CIVIL AVIATION GUIDANCE MATERIAL – 1011

APPROVED TRAINING ORGANISATION

ATO

CIVIL AVIATION AUTHORITY OF MALAYSIA

ISSUE 01
REVISION 00 – 1ST APRIL 2021

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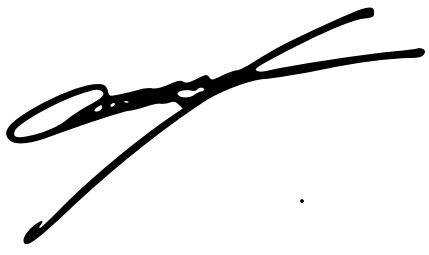
Introduction

This Civil Aviation Guidance Material 1011 (CAGM – 1011) is issued by the Civil Aviation Authority of Malaysia (CAAM) to provide guidance for Approved Training Organisations, pursuant to Civil Aviation Directives 1011 (CAD 1011 – ATO), Civil Aviation Directives 1002 (CAD 1002 – FC), Civil Aviation Directives 1 (CAD 1– PEL), Civil Aviation Directives 6 Part 1 (CAD 6 Part 1 – Commercial Air Transport), Civil Aviation Directives 6 Part 2 (CAD Part 2 – General Aviation) and Civil Aviation Directives 6 Part 3 (CAD 6 Part 3 – Helicopter).

Organisations may use these guidelines to demonstrate compliance with the provisions of the relevant CAD's issued. Without prejudice to Regulation 204 and Regulation 205 of the Malaysian Civil Aviation Regulations 2016 (MCAR 2016), when the CAGMs issued by the CAAM are used, the related requirements of the CAD's are considered as met, and further demonstration may not be required.



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Civil Aviation Guidance Material components and Editorial practices

This Civil Aviation Guidance Material is made up of the following components and are defined as follows:

Standards: Usually preceded by words such as *"shall"* or *"must"*, are any specification for physical characteristics, configuration, performance, personnel or procedure, where uniform application is necessary for the safety or regularity of air navigation and to which Operators must conform. In the event of impossibility of compliance, notification to the CAAM is compulsory.

Recommended Practices: Usually preceded by the words such as "*should"* or "*may*", are any specification for physical characteristics, configuration, performance, personnel or procedure, where the uniform application is desirable in the interest of safety, regularity or efficiency of air navigation, and to which Operators will endeavour to conform.

Appendices: Material grouped separately for convenience but forms part of the Standards and Recommended Practices stipulated by the CAAM.

Definitions: Terms used in the Standards and Recommended Practices which are not self-explanatory in that they do not have accepted dictionary meanings. A definition does not have an independent status but is an essential part of each Standard and Recommended Practice in which the term is used, since a change in the meaning of the term would affect the specification.

Tables and Figures: These add to or illustrate a Standard or Recommended Practice and which are referred to therein, form part of the associated Standard or Recommended Practice and have the same status.

Notes: Included in the text, where appropriate, Notes give factual information or references bearing on the Standards or Recommended Practices in question but not constituting part of the Standards or Recommended Practices;

Attachments: Material supplementary to the Standards and Recommended Practices or included as a guide to their application.

The units of measurement used in this document are in accordance with the International System of Units (SI) as specified in CAD 5. Where CAD 5 permits the use of non-SI alternative units, these are shown in parentheses following the basic units. Where two sets of units are quoted it must not be assumed that the pairs of values are equal and interchangeable. It may, however, be inferred that an equivalent level of safety is achieved when either set of units is used exclusively.

Any reference to a portion of this document, which is identified by a number and/or title, includes all subdivisions of that portion.

Throughout this Civil Aviation Guidance Material, the use of the male gender should be understood to include male and female persons.

Record of revisions

Revisions to this CAGM shall be made by authorised personnel only. After inserting the revision, enter the required data in the revision sheet below. The *'Initials'* has to be signed off by the personnel responsible for the change.

Rev No.	Revision Date	Revision Details	Initials

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1 General

1.1 Characteristics

1.1.1 An ATO is an organisation that is approved by the CAAM to deliver specific approved training programmes to pilots for licensing purposes. As a prerequisite to the approval process, this organisation will have demonstrated that it is staffed, equipped, financially resourced and operated in a manner conducive to achieving the required standards. Its approved programmes may from time to time take advantage of the reduced experience requirements provided for in CAD 1 - PEL for certain licences and ratings.

1.1.2 The ATO is further classified into three (3) categories:

a) Type Rating Training Organisation (TRTO);

b) Flight Training Organisation (FTO);

c) Flying Club providing instruction in flying (FC) – which provides training for pilots up to PPL.

d) Remote Pilot Training Organisation (RPTO) – Refer to CAD 6011 (I).

1.2 Abbreviations

AFI	=	Assistant Flying Instructor
AIP	=	Aeronautical Publication Information
AM	=	Accountable Manager
ATO	=	Approved Training Organisation
ATPL	=	Airline Transport Pilot Licence
CAAM	=	Civil Aviation Authority of Malaysia
CAGM	=	Civil Aviation Guidance Material
CAD	=	Civil Aviation Directive
CAMO	=	Continuing Airworthiness Management Organisation
CAT	=	Commercial Air Transport
CBT	=	Computer Based Training
CEO	=	Chief Executive Officer
CFI	=	Chief Flight Instructor
CFSI	=	Chief Flight Simulator Instructor
CGI	=	Chief Ground Instructor
COA	=	Certificate of Approval
CPL	=	Commercial Pilot Licence
FCL	=	Flight Crew Licensing
FC	=	Flying Clubs providing instructional flying
FD	=	Flight Dispatcher
FFS	=	Full Flight Simulator
FI	=	Flight Instructor
FNPT	=	Flight and Navigation Procedure Trainer
FOO	=	Flight Operations Officer

