



GOVERNMENT OF INDIA  
**OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION**  
TECHNICAL CENTRE, OPP SAFDURJUNG AIRPORT, NEW DELHI.

**CIVIL AVIATION REQUIREMENTS**  
**SECTION 7 – FLIGHT CREW STANDARDS**  
**TRAINING & LICENCING**

**SERIES 'D' PART III**

**Dated 14<sup>th</sup> September 2009**

**EFFECTIVE : FORTHWITH**

**Subject: Requirements for approval of Type Rating Training Organization (TRTO)**

**1. INTRODUCTION:**

- 1.1 With the growth of aviation in the country and in order to facilitate availability of trained flight crew with appropriate aircraft ratings endorsed on their licenses that are being inducted into the country, it has become imperative that only those organizations which meet the criteria as laid down in this CAR, to be approved for conducting training of flight crew and other personnel on aircraft type rating courses.
- 1.2 These organizations shall be nomenclatured as "Type Rating Training Organizations. (TRTO's)".
- 1.3 A Type Rating Training Organization (TRTO) is an organisation staffed, equipped and operated in a suitable environment offering aircraft type rating training, and/or synthetic flight instruction and, where applicable, theoretical instruction for specified training programmes.
- 1.4 This CAR lays down the guidelines for the aircraft operators and flying training establishments for submission of application seeking DGCA's "approval assessment". This CAR specifies the TRTO approval procedures and contains information on the required associated documentation.

- 1.5 The TRTO must be self-sufficient and capable of assessing the trainees at the completion of each training module. The two training modules envisaged are theoretical knowledge instruction and flight instruction, part or all of which may be conducted in Synthetic Training Devices (STDs). In either case, the approved TRTO's designated Head of Training is directly responsible for its training standards and compliance.

## **2. APPROVAL PROCEDURE**

- 2.1 Organization seeking approval as TRTO shall submit initial application to the DGCA as per Appendix 'A' to this CAR.
- 2.2 After scrutiny of the application and related documents, DGCA team shall inspect ground and / or flight/ synthetic flight training establishments. Inspection will include observation of class room training, flight device training including briefing and debriefing. The training records must be made available for inspectors' perusal. Inspection may be conducted by Flight Operations Inspectors or personnel designated by DGCA on its behalf.
- On satisfactory inspection, initial approval of the TRTO will be granted for a period of one year from the date of issue of such approval subject to compliance to the provisions of this CAR unless revoked/suspended by DGCA.
  - The approval may be renewed each year by submitting an internal assessment report in compliance of this CAR followed by inspection by DGCA.
  - TRTO shall conduct the training courses, which are approved by DGCA.

## **3. REVOCATION, SUSPENSION OR VARIATION OF APPROVAL**

- 3.1 An approval issued by the DGCA may be revoked, suspended or varied, at any time, if the requirements cease to be met in part or in whole, or if the standards on which approval was granted are not maintained. The organization will be formally notified of the non-conformances and, if necessary, a restricted approval document issued to permit the remedial action to be taken within a specified time. Should the organization fail to take remedial action in the specified time, revocation, suspension or variation of the approval will be considered.
- 3.2 Training organizations are to notify the DGCA on completion of the remedial action and that the non-conformance has been cleared. An Audit Report shall be raised detailing the action taken.

## **4. FINANCIAL RESOURCES**

- 4.1 A TRTO shall nominate a person acceptable to the Authority who shall satisfy the Authority that sufficient funding is available to conduct training to the

approved standard. Such person shall be known as the designated TRTO accountable manager.

#### **4.2 Financial Evaluation**

Applicant for TRTO approval shall be subjected to financial assessment. AOC/AOP holders applying for TRTO approval may be given a dispensation from such evaluation on the basis of the licensing financial evaluations conducted earlier.

### **5. INSPECTION**

In addition to the initial inspection, the Authority will conduct periodic inspections to determine the TRTO's compliance with CARs and the approval. 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 report on a visit to a TRTO will be made available to that TRTO.

