any wall mounted diagrams, photographs or other training aids relating to the course must be removed or covered prior to commencement of the examination.

Attachment 1 (Guidance Material)

Quality system for FTOs/TRTOs   [IEM No. 1 to JAR–FCL 1.055]

INTRODUCTION

A basis for quality should be established by every FTO/TRTO and problem-solving techniques to run processes should be applied. Knowledge in how to measure, establish and ultimately achieve quality in training and education is considered to be essential.

The purpose of this Attachment is to provide information and guidance to the training organisations on how to establish a Quality System that enables compliance with ASC FCL1.055

In order to show compliance with ASC FCL1.055 an FTO/TRTO should establish its Quality System in accordance with the instructions and information contained in the succeeding paragraphs.

THE QUALITY SYSTEM OF THE FTO/TRTO

1 **Terminology**

Accountable Manager
A person acceptable to the Authority who has authority for ensuring that all training activities can be financed and carried out to the standards required by the Authority, and additional requirements defined by the FTO/TRTO.

Quality
The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

Quality Assurance
All those planned and systematic actions necessary to provide adequate confidence that all training activities satisfy given requirements, including the ones specified by the FTO/TRTO in relevant manuals.

Quality Manager
The manager, acceptable to the Authority, responsible for the management of the Quality System, monitoring function and requesting corrective actions.

Quality Manual
The document containing the relevant information pertaining to the operator's quality system and quality assurance programme.

Quality Audit
A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

2 **Quality Policy and Strategy**

It is of vital importance that the FTO/TRTO describes how the organisation formulates, deploys, reviews its policy and strategy and turns it into plans and actions. A formal written Quality Policy Statement should be established that is a commitment by the Head of Training as to what the Quality System is intended to achieve. The Quality Policy should reflect the achievement and continued compliance with relevant parts of PLM and ASC FCL1.055 together with any additional standards specified by the FTO/TRTO.

The Accountable Manager will have overall responsibility for the Quality System including the frequency, format and structure of the internal management evaluation activities.

3   Purpose of a Quality System

The implementation and employment of a Quality System will enable the FTO/TRTO to monitor compliance with relevant parts of PLM and ASC FCL1.055, the Operations Manual, the Training Manual, and any other standards as established by that FTO/TRTO, or the Authority, to ensure safe and efficient training.

4   Quality Manager

4.1   The primary role of the Quality Manager is to verify, by monitoring activities in the field of training, that the standards required by CAD, and any additional requirements as established by the FTO/TRTO, are being carried out properly under the supervision of the Head of Training, the Chief Flying Instructor and the Chief Ground Instructor.

4.2   The Quality Manager should be responsible for ensuring that the Quality Assurance Programme is properly implemented, maintained and continuously reviewed and improved. The Quality Manager should:
–   have direct access to the Head of Training;
–   have access to all parts of the FTO/TRTO's organisation.

4.3   In the case of small or very small FTO/TRTOs, the posts of the Head of Training and the Quality Manager may be combined. However, in this event, quality audits should be conducted by independent personnel. In the case of a training organisation offering integrated training the Quality Manager should not hold the position of Head of Training, Chief Flying Instructor and Chief Ground Instructor.

5   Quality System

5.1   The Quality System of the FTO/TRTO should ensure compliance with and adequacy of training activities requirements, standards and procedures.

5.2   The FTO/TRTO should specify the basic structure of the Quality System applicable to all training activities conducted.

5.3   The Quality System should be structured according to the size of the FTO/TRTO and the complexity of the training to be monitored.

6   **Scope**
       A Quality System should address the following:
6.1   Leadership
6.2   Policy and Strategy
6.3   Processes
6.4   The provisions of PLM and this ASC
6.5   Additional standards and training procedures as stated by the FTO/TRTO
6.6   The organisational structure of the FTO/TRTO
6.7   Responsibility for the development, establishment and management of the Quality System
6.8   Documentation, including manuals, reports and records
6.9   Quality Assurance Programme
6.10   The required financial, material, and human resources
6.11   Training requirement
6.12   Customer satisfaction

7   **Feedback System**
       The quality 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.

8   **Documentation**
       Relevant documentation includes the relevant part(s) of the Training and Operations Manual, which may be included in a separate Quality Manual.

8.1   In addition relevant documentation should also include the following:
       a)   Quality Policy;
       b)   Terminology;
       c)   Specified training standards;
       d)   A description of the organisation;
       e)   The allocation of duties and responsibilities;
       f)   Training procedures to ensure regulatory compliance.