FSTD	=	Flight Simulation Training Device
FTD	=	Flight Training Device
FTO	=	Flight Training Organisation
HOT	=	Head of Training
IR	=	Instrument Rating
MCAR	=	Malaysia Civil Aviation Regulation
MCC	=	Multi-crew Cooperation
MPA	=	Multi-pilot Aeroplane
MPL	=	Multi-crew Pilot Licence
NPH	=	Nominated Post Holder
OTD	=	Other Training Devices
PM	=	Pilot Monitoring
POPS	=	Prospective Operator's Pre-assessment Statement
PPL	=	Private Pilot Licence
QA	=	Quality Assurance
QM	=	Quality Manager
QS	=	Quality System
RPTO	=	Remote Pilot Training Organisation
SM	=	Safety Manager
SSM	=	Support Service Manager
TEM	=	Threat and Error Management
TRI	=	Type Rating Instructor
TRTO	=	Type Rating Training Organisation
ZFTT	=	Zero Flight Time Training

1.3 Organisational structure

1.3.1 The organisational structure of an ATO will vary depending upon the scope and complexity of its business model. The design and make-up of its structure should ensure that the delivery of training meets the client's needs and expectations, while maintaining compliance with the applicable regulatory requirements. Therefore, ATOs need to have a management structure that is designed around best quality management practices.

1.3.2 In all cases, ATOs require an accountable executive who is the final authority on decisions that may impact upon the continued suitability of the organisation to deliver training to aviation personnel for licensing purposes. Since accountable executives may not have a day-to-day awareness of the training activity, they must rely heavily upon the performance and advice of key personnel within the ATO. As a result, the qualifications and competencies of ATO personnel must be maintained to a very high standard.

Note.- Appendix 2 provides several recommended organisational structures for consideration.

1.4 Management and staffing

1.4.1 The composition of the management team will depend on the NPH requirements stated in CAD 1011 – ATO or CAD 1002 – FC as applicable and its organisational needs. Some ATOs may require a complex management structure as they are approved to provide training for multiple occupations within the aviation industry.

1.4.2 Depending on the size and scope of the ATO and the requirements of the CAAM, some of the key positions may be supplemented by subordinates as illustrated in the organisational charts in Appendix 2. Small and less complex ATOs may wish to combine some key positions when it becomes clear that the resulting position's roles and responsibilities would not be adversely affected by such a decision.

1.4.3 In all cases, the head of training is expected to receive, from the ATO management team, candid and complete information on operational and quality issues. To that end, ATOs should establish separate managerial positions, directly reporting to the head of training, for the following areas of responsibility:

a) training or instructional services; and

b) quality management processes.

1.4.4 The ATO is expected to provide the number of qualified and competent instructors and evaluators appropriate to the size and scope of the intended operations, who hold appropriate licences, certificates, qualifications and ratings or authorisations as deemed necessary by the CAAM.

1.4.5 Instructors and evaluators will be expected to undergo initial and recurrent training as necessary, as well as update training relevant to the most recent technology and training methodologies appropriate for which the students are being trained and examined.

1.4.6 Instructor to student ratio for the various types of training can be found in paragraph 6.4.

1.5 Training or instructional services

1.5.1 CAD 1 - PEL requires that ATOs have all their services authorised under the terms of their approval. The content of each approved training programme, including the courseware and equipment used, needs to be documented. Appendix 1 to CAD 1011 - ATO and Appendix 1 to CAD 1002 – FC detail this requirement while describing the content of the training and procedures manual.

1.5.2 ATOs may offer training services to holders of foreign-issued licences subject to the approval of the licensing authority of that Contracting State.

1.6 Theoretical knowledge

1.6.1 An ATO shall ensure that the time allocated for classroom instruction (excluding private study) complies with the requirements in CAD 1 – PEL.

Theoretical knowledge instructional hours for the issuance of licences are broadly apportioned to the particular subject as per Appendix 3 of this CAGM.

1.6.2 Class exercises. An ATO shall ensure that adequate time should be allocated to classroom exercises, progress tests, revision, demonstrations, films etc., and it is estimated that this may amount to some 40% of the total time. The actual balance between total hours, theoretical knowledge instruction, revision etc., must necessarily be made by the organisation.

1.7 Flying syllabus

1.7.1 An ATO's flying syllabus shall be approved by the CAAM. The syllabus shall be broadly based to the examples provided in Appendix 4 of this CAGM, taking into account the flying experience requirements of CAD 1 – PEL.

1.8 Competency-based training and assessment for the Multi-Crew Pilot Licence (MPL)

1.8.1 Approved training organisations (ATOs) shall incorporate elements of competency-based training for MPL.

1.8.2 This chapter outlines the principles and procedures that are applicable to the development and implementation of an MPL course. Refer to CAD 1 – PEL for guidelines for the implementation of the MPL and its training scheme. Appendix 6 provides an example of a completed training specification for an initial Multi-crew Pilot Licence course.

2 Process to Approve Training Organisations

2.1 Obtaining approval

2.1.1 The applicant should meet the approval requirements by complying with the application process and procedures as published by CAAM.

2.1.2 With the application for approval, a draft copy of the proposed ATO's training and procedures manual must be submitted to the CAAM. The requirements for the contents of this manual are described in Chapter 3 and detailed guidance on this subject is provided in Appendix 1 of CAD 1011 – ATO or CAD 1002 – FC.