### **6. MANAGEMENT AND TRAINING STAFF**

6.1 The management structure shall allow 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.

#### **6.2 Chief of Training (CT)**

Approval of Chief of Training (C T) shall be obtained from DGCA. CT will be directly responsible to the DGCA for compliance of DGCA requirements. He shall be an examiner on at least one of the aircraft types trained for by the TRTO or higher. He must have 3000 hours of PIC and extensive experience in training as flight instructor along with sound aviation management capability.

6.3 The TRTO shall have adequate personnel necessary to accomplish the training objectives. The duties of each instructor shall be identified and documented and included in the Training Manual.

6.4 TRTO will employ an adequate number of qualified and competent staff which is acceptable to DGCA. The management structure will ensure adequate supervision of all training staff by persons having necessary experience and qualities. The DGCA will place particular emphasis on the qualifications and competence of all training staff in their specialization and training techniques.

6.5 A more detailed TRTO management structure will be required to be included in the training manual. It is emphasised, that it is essential that all elements of the management structure are clearly set out in the TRTO approval submission.

- 6.6 The number of instructors and examiners, taking into account their qualifications, must be adequate to support a TRTO. In addition SFI's / TRI's / SFE's / TRE's, working in other managerial or administrative duties, may not always be able to give their full attention to the TRTO; accordingly numbers of trainers to cater for such non-availability of management personnel is to be ensured.

## **7. INSTRUCTORS**

### **7.1 FLIGHT TRAINING INSTRUCTORS**

For flight training duties, instructor shall hold or have held a professional pilot licence with Instructor/or SFI rating or higher and have instructional experience appropriate to the training courses he is appointed to conduct.

### **7.2 FLIGHT ENGINEER INSTRUCTOR**

Flight Engineer Instructors shall hold a flight engineer licence and rating(s) related to the flying training courses they are appointed to conduct and shall be approved by DGCA.

### **7.3 GROUND SUBJECT INSTRUCTOR**

The Ground Subjects training shall be conducted by a DGCA approved Ground instructor.

## **8. Ground School and Examinations**

- 8.1 A TRTO submission must include a description of the TRTO's training accommodation and facilities which must be adequate and suitable for the training envisaged. The course syllabus and training programme should also be included in Part D( Training) of operations manual.

- 8.2 The responsibility under DGCA requirements to set, administer and correct all Type Technical Knowledge Examination papers lies with the TRTO. The DGCA must be satisfied that a TRTO carries out this task fairly and responsibly using a secure confidential system.

## **9. TRAINING STANDARDS**

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.

## **10. CONTRACTING OUT**

- 10.1 The most likely scenario for a TRTO is that the TRTO will conduct its' own ground school, examinations and simulator using their own instructors and examiners. Such TRTO must itself be self-sufficient and able to test its

trainees at the completion of each training module.

- 10.2 Prior approval of DGCA shall be obtained if the TRTO uses instructors/Examiners leased / loaned from other TRTO/operator under extra ordinary circumstances.

## **11. RECORDS**

The Chief of Training shall ensure that adequate records are maintained for all approved training as per para 4 of Appendix 'A' to this CAR. The form and content of student training records is to be specified in the training manual. A TRTO shall retain the training records for a period of at least 5 years.

## **12. TRAINING PROGRAMME**

- 12.1 A training program 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 a phased 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.

- 12.2 Flight training for type rating for multi-pilot aeroplanes in which a flight engineer is a part of the flight crew shall be conducted with a flight crew of three inclusive of a flight engineer.

### **12.3 TRAINING AEROPLANES / HELICOPTERS**

Each aero plane/helicopter used for training must be equipped as required in the training specifications concerning the approved course in which it is used.

### **12.4 REQUIREMENTS FOR ENTRY TO TRAINING**

The TRTO shall be responsible for ensuring that trainees meet at least the pre-requisite conditions for type rating training.