8.2   The Quality Assurance Programme, reflecting:
       Schedule of the monitoring process;
       Audit procedures;
       Reporting procedures;
       Follow-up and corrective action procedures;
       Recording system;
       The training syllabus; and
       Document control.

9   **Quality Assurance Programme**
       The Quality Assurance Programme should include all planned and systematic actions necessary to provide confidence that all training are conducted in accordance with all applicable requirements, standards and procedures.

10   **Quality Inspection**

The primary purpose of a quality inspection is to observe a particular event/action/document etc., in order to verify whether established training procedures and requirements are followed during the accomplishment of that event and whether the required standard is achieved.

Typical subject areas for quality inspections are:

Actual flight and ground training;

Maintenance;

Technical Standards; and

Training Standard

11   **Audit**

An audit is a systematic and independent comparison of the way in which a training is being conducted against the way in which the published training procedures say it should be conducted.

Audits should include at least the following quality procedure and processes:

    a) An explanation of the scope of the audit;

    b) Planning and preparation;

    c) Gathering and recording evidence; and

    d) Analysis of the evidence.

The various techniques that make up an effective audit are:

    a) Interviews or discussions with personnel;

    b) A review of published documents;

    c) The examination of an adequate sample of records;

    d) The witnessing of the activities which make up the training; and

    e) The preservation of documents and the recording of observations.

12   **Auditors**

The FTO/TRTO should decide, depending on the complexity of the training, whether to make use of a dedicated audit team or a single auditor. In any event, the auditor or audit team should have relevant training and/or operational experience.

The responsibilities of the auditors should be clearly defined in the relevant documentation.

13   **Auditor's Independence**

Auditors should not have any day-to-day involvement in the area of the operation or maintenance activity which is to be audited. An FTO/TRTO may, in addition to using the services of full-time dedicated personnel belonging to a separate quality department, undertake the monitoring of specific areas or activities by the use of part-time auditors.

An FTO/TRTO whose structure and size does not justify the establishment of full-time auditors, may undertake the audit function by the use of part-time personnel from within his own organisation or from an external source under the terms of an agreement acceptable to CAD.

In all cases the FTO/TRTO should develop suitable procedures to ensure that persons directly responsible for the activities to be audited are not selected as part of the auditing team. Where external auditors are used, it is essential that any external specialist is familiar with the type of training conducted by the FTO/TRTO.

The Quality Assurance Programme of the FTO/TRTO should identify the persons within the company who have the experience, responsibility and authority to:
– Perform quality inspections and audits as part of ongoing Quality Assurance;
– Identify and record any concerns or findings, and the evidence necessary to substantiate such concerns or findings;
– Initiate or recommend solutions to concerns or findings through designated reporting channels;
– Verify the implementation of solutions within specific timescales;
– Report directly to the Quality Manager

14   **Audit Scope**

FTO/TRTOs are required to 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, monitor:
(a) Organisation;
(b) Plans and objectives;
(c) Training Procedures;
(d) Flight Safety;
(e) Manuals, Logs, and Records;
(f) Flight and Duty Time Limitations,
(g) Rest Requirements, and Scheduling;
(h) Aircraft Maintenance/Operations interface;
(i) Maintenance Programmes and Continued Airworthiness;
(j) Airworthiness Directives management;
(k) Maintenance Accomplishment.

15   **Audit Scheduling**

A Quality Assurance Programme should include a defined audit schedule and a periodic review cycle. The schedule should be flexible, and allow unscheduled audits when trends are identified. Follow-up audits should be scheduled when necessary to verify that corrective action was carried out and that it was effective.

An FTO/TRTO should establish a schedule of audits to be completed during a specific calendar period. All aspects of the training should be reviewed within a period of 12 months in accordance with the programme unless an extension to the audit period is accepted as explained below.

An FTO/TRTO may increase the frequency of their audits at their discretion but should not decrease the frequency without the acceptance of CAD. It is considered unlikely that a period of greater than 24 months would be acceptable for any audit topic.

When an FTO/TRTO defines the audit schedule, significant changes to the management, organisation, training, or technologies should be considered, as well as changes to the regulatory requirements.

16   **Monitoring and Corrective Action**
        The aim of monitoring within the Quality System is primarily to investigate and judge its effectiveness and thereby to ensure that defined policy, training standards are continuously complied with. Monitoring activity is based upon quality inspections, audits, corrective action and follow-up. The FTO/TRTO should establish and publish a quality procedure to monitor regulatory compliance on a continuing basis. This monitoring activity should be aimed at eliminating the causes of unsatisfactory performance.