2.2 CAAM's review and approval process

2.2.1 The procedures contained in this Guidance Material will be utilised by the CAAM for the issuance of a COA and for the continuing safety of the operations conducted in accordance with the COA and the related training specifications.

2.2.2 During the certification process, CAAM is to be satisfied that the applicant, who will have the ultimate responsibility for the safety of the operation, is eligible for the issuance of a COA and has the ability and competence both to conduct safe and efficient operations and to comply with applicable regulations. CAAM, in addition to assessing the ability and competence of the applicant, will also endeavour to guide the applicant in organisational and procedural matters which will result in a safe operation. Thus, if the objectives of both the CAAM and the applicant are achieved in the certification process, they will have commenced their shared responsibility for safety, regularity and efficiency of operations.

2.2.3 At the commencement of the certification process, a CAAM inspector will be appointed as the project manager. The applicant will be informed that the project manager will be responsible for coordinating all aspects of the certification process and will be the focal point for dealing with all matters and correspondence between the applicant and the CAAM. The certification process and correspondence shall be documented with all documents and checklists used to be completed, signed and dated and appropriately filed. The applicant should address all findings and discrepancies to the satisfaction of the CAAM before the issue of the COA.

2.2.4 Since each operation may differ in complexity and scope, the project manager has considerable latitude in taking decisions and making recommendations during the certification process. The ultimate recommendation by the project manager and decision by the CAAM regarding certification and awarding of a COA are to be based on the determination of whether or not the applicant meets the CAAM's requirements and is adequately equipped and capable of conducting the proposed operation in a safe and efficient manner.

2.2.5 Certification Procedure

2.2.5.1 The procedure for the application and granting of a COA by the CAAM will be organised in phases and will take the following sequence:

a) pre-application phase;

b) formal application phase;

c) document evaluation phase;

d) demonstration and inspection phase; and

e) certification phase.

Each of these phases is briefly introduced below.

2.2.6 Pre-application phase

2.2.6.1 A prospective applicant who intends to apply for a COA shall enter into preliminary discussions with the CAAM and will be provided with complete information concerning the type of training which may be authorised, the data to be provided by the applicant and the procedures which will be followed in the processing of the application. It is essential that the applicant has, in this pre-application phase, a clear understanding of the form, content and documents required for the formal application. This manual provides guidance on the application process and is available for download from the CAAM website.

2.2.6.2 A prospective operator's pre-assessment statement (POPS) form is to be completed by the applicant for the purpose of establishing the intent on the applicant to continue with the process for certification and thus enable the CAAM to commit resources and plan the certification process. The POPS can be found in Attachment A of this document.

2.2.6.3 The CAAM will advise the prospective applicant on the approximate period of time that will be required to conduct the certification process, subsequent to the receipt of a complete and properly executed application. This advice is particularly important in the case of new operators so that such applicants may avoid undue financial outlays during the certification period.

2.2.6.4 In those cases, where an applicant's organisation is in the formative stage, and the applicant has little or no operating experience, the applicant shall be advised that it may not be possible to judge the ATO's operating competency until a sufficient period of operational proving, including observation training flights, have been carried out and that the overall period required to reach a final decision on the application may be protracted and considerable financial outlays unavoidable.

2.2.6.5 The importance of a thorough and careful preliminary assessment of the application cannot be overemphasised. The more thoroughly the applicant's competence is

established at this stage, the less likelihood there will be of having serious problems in the document evaluation and the demonstration and inspection phases preceding certification or during the course of subsequent operations. Analysis of the application will indicate either that it is acceptable on a preliminary basis or that it is unacceptable.

2.2.6.6 If the application is acceptable to the CAAM on the basis of the preliminary assessment, the applicant should be encouraged to proceed with preparations for the commencement of operations on the basis that a COA will be issued subject to satisfactory completion of the remainder of the certification procedure.

2.2.6.7 The pre-application phase will also include a parallel assessment of the financial, and economic status of the applicant and the proposed operation. The financial viability of the operation may be the most critical factor in reaching a decision on whether or not a COA should be awarded. The determination of the financial resources of the applicant is usually based on an audit of the operator's assets and liabilities and a thorough evaluation of all financial information and other pertinent data such as proposed arrangements for the purchase or lease of aircraft and major equipment.

2.2.6.8 The financial and economic assessment of the applicant will be carried out by the CAAM or an appropriate organisation accepted by the CAAM and be assigned responsibility to provide an assessment related to economic aspects of the proposed operation.

2.2.7 Formal application phase

2.2.7.1 Upon completion of the assessment concerning the financial and economic aspects of the application and after any deficiencies have been corrected, a provisional determination shall be made regarding the general feasibility of the operation. If the operation is found to be provisionally acceptable, the second phase of the certification process, the formal application phase, can be undertaken.

2.2.7.2 The submission of a formal application is interpreted by the CAAM to mean that the applicant is aware of the regulations applicable to the proposed operation, is prepared to show the method of compliance and is prepared for an in depth evaluation, demonstration and inspection related to the required manuals, training programmes, operational and maintenance facilities, aircraft, support equipment, record keeping, and key management personnel, including the functioning of the administrative and operational organisation.

2.2.7.3 ATOs utilising aircraft shall be responsible for the continuing airworthiness of its aircraft as prescribed in chapter 2 of CAD 6101 – Continuing Airworthiness of Aircraft.

2.2.8 Document evaluation phase

2.2.8.1 The document evaluation phase involves the detailed examination of all documentation and manuals provided by the applicant to establish that every aspect required by the regulations is included and adequately covered.