## **13. TRAINING MANUAL AND OPERATIONS MANUAL**

- 13.1 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. The amendment procedure shall be stated and amendments properly controlled.
- 13.2 The Operations Manual shall provide relevant information to TRI (E), synthetic flight instructors, ground instructors, trainees operations and maintenance staff. The operations manual will include TRTO's approval documentation and all aspects laid down in this CAR.

- 13.3 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 entry requirements for each course, as applicable.
- 13.4 TRTO type rating course syllabi shall be approved by DGCA(FID). Each type rating course syllabus should be checked against the Training and Skill Test requirements of DGCA.
- 13.5 The Training Manual shall include the following parts.
- Part 1 The Training Plan
  - Part 2 Briefing and Air Exercises
  - Part 3 Synthetic Flight Training
  - Part 4 Theoretical Knowledge Instruction

Staff Training should be included in a separate Operations Manual and not be included in the Training Manual as it is not relevant to the student.

A Training Manual should not include flight exercise briefing material. Its primary purpose is to advise the student WHAT they will be doing and WHEN, rather than HOW. There should be a clearly defined Aim for each exercise directed at the student, not the instructor. "To Teach" is an instructor aim, "to learn" or "to be able to" are student aims. The purpose of the Skill Test is to determine if the aim has been achieved, the test should not form part of the aim. Exercise content should list the specific skill items that will be taught/ practiced during an exercise. Each exercise brief should have a concise statement of what standard the student should have achieved on completion of the exercise. This should be a measurable quantity against which the student may be judged.

#### **14. SYNTHETIC TRAINING DEVICES**

- 14.1 All Synthetic Training Devices when substituting for an aircraft are to be device qualified and user approved by the DGCA for all the exercises to be conducted.
- 14.2 The basic distinction between qualification and approval is that qualification concerns itself with the technical ability of the device against the requirements, whereas approval relates to the extent to which a device may be used for training, checking or testing taking into account the aircraft to device differences and operating and training ability of the flying training organization.
- 14.3 Organization should refer to the appropriate CAR for Synthetic Training Devices/ Simulators to ascertain the requirements for device qualification and approval.

**15. Applying for the addition of ZFTT to an existing Simulator User Approval**

- 15.1 An operator or TRTO wishing to add ZFTT to the TRTO Course Approval must satisfy the requirements for inclusion in the manual. Concurrently the TRTO or operator must meet the Flight Inspection Directorate's requirements for the qualifications of the instructors.
- 15.2 TRTO type rating course syllabuses may have been developed from manufacturer's courses and so may not editorially follow your current OM format.

**16. Quality System**

As a condition of approval, a TRTO requires a TRTO Quality System. The Quality System is intended to ensure that the TRTOs' operations and training are conducted efficiently, effectively and in accordance with CAR's. The integrated quality System must satisfy the DGCA before a TRTO approval can be granted.

**17. FACILITIES**

- 17.1 TRTO ACCOMMODATION; A suitable accommodation shall be provided to meet at least the following standards;

- The TRTO accommodation for course approval shall be of a scale appropriate to the number of instructors and trainee pilots. All accommodation must be sited within permanent structures not shared with the general public.
- All rooms are to be suitably equipped and furnished with provision for cooling/heating, light and ventilation and are not to be combined with any accommodation used continuously for the administrative staff.
- Separate offices shall be provided to Chief of Training and instructors.
- Enclosed briefing rooms 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 suitable.
- Training equipment shall be available for use in briefing rooms. The precise range of training equipment will depend upon the courses approved.
- Operational publications and course documents are to be available in the flight operations accommodation.
- A quiet room for self-study purposes should be available for students.
- A separate machine room or rooms shall be provided where synthetic training devices are used.