        Any non-compliance identified should be communicated to the manager responsible for taking corrective action or, if appropriate, the Accountable Manager. Such non-compliance should be recorded, for the purpose of further investigation, in order to determine the cause and to enable the recommendation of appropriate corrective action.
        The Quality Assurance Programme should include procedures to ensure that corrective actions are developed in response to findings. These quality procedures should monitor such actions to verify their effectiveness and that they have been completed. Organisational responsibility and accountability for the implementation of corrective action resides with the department cited in the report identifying the finding. The Accountable Manager will have the ultimate responsibility for ensuring, through the Quality Manager(s), that corrective action has re-established compliance with the standard required by CAD and any additional requirements established by the FTO/TRTO.

17   **Corrective action**
        Subsequent to the quality inspection/audit, the FTO/TRTO should establish:
        (a)   The seriousness of any findings and any need for immediate corrective action;
        (b)   The origin of the finding;
        (c)   What corrective actions are required to ensure that the non-compliance does not recur;
        (d)   A schedule for corrective action;
        (e)   The identification of individuals or departments responsible for implementing corrective action;
        (f)   Allocation of resources by the Accountable Manager where appropriate.

17.1 The Quality Manager should:

        17.1.1 Verify that corrective action is taken by the manager responsible in response to any finding of non-compliance;
        17.1.2 Verify that corrective action includes the elements outlined in paragraph 16 above;
        17.1.3 Monitor the implementation and completion of corrective action;
        17.1.4 Provide management with an independent assessment of corrective action, implementation and completion;
        17.1.5 Evaluate the effectiveness of corrective action through the follow-up process.

18   **Management Evaluation**
        A management evaluation is a comprehensive, systematic documented review by the management of the quality system, training policies, and procedures, and should consider:

The results of quality inspections, audits and any other indicators; as well as the overall effectiveness of the management organisation in achieving stated objectives. A management evaluation should identify and correct trends, and prevent, where possible, future non-conformities. Conclusions and recommendations made as a result of an evaluation should be submitted in writing to the responsible manager for action. The responsible manager should be an individual who has the authority to resolve issues and take action. The Accountable Manager should decide upon the frequency, format, and structure of internal management evaluation activities.

19 Recording

Accurate, complete, and readily accessible records documenting the results of the Quality Assurance Programme should be maintained by the FTO/TRTO. Records are essential data to enable an FTO/TRTO to analyse and determine the root causes of non-conformity, so that areas of non-compliance can be identified and subsequently addressed.

The following records should be retained for a period of 5 years:
   a) Audit Schedules;
   b) Quality inspection and Audit reports;
   c) Responses to findings;
   d) Corrective action reports;
   e) Follow-up and closure reports;
   f) Management Evaluation reports.

20 Quality Assurance Responsibility for Sub-Contractors

An FTO/TRTO may decide to sub-contract out certain activities to external organisations subject to the approval of CAD

The ultimate responsibility for the training provided by the subcontractor always remains with the FTO/TRTO. A written agreement should exist between the FTO/TRTO and the sub- contractor clearly defining the safety related services and quality to be provided. The sub-contractor's safety related activities relevant to the agreement should be included in the FTO/TRTO's Quality Assurance Programme.

The FTO/TRTO should ensure that the sub-contractor has the necessary authorisation/approval when required, and commands the resources and competence to undertake the task. If the FTO/TRTO requires the sub-contractor to conduct activity which exceeds the sub-contractor's authorisation/approval, the FTO/TRTO is responsible for ensuring that the sub-contractor's quality assurance takes account of such additional requirements.

21 Quality System Training

Correct and thorough training is essential to optimise quality in every organisation. In order to achieve significant outcomes of such training the FTO/TRTO should ensure that all staff understand the objectives as laid down in the Quality Manual.
Those responsible for managing the Quality System should receive training covering:
   a) An introduction to the concept of Quality System;
   b) Quality management;
   c) Concept of Quality Assurance;
   d) Quality manuals;

e) Audit techniques;
f) Reporting and recording; and
g) The way in which the Quality System will function in the FTO/TRTO.

Time should be provided to train every individual involved in quality management and for briefing the remainder of the employees. The allocation of time and resources should be governed by the size and complexity of the operation concerned.

22 **Sources of Training**
Quality management courses are available from the various National or International Standards Institutions, and an FTO/TRTO should consider whether to offer such courses to those likely to be involved in the management of Quality Systems. Organisations with sufficient appropriately qualified staff should consider whether to carry out in-house training.

23 **Quality Systems for small/very small Organisations**
The requirement to establish and document a Quality System and to employ a Quality Manager applies to all FTO/TRTOs.