2.2.8.2 In order to facilitate this phase of the certification process, the applicant should refer to Attachment A for the development of the required documentation prior to the submission of the formal application.

2.2.9 Demonstration phase

2.2.9.1 Inspections in this phase will involve base facility inspections and inspection of the training programmes and facilities.

2.2.9.2 Depending on the complexity of the ATO, demonstrations will involve demonstration of the operational control system and may involve observation training flights.

2.2.10 Certification phase

2.2.10.1 The certification phase is the conclusion of the certification process when the CAAM Project Manager has determined that all certification requirements, both operational and economic, have been completed in a satisfactory manner and that the ATO will comply with the applicable regulations and is fully capable of fulfilling its responsibilities and conduct safe training.

2.2.10.2 The culmination of this phase is the issuance of the COA to an ATO.

2.2.10.3 Subsequent to the issuance of a COA, the CAAM inspector will be responsible for conducting periodic inspections, to ensure the ATO's continued compliance with the CAAM regulations, authorisations, limitations and provisions of its COA and training specification.

2.3 Nature of the approval given to a training organisation

2.3.1 The CAAM authorises the ATO to conduct the training courses specified in the training specification as per Attachment B of CAD 1011 – ATO.

2.3.2 CAAM may restrict where their licence holders may train and what programmes are acceptable for gaining or maintaining the privileges attached to the licence that they issue.

2.3.3 To ensure the integrity of their aviation documents, CAAM will require foreign-based training organisations to meet Malaysian licensing standards prior to crediting any training provided to their licence holders.

2.4 Renewal of the approval

2.4.1 The CAAM issues a Certificate of Approval that has a period of validity of up to 5 years. Prior to the renewal of the approval, ATO's are to pass a base inspection audit conducted by the CAAM.

2.5 Changes in the scope of the approval

2.5.1 Aviation training is a dynamic activity, and it is likely that ATOs will ask regularly for a change in the scope of their approval; for instance, they may want to provide new training or change a training programme to take advantage of new training equipment or facilities. In such a case, the applicant should provide supporting information to the CAAM that will assess it using the Standards contained in the applicable Civil Aviation Directives and the relevant parts of this guidance material. An amendment to the approval document will be issued by the CAAM after a satisfactory assessment.

2.5.2 Changes or modifications in equipment, software, facilities or key managerial personnel shall be reported to the CAAM to ensure that any required approvals are obtained without delay.

2.6 Continued surveillance after the approval

2.6.1 After receiving an approval, the ATO will be subjected to continued surveillance by the CAAM to ensure that the ATO is operating within the terms of its approval and as described in its training and procedures manual and the training specifications.

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3 Training and Procedures Manual

3.1 Introduction

3.1.1 The training and procedures manual describe the training programmes being offered and the way in which the training organisation conducts its activities. It is an essential document for the training organisation because it provides the management and line personnel with clear guidance on the policy of the training organisation as well as the procedures and processes which are used to provide training. It is also an essential document for the CAAM. During the approval process, it allows the CAAM to assess whether the way in which a training organisation is planning to operate is in line with existing requirements and accepted practices. Once the training organisation is approved, a large part of the surveillance activities of the CAAM is to ensure that the ATO is following the training and procedures manual.

3.1.2 It is important that the contents of the training and procedures manual be consistent with other operational documents, regulations and manufacturer's requirements. The manual should also be user-friendly. It is also necessary to ensure that the manual is used consistently across all departments within the ATO. This can be achieved through an integrated approach that recognises operational documents as a complete system.

3.1.3 This chapter explains how the training and procedures manual should be developed, implemented and managed.

3.2 Documentation management

3.2.1 CAD 1011 – ATO and CAD 1002 - FC provide for the training and procedures manual to be issued in separate parts should the ATO find it too cumbersome to have all the required content appear in a single document. It also mandates that these documents be maintained to ensure their continued relevancy and compliance with applicable CAD's. Practices that will assist ATOs in conforming to these Standards are discussed at some length in 3.8.

3.2.2 Appendix 1 to this guidance material detail the elements of an effective quality system, a system that requires robust policies, processes and procedures for documentation management and record keeping, since shortcomings in documentation management eventually lead to poor standardisation and a diminished quality of training.

3.3 Content

3.3.1 The content of the training and procedures manual is spelled out in general terms in CAD 1011 – ATO and CAD 1002 - FC. Depending on the size, complexity and scope of the training provided by the ATO, some of the elements contained in the list can be reduced, combined or expanded further.

3.4 Organisation

3.4.1 The training and procedures manual should be organised according to criteria relating to the information, its importance and use. The information should be structured and sequenced so that operational personnel can access it easily. This principle will help determine whether to issue the manual as a single document or in separate parts. When the training and procedures manual is organised into separate parts, it should include a master index to help users locate information included in more than one part. The master index should be placed in the front of each part.

3.4.2 The manual should describe accurately the ATO's philosophies, policies, processes and procedures.

3.5 Structure

3.5.1 The structure of the training and procedures manual should be easy to understand, appropriate for the information and clearly identified through headings and other formatting devices. An explanation of the organisational elements such as the headings, numbering scheme, main parts of the document and other sources of coding or groupings should be provided at the beginning of the manual.

3.5.2 Precise language should be used wherever possible. Terms for common items and actions should be consistent throughout the manual and must be clear and easily understood.

3.5.3 Writing style, terminology, formatting and use of graphics and symbols should be consistent throughout the document, including the location of specific types of information and use of units of measurement and codes.

3.5.4 The manual should contain a glossary of definitions and significant terms including a list of acronyms and/or abbreviations. The glossary should be updated on a regular basis to ensure access to the most recent terminology.