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

Sd/-  
(Capt H Y Samant)  
Chief Flight Operations Inspector  
for Director General of Civil Aviation

## Appendix A

### 1. APPROVED COURSE FLIGHT STAFFING

- a) Are details of the management structure included in the TRTO Operations Manual and does the structure ensure supervision of all staff?
- b) Does the TRTO Operations Manual indicate individual responsibilities?
- c) Is chief of Training is suitably qualified for approval by DGCA ?
- d) Does the TRTO Operations Manual define the chief of Training's responsibility for ensuring compliance with Training requirements.
- e) Does the TRTO Operations Manual confirm the chief of Training's ultimate responsibility to the Authority?
- f) Are the duties of each TRI identified and documented?
- g) Are all TRI s properly qualified for the courses to be offered?
- h) Does the TRTO have sufficient flight training personnel to accomplish the training objectives?
- i) Do all FSTD instructors have relevant instructional experience?
- j) Have all FSTD instructors held a professional pilot licence within the last 3 years (or do they hold a SFI rating)?
- k) Do all MCC instructors hold a TRI or SFI rating or approval as a MCCI?

### 2. APPROVED COURSE GROUND STAFFING

- a) Is all theoretical knowledge instruction carried out by suitably qualified and experienced personnel?
- b) Does the TRTO have sufficient, suitably qualified ground training staff?

### 3. CONTROL OF DOCUMENTATION AND PUBLICATIONS

- a) Is there a stated procedure in the TCOM to ensure that documents and publications are updated regularly and that amendments are properly controlled?
- b) Is there a stated procedure in the TCOM to ensure that all copies of each controlled document are amended when necessary?

### 4. TRAINING RECORDS AND LOG BOOKS

- a) Is the format of training records specified in the TRTO Training Manual and are specified formats being used?
- b) Do individual training records include a trainee's assessment prior to commencing the course?
- c) Do individual training records include assessment of a trainee during the course?
- d) Do training records include a comprehensive narrative report of the trainee's performance?
- e) Do training records include details of theoretical knowledge, synthetic flight and flight training undertaken?

- f) Is there a method for recording exercises not completed during a training detail?
- g) Is there a robust method of ensuring that exercises not completed in one detail are taught in a subsequent detail?
- h) Was the LST form completed correctly?
- i) Was the TRI/TRE who signed the LST form suitably qualified?
- j) Do the individual training records support the details entered in the Course Completion Certificate with respect to training time?
- k) Do the details recorded in trainees' and instructors' logbooks (if available), aircraft technical records and FSTD usage logs (where appropriate) support entries in the training records?
- l) Are logbooks (where available) correctly completed?
- m) Is there a method of recording personal information (expiry dates of medical certificates, ratings, etc.) of TRTO personnel?
- n) Are details of phase examination results included in the training records?
- o) Was the theoretical knowledge lesson adequately prepared?

## **5. INSTRUCTIONAL STANDARDS**

- a) Was the theoretical knowledge lesson presented to an adequate standard?
- b) Was the lesson content complete and pertinent?
- c) Was there sufficient class involvement?
- d) Was the theoretical knowledge instructor suitably qualified and experienced?
- e) Was an adequate briefing given prior to the synthetic training / flight detail?
- f) Was synthetic / flight training given to an adequate standard?
- g) Was the lesson plan detailed in the TRTO Training Manual adhered to?
- h) Were any exercises not completed and, if so, were they properly recorded?
- i) Was sufficient emphasis placed on MCC elements of the detail (where appropriate)?

## **6. COURSE MATERIAL**

- a) Do the notes and other publications available to trainees cover the syllabus adequately?
- b) Where CBT is used, is the program in use approved by DGCA ?
- c) Can all of the examination questions be answered using the course material supplied?
- d) Are all visual aids (OHP, power-point slides, photographs, etc.) of adequate quality and up-to-date?
- e) Are suitable cutaway models and components available where appropriate?
- f) Are relevant cockpit photographs available in the classroom used for theoretical knowledge instruction?