Complex quality systems could be inappropriate for small or very small FTO/TRTOs and the clerical effort required to draw up manuals and quality procedures for a complex system may stretch their resources. It is therefore accepted that such FTO/TRTOs should tailor their quality systems to suit the size and complexity of their training and allocate resources accordingly.

For small and very small FTO/TRTOs it may be appropriate to develop a Quality Assurance Programme that employs a checklist. The checklist should have a supporting schedule that requires completion of all checklist items within a specified timescale, together with a statement acknowledging completion of a periodic review by top management. An occasional independent overview of the checklist content and achievement of the Quality Assurance should be undertaken.

The small FTO/TRTO may decide to use internal or external auditors or a combination of the two. In these circumstances it would be acceptable for external specialists and or qualified organisations to perform the quality audits on behalf of the Quality Manager.

If the independent quality audit function is being conducted by external auditors, the audit schedule should be shown in the relevant documentation.

Whatever arrangements are made, the FTO/TRTO retains the ultimate responsibility for the quality system and especially the completion and follow-up of corrective actions.

Attachment 2 RESERVED   [IEM No. 2 to JAR–FCL 1.055]

Attachment 3 (Guidance Material)
Training and Operations Manual for FTOs and TRTOs (if applicable)
                                                          [IEM No. 3 to JAR–FCL 1.055]

TRAINING MANUAL

1. Training Manuals for use at an FTO or TRTO conducting approved integrated or modular flying training courses should include the following:

2. Part 1 – The Training Plan

- The aim of the course (ATP (A), CPL/IR (A), CPL (A) as applicable)
- Pre-entry requirements
- Credits for previous experience Training Syllabi

   The time scale and scale, in weeks, for each syllabus Training programme

- Training records
- Safety training
- 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.
- Minimum age, educational requirements (including language), medical requirements.
- Any specific requirements to be obtained from CAD before training begin.
- The flying syllabus (single-engine), the flying syllabus (multi-engine), the synthetic flight training syllabus and the theoretical knowledge training syllabus.
- Arrangements of the course and the integration of syllabi time.
- 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.
- 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.
- Individual responsibilities.
- Essential exercises.
- Emergency drills (frequency).
- Dual checks (frequency at various stages).
- Requirement before first solo day/night/navigation etc.

   Tests and examinations

- Training effectiveness
- Standards and Level of performance at various stages

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

3)   Part 2 – Briefing and Air Exercises

a)   Air Exercise

b)   Air exercise reference list

c)   Course   structure   –   Phase of training

d)   Course structure integration of syllabi

e)   Student progress

f)   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.

g)   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.

h)   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 shall be stated and when progress tests are to be conducted, etc.

i) 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. 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.

j) Instructional methods
k) Progress tests

l) Glossary of terms Appendices

m) The FTO requirements, particularly in respect of pre- and post-flying briefing, adherence to syllabi and training specifications, authorisation of solo flights, etc.

n) The instructions given to examining staff in respect of the conduct and documentation of all progress tests.

o) Definition of significant terms as necessary.

p) Progress test report forms.

q) Skill test report forms.

r) FTO certificates of experience, competence, etc. as required.

Part 3 – Synthetic Flight Training

Structure generally as for Part 2.

Part 4 – Theoretical knowledge instruction

a) Structure of   the   theoretical

A statement of the structure of the course, including the general knowledge course 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.

b) 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.

c) Teaching materials

Specification of the training aids to be used (e.g. study materials, course manual references, exercises, self-study materials, demonstration equipment).

d) 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.

e) Progress testing

The organisation of progress testing in each subject, including topics covered, evaluation methods and documentation.

f) 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.

OPERATIONS MANUAL

Operations Manual for use at an FTO or TRTO conducting approved integrated or modular flying training courses include the following:
(a)   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 aeroplanes in poor weather)
–   Command of aeroplane
–   Responsibilities of pilot-in-command
–   Carriage of passengers
–   Aeroplane 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.

(b)   Technical
–   Aeroplane descriptive notes
–   Aeroplane handling (including checklists, limitations, aeroplane maintenance and technical logs, etc.)
–   Emergency procedures
–   Radio and radio navigation aids
–   Allowable deficiencies (based on MMEL, if available)

(c)   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

(d)   Staff Training
–   Appointments of persons responsible for standards/competence of flying staff
–   Initial training
–   Refresher training
–   Standardisation training
–   Proficiency checks
–   Upgrading training
FTO staff standards evaluation

For the Civil Aviation Department
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