3.5.5 For ease of amendment and distribution, an appropriate revision process should be defined and established when designing the manual.

3.5.6 The training and procedures manual should comply with the requirements of the ATO's quality assurance practices.

3.6 Validation

3.6.1 The training and procedures manual should be reviewed and tested under realistic conditions before its operational release. The validation process should include using the critical aspects of the information contained in the manual to verify its effectiveness. Routine interaction among groups within the ATO should be included in the validation process.

3.6.2 A final review of the manual should ensure that all required topics have been addressed with an appropriate level of detail for users. The final review should also confirm compliance with safety regulations, manufacturers' recommendations and the ATO's philosophy, policies, procedures and processes.

3.7 Deployment and feedback

3.7.1 The ATO should maintain and update as necessary the training and procedures manual after its initial release. This will ensure appropriate and realistic use of the manual, based on the current operational environment, in a way that is operationally relevant and appropriate for the users for whom it is intended.

3.7.2 In order to gather information for updates of the manual, a formal feedback system should be established to obtain input from principal users and others who would be affected by a new or revised policy, procedure or process.

3.8 Amendment

3.8.1 The ATO should develop an effective information gathering and review system to process information obtained from all sources relevant to the organisation, such as the CAAM, safety regulators, training clients, manufacturers and equipment vendors, as well as a distribution and revision control system.

Note.— Manufacturers provide information on the operation, handling and maintenance of specific equipment, aircraft and components thereof, which emphasises the equipment or aircraft systems and procedures under conditions that may not fully match the requirements of the training organisation. ATOs should ensure that such information meets their specific needs and those of the CAAM.

3.8.2 The ATO should also develop an information review, distribution and revision control system to process information resulting from changes that originate within the ATO. This includes changes to:

a) the ATO's policies, processes, procedures and practices;

b) respond to operating experience;

c) the scope of training provided;

d) the content of training programmes;

e) results stemming from the installation of new equipment;

f) an approval document or certificate requested by the ATO and issued by the CAAM; and

g) maintain standardisation of training delivery and performance criteria.

3.8.3 The manual should be reviewed in association with other operational documents that form the ATO's document control system:

a) on a regular basis (at least once a year);

b) after major events such as mergers, acquisitions, rapid growth or downsizing;

c) after technology changes, e.g. the introduction of new equipment;

d) after changes to safety regulations

e) after changes to key operational personnel (e.g. Head of Training); and

f) after changes to the scope of training provided.

3.8.4 Permanent changes to the training and procedures manual should be communicated through a formal amendment process.

3.8.5 Distribution of amendments and revisions should have a tracking system. The tracking system should include some form of log combined with a procedure to ensure that all amendments are furnished promptly to all organisations or persons to whom the manual has been issued.

4 Quality Assurance (QA)

4.1 Objective

4.1.1 The objective of QA, is to ensure the achievement of results that conform to the standards set out in the ATO's manuals and in requirements and documents issued by the CAAM. The effective application of QA principles will aid the ATO in meeting all regulatory requirements.

4.1.2 Quality is an outcome of a number of processes:

a) establishing standards;

b) planning activities and documenting procedures to support such activities and standards;

c) training the personnel involved before implementing the documented procedures; and

d) measuring the outcomes of the activities to ensure that they meet the standards and expected results.

4.1.3 If any non-conformities are found, corrective actions are taken to improve processes and procedures. It is to be emphasised that, to be truly effective in delivering the very best possible products and services, ATOs need to implement proactive as well as reactive processes. Appendix 1 describes proactive processes and provides guidance on how to institutionalise a quality system that incorporates QA and assists ATOs in reaching their full potential.

4.1.4 The instructions and information contained in the following paragraphs provide guidance on the QA that each ATO needs to establish.

4.2 Elements

The following QA elements should be clearly identifiable in the training and procedures manual:

a) the ATO's training policy (for clients as well as for its own personnel);

b) training standards;

c) allocation of responsibility;

d) resources, organisation and operational processes;

e) procedures to ensure conformity of training with the training policy;

f) procedures for identifying deviations from training policy and standards, and for taking corrective action, as necessary; and

g) the evaluation and analysis of experiences and trends concerning policy and training standards, in order to provide feedback into the system for the continual improvement of the quality of training.

4.3 QA and the quality system of the ATO.

4.3.1 Details on the requirements for QA and the development of an overarching quality system for an ATO can be found in Appendix 1.

5 Safety Management System (SMS)

5.1 Objective

5.1.1 CAD 19 - SM states that an ATO in accordance with CAD 1 - PEL that is exposed to safety risks during the provision of its services, is required to implement a safety management system (SMS) acceptable to CAAM.

5.1.2 It is important for the CAAM and ATOs to realise and understand the applicability of SMS for ATOs. The requirement to adopt SMS practices is intended to be restricted to only those training entities whose activities directly impact upon the safe operation of aircraft.

5.1.3 For example, ATOs either using aircraft for flight training would be required to institute an SMS programme.

5.1.4 An example of an ATO not directly posing a risk to the safe operation of aircraft would be an ATO that provides approved flight crew training using only flight simulation training devices. In this instance the onus will be on the ATO to ensure a relevant amount of consideration to safety is taken into account within the scope of the SMS stated in CAD 19 – SM.

5.1.5 SMS is a management system consisting of documented policies, processes and procedures designed to manage safety risks, which integrates operations and technical systems with the management of financial and human resources to ensure aviation safety and the safety of the public.

5.1.6 SMS and quality systems (QS) are complementary. Therefore, it may be suitable for the two systems to be integrated under a single “safety and quality” function if deemed appropriate by the ATO.