## **7. TRAINING PROGRAMME**

- a) Is there a published training programme for each course offered?
- b) Does each training programme include a breakdown of flying and ground training, either week by week or phase presentation?
- c) Does each training programme include a list of standard exercises and a syllabus summary?
- d) Is flight, synthetic flight and theoretical knowledge training suitably phased?
- e) Are there suitable arrangements to allow training problems to be resolved?
- f) Does the amount of training given meet the published minima?
- g) Is differences and familiarization training (where appropriate) adequately documented?
- h) Are phase tests and the final examination programmed for different days?
  
- i) Is adequate security provided for examination papers and results?
- j) Is there a system to retain training records for a minimum of 5 years?

## **8. AIRCRAFT SAMPLED**

- a) Are aircraft used for training equipped in accordance with the approved course details? (NOTE: Not mandatory if the company also holds an AOC.)

## **9. OPERATIONAL ACCOMMODATION**

- a) Is operational accommodation (where appropriate) of sufficient size and adequately equipped for the intended training task?

## **10. TRAINING EQUIPMENT**

- a) Are training aids (CBT / AVT / OTD, etc.) suitable for the purpose?
- b) Are all training aids used on the approved courses serviceable?

## **11. OPERATIONS / TRAINING MANUAL**

- a) Are copies of the TRTO Operations Manual available to staff and trainees?
- b) Are all copies of the TRTO Operations manual amended up-to-date?
- c) Does the TRTO Operations Manual provide relevant information to all groups of staff?
- d) Is the TRTO Operations Manual formatted in accordance with IEM No.3 to JAR-FCL 1.055?
- e) If changes have been made to the TRTO Operations Manual since the last approval, have these been submitted to and approved by the DGCA
- f) Are copies of the TRTO Training Manual available to staff and trainees?

- g) Are all copies of the TRTO Training Manual amended up-to-date?
- h) Does the TRTO Training Manual state the standards, objectives and training goal for each phase of training?
- i) Does the TRTO Training Manual state the entry requirements for each course?
- j) Does the TRTO Training Manual give adequate guidance to trainees on how to comply with course requirements?

## **12. FLIGHT SIMULATION TRAINING DEVICE**

- a) Do all FSTDs used on the course hold valid approvals under JAR-STD?
- b) Are delays to the planned program adequately dealt with?
- c) Are adequate facilities available for briefing and debriefing?

## **13. QUALITY SYSTEM**

- a) Does the TRTO quality system in the TCOM determine the effectiveness of TRTO policies, procedures and training?
- b) Is the TCOM quality manual amended up-to-date, reflecting current conditions and policies?
- c) Have quality audits taken place in accordance with the audit schedule?
- d) Where non-conformances have been raised, has corrective action been taken within the agreed time scale?
- e) Where corrective action has taken place, has it been effective?
- f) Has the quality system been subject to management evaluation within the preceding 12 months?
- g) Where management evaluation has taken place, have the findings and any subsequent action been documented?
- h) Are quality inspections, as distinct from quality audits, carried out and properly documented?
- i) Where the posts of Local Head of Training and Quality Manager are combined, are audits carried out by independent personnel?
- j) Are all auditors free of any day-to-day involvement in the areas that they audit?
- k) Are auditors technically competent in the activities that they audit?
- l) Is adequate guidance issued to auditors as to the scope of the audits they undertake (written instructions, checklists etc)?
- m) Are Quality System records retained for a minimum of 5 years (audit schedules, quality inspections and audit reports, responses to findings, corrective & preventive action reports (CPARs) , management evaluation reports)?

### **Legends**

- AOC - Aircraft Operator Certificate
- AVT - Audio Visual Trainer
- CBT - Computer Based Training

- FSTD - Flight Simulation Training Device
- LST - License Skill Test
- MCC - Multi Crew Co-operation
- MCCI - Multi Crew Co-operation Instructor
- OTD - Other Training Device
- SFI - Synthetic Flight Instructor
- TCOM- Training Centre(TRTO) Operations Manual.

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