5.2 Framework and required elements

5.2.1 The framework and required elements for the implementation and maintenance of SMS are contained in CAD 19 - SM. Guidance on SMS is contained in the *Safety Management Manual (ICAO Doc 9859*).

5.3 The safety management system of the ATO

5.3.1 Safety policy

5.3.1.1 CAD 19 - SM requires all ATOs in accordance with CAD 1 - PEL that engage in activity which directly impacts the safe operation of aircraft to operate within an SMS. ICAO Doc 9859 provides detailed guidance on the history of aviation safety, why SMS is so important in the industry’s collective effort to reduce safety occurrences, and how to design and maintain an effective SMS.

5.3.1.2 Safety is defined as the state in which the possibility of harm to persons or of property damage is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and safety risk management. The purpose of an SMS is to provide the ATO with effective policies, processes and procedures that permit it to achieve and maintain safe operations.

5.3.1.3 The way an ATO operates is affected primarily by the decisions and actions of its management. The style of management and the approach that is taken in dealing with operational issues will profoundly influence the employees' beliefs and behaviours, and even their values. Therefore, it is essential that the ATO's senior management take an active and genuine interest in the development and maintenance of the ATO's SMS. That enthusiasm and commitment must be repeatedly conveyed to all employees through the words and actions of every single member of the management team.

5.3.1.4 The ATO's safety policy needs to be developed, documented and signed off by the accountable executive. It should be communicated and made clear to all employees. The policy is required to state the management's commitment to safety, all employee responsibilities and safety accountabilities with respect to the SMS, and to identify the key safety personnel. The policy should also reflect management's resolve to foster a robust safety reporting culture and should identify those conditions under which employees will not be subjected to punishment or retribution. The development of an SMS policy is detailed in the ICAO Doc 9859.

5.3.2 Safety manager

5.3.2.1 All ATOs that operate within an SMS are to appoint an individual to fulfil the duties of safety manager responsible for the implementation and maintenance of the SMS. The scope of the safety manager's duties should include safety planning, safety programme implementation and the operation of the SMS.

5.3.2.2 The safety manager, like the quality manager, should report directly to the accountable manager.

5.3.3 Safety management system

5.3.3.1 SMS is a systems-based approach for organisations to effectively manage risk. The scope of an ATO's SMS needs to be directly commensurate with the ATO's size and the complexity of its operations.

5.3.3.2 CAD 19 - SM outlines the framework of an SMS and describes the necessary components and elements of such a system.

5.3.3.3 ICAO Doc 9859 details the design and strategies for a phased-in implementation of SMS.

6 Facilities and Equipment

6.1 Facilities

6.1.1 An ATO should have access to facilities appropriate to the size and scope of the intended operations provided in an environment conducive to learning. These facilities should include:

a) general areas which consist of sufficient:

1) office space for ATO managerial, administrative and training staff;
2) study and examination rooms and reference/library facilities; and
3) storage areas, including secure areas for training and personnel records;

b) classroom areas that are suitably equipped to effectively deliver the theoretical elements of the specified training programme; and

c) practical training areas which are designed and equipped to ensure the attainment of end-state competencies. These facilities should include, whenever applicable:

1) operations, flight planning and briefing rooms that include;

i) current maps and charts;
ii) current AIS information;
iii) current meteorological information;
iv) suitable communications between ATC and the operations room; and
v) maps showing current danger/restricted and training areas.

2) simulation and procedure trainer areas;
3) suitable parking areas for aircraft used in training;
4) workshop and aircraft hangar facilities; and
5) parts, tools and material storage areas.

Note.— The facilities listed above do not consider any arrangement required by the CAAM's security programme, such as screening areas for persons accessing security restricted areas.

6.2 Training courseware and equipment

6.2.1 An ATO needs to ensure that all courseware and equipment required by the training programme, are available and in good working order. Changes to working conditions and any temporary "work-around" solutions should be discussed with the CAAM prior to continuing with the scheduled training.

6.3 Approval of training devices

6.3.1 With the rapid improvements in technology, an increasing number of simulation training devices for training licensed personnel within the aviation industry are entering the marketplace. Some training programmes even use web-based simulation to such an extent that full accreditation for successful programme completion is achieved without

the trainees ever having to leave their normal place of work or, in some cases, their residence.

6.3.2 Each training device that is intended for training, testing or checking in an approved training programme and for which credit is being sought needs to be made available to the CAAM, prior to initial use, for determination of its suitability.

6.3.3 In addition to meeting the obligations of the directives, the ATO should implement at least the following for all training devices:

a) a routine maintenance programme to ensure that the training devices continue to function properly and, when applicable, continue to accurately replicate any component, system or equipment for which training, checking or testing credits are being sought; and

b) a record-keeping process for each training device to be established and maintained, which accurately records the device's use and lists any discrepancies with respect to its functionality or intended performance characteristics that may impact training.

Note.— Criteria for the qualification and training suitability of flight simulation training devices that replicate aeroplanes and helicopters are detailed in the Manual of Criteria for the Qualification of Flight Simulation Training Devices (ICAO Doc 9625).

6.4 Instructor to student ratio

6.4.1 In order to provide for sufficient supervision and control, a maximum of 20 trainees per instructor is recommended in a classroom environment. An evaluation should be conducted, and consideration should be given to subject matter, type of training (such as initial/recurrent), instructors workload management, feedback/evaluations and size of facilities, which may prompt an adjustment of the proposed training to instructor ratio for class room training.

6.4.2 When facilitating CBT, the trainee to instructor ratio maybe be more flexible. A maximum of 30 trainees per instructor is recommended assuming that the presence of the instructor is limited to providing support.

6.4.3 When conducting practical instruction such as hands-on exercises, the trainee-to-instructor ratio should be more restricted to allow for better supervision. A maximum of 10 trainees per instructor is recommended. However, the type of hands-on exercise being performed should be considered. Individual hands-on exercises on safety and emergency equipment versus group simulated exercises may prompt an adjustment of the proposed trainee to instructor ratio.

6.4.4 The ratio of all students to flight instructors, should not exceed 7:1. The ATO should demonstrate to the CAAM that an adequate number of qualified, competent staff is employed.

Note.— For flying clubs, variations to this ratio is possible subject to the FC demonstrating to CAAM that the FI's are underutilised.

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7 Third-Party Providers (Outsourcing)

7.1 Courseware

7.1.1 As training programme design becomes more sophisticated, an increasing number of ATOs are outsourcing the development of courseware. This is particularly true with competency-based programmes that require a relatively short-term increase in manpower during the development phase.

7.1.2 Whether or not an ATO engages outside assistance in designing and providing courseware, the CAAM will hold the ATO accountable for the quality and suitability of its courseware. The work being performed by the third-party provider should therefore be subjected to the same quality assurance (QA) practices that the ATO is expected to apply to its own work.

7.2 Facilities and equipment

7.2.1 Frequently the aviation training industry runs in cycles, during which ATOs may be operating below capacity for long periods of time only to suddenly find themselves inundated by demands that exceed their ability to deliver. An ATO may also need equipment for some parts of the training which may not be economically viable to own. To mitigate the impact of not being able to effectively respond and thus potentially lose valued clients, ATOs may have standing agreements with other institutions to lease facilities and equipment.

7.2.2 The temporary use of another organisation's facilities and equipment can present challenges in terms of the QA processes of the ATOs. Under these circumstances, a breakdown in vigilance can cause serious damage to the integrity and quality of the training. To mitigate this, ATOs should develop contingency plans in their quality manual for instances when training levels are such that the use of another institution's facilities and equipment is required.

7.3 Personnel

7.3.1 The most frequent outsourcing practice of ATOs is the hiring of temporary instructional personnel. It is during these times in particular that a robust quality system will protect the integrity and quality of an ATO's training programme and the ATO's reputation for delivering quality products and services.

7.3.2 Despite their best intentions and qualifications, temporary employees elevate the risk of non-standardised delivery of training and of a decrease in the level of service provided to the ATO's clients. Detailed, documented policies, processes and procedures that are easy to understand and uniformly applied, combined with initial indoctrination training, will go a long way to mitigating this risk.

7.3.3 Besides training its regular staff, ATOs should ensure that refresher training is implemented on a scheduled basis for part-time or temporary instructional personnel

prior to commencing their duties after a specified period of inactivity. Re-familiarisation with the ATO's quality system and expected levels of service should be included in this training scheme. Besides the contingency plan mentioned in 7.2, the ATO's quality manual should include policies, processes and procedures for the employment of temporary instructional staff.

8 Record Keeping

8.1 Keeping accurate and complete training records is an important aspect of complying with the approval requirements. It is also an essential tool for the ATO to ensure the continuity and consistency of its training. The qualifications required for training personnel and trainees should be recorded in the record-keeping system to ensure that those qualifications are monitored and current.

8.2 The record-keeping system of an ATO should have the following characteristics:

a) *Completeness.* The records kept by the ATO should be sufficient to provide documentary evidence of each training action and allow the reconstruction of the training history of each student or instructor in the ATO.

b) *Integrity.* It is important to maintain the integrity of records, ensuring that they are not removed or altered. A backup of the records is also necessary to ensure continuity in case of a major disaster.

c) *Accessibility.* Records of both instructional personnel and trainees should be readily accessible.

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

8.4 Records should be kept in paper form or in electronic format or a combination of both media. Records stored on microfilm or optical disc form are also acceptable. The records should remain legible and accessible throughout the required retention period. The retention period starts when the record has been created.

8.5 Paper systems should use robust material, which can withstand normal handling and filing. Computer systems should have at least one backup system, which should be updated within 24 hours of any new entry. Computer systems should include safeguards against unauthorised alteration of data.

8.6 All computer hardware used to ensure data backup should be stored in a different location from that containing the working data and in an environment that ensures they remain in good condition.

8.7 Training records should be kept in a paper or electronic version by the ATO where the candidate is undertaking their training.

8.8 Each ATO should also establish rules for archiving personal employment and training records that are non-active.

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9 Oversight Exercised by the CAAM

9.1 Oversight is the responsibility of the CAAM. It consists of the approval process of an ATO and the continued surveillance of the ATO's training delivery after approval. The purpose of the surveillance activities is to ensure that the ATO is operating within the terms of its approval and as described in the training and procedures manual. It includes a review of the ATO's quality assurance (QA) system, its administrative, technical and training records and its operational activities. Surveillance is an ongoing function that may also include consideration of records held by the CAAM, for example, flight test and examination results, in addition to on-site inspections, audits and other surveillance activities.

9.2 The main elements of the ATO activities that are subject to the CAAM's oversight include, as applicable, the following:

a) staff adequacy in terms of number and qualifications;

b) validity of instructors' licences, certificates, ratings and authorisations;

c) logbooks;

d) appropriate and adequate facilities for the training and for the number of students;

e) documentation process (e.g. the review and update of the training and procedures manual), with particular emphasis on course documentation, including records of updates, training/operations manuals, etc.;

f) training delivery in the classroom and in simulation devices and, if applicable, flight instruction or on- the-job training, including briefing and de-briefing;

g) instructor training;

h) QA practices;

i) safety management system (SMS) functionality;

j) training, examination and assessment records;

k) evaluation and checking;

l) equipment serviceability;

m) aircraft registration, associated documents and maintenance records; and

n) training device qualification and approval.

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10 Authorised Evaluations and Checks Carried Out by the ATO

10.1 IGM 1006 – DFE provides guidance on evaluation and checking of trainees, and distributed to DFE's only. Situations where the person giving the instruction is also responsible for evaluating the student on completion of the instruction should be avoided.

10.2 At the discretion of the CAAM, it may be appropriate for the ATO to designate examiners for the conduct of licensing and rating tests or checks in accordance with criteria approved by the CAAM. Such an arrangement should be considered only when the ATO can demonstrate that it is capable of consistent compliance with the standards prescribed by the CAAM.

10.3 Theoretical knowledge examinations are conducted solely by the CAAM and may be held in-house at the ATO or at the CAAM's discretion.

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11 Flight Operations Officer (FOO)/Flight Dispatcher

11.1 Introduction

11.1.1 This chapter provides guidance to operators and Approved Training Organisations to develop FOO/Flight Dispatchers competency-based training and assessment programmes.

11.1.2 CAD 6, specifies that the responsibility for the operational control of a flight be designated only to the PIC and to a FOO/Flight Dispatcher of the operator's approved method of control and supervision of flight operations requires the use of FOO/Flight Dispatcher personnel.

11.1.3 A system of operational control requiring the services of a FOO/Flight Dispatcher should be considered, due to the nature and extent of the duties and responsibilities involved in the supervision of flights. Approval of the method of control and supervision of flight operations is required by CAAM. In this context, the duties of the FOO/Flight Dispatcher are listed in CAD 6.

11.1.4 This guidance is applicable to all Malaysian operators, Approved Training Organisations, flight watch systems or programs and applicants with foreign dispatch license seeking local recognition.

11.1.5 The basic qualification for all functions or tasks in the system of operational control is the FOO/Flight Dispatcher Qualification. All functions (independent from the job title) and with the responsibility and authority for initiation, planning, continuation and diversion of each flight shall be qualified according to these requirements.

11.1.6 CAAM does not require the FOO/Flight Dispatcher to be licensed.

11.2 Training and assessment

11.2.1 A competency-based training and assessment programme for FOO's/Flight Dispatcher's shall include on-the-job training to ensure that competency standards appropriate to the exercise of duty are consistently achieved.

11.2.2 FOOs/Flight Dispatchers shall meet the final competency standards acceptable to the CAAM. Assessment shall include a component of on-the-job competency assessment.

11.2.3 Assessment shall include a component of on-the-job competency assessment.

11.3 Evaluation of training programmes

11.3.1 The competency-based training and assessment programme for FOOs/Flight Dispatchers shall include an ongoing evaluation of the training programme acceptable to CAAM. The evaluation shall ensure that:

a) The training and assessment plans are relevant to the work of FOO's/Flight Dispatcher's in the specific context and environment to which they may be assigned after training.

b) The programme enables the trainees to achieve the interim and final competency standards; and

c) Remediation actions are taken if in-training and post-training evaluation indicates a need to do so.

11.3.2 Refer to Appendix 7 – Competency Framework for FOO/Flight Dispatcher.

11.3.3 The detailed guidance for the development of the competency-based training and assessment programs for FOO/Flight Dispatchers can be found in ICAO Doc 10106 – Manual on Flight Operations Officers/Flight Dispatchers Competency-based Training and Assessment.

11.3.4 Appendix 8 provides the recommended syllabus for Flight Operations Officer/Flight Dispatcher training programme to be in compliance with the requirements of CAD 1 - PEL.

12 Appendices

12.1 Appendix 1 – Quality assurance and the quality system of the ATO

1 Quality Policy and Strategy

1.1 The ATO needs to describe how it performs the organisation and management of its training operations in order to ensure it operates in conformity with the training and procedures manual and as approved by the CAAM. A formal, written quality policy should be prepared, establishing a commitment by the accountable executive of the ATO to achieve and maintain the highest possible standards of training. The quality policy should reflect the achievement of, and continued compliance with, relevant parts of CAD 1011 – ATO and CAD 1002 - FC together with all applicable regulations, CAD's and any additional standards specified by the ATO.

1.2 The accountable executive of the ATO will have the overall responsibility for the standard of quality including the frequency, format and structure of the internal management review and analysis activities and may delegate to a quality manager the responsibilities described in Section 2 of this appendix. Depending on the size and scope of the ATO and the requirements of the CAAM, the accountable executive and quality manager may interact in different ways as illustrated in Appendix 2, Figures 1 and 3.

2 Quality Manager

2.1 The primary role of the quality manager is to verify, by monitoring activities in the field of training, that the standards as established by the ATO and any additional requirements of the CAAM are being carried out properly.

2.2 The quality manager should be responsible for ensuring that the quality system (QS) is properly documented, implemented, maintained and continuously reviewed and improved (see Section 17 of this appendix).

2.3 The quality manager should:

a) report directly to the head of training; and

b) have unencumbered access to all parts of the ATO.

Note.- When the head of training is not the accountable executive, reporting mechanisms should be instituted to ensure that the accountable executive is aware of all issues impacting the quality of the training services being provided by the affected ATO (see Appendix 2, Figure 2).

2.4 The quality manager should be responsible for ensuring that personnel training related to the QS is conducted.

3 Quality Assurance

3.1 The term “quality assurance” (QA) is frequently misunderstood to mean the testing and checking of products and services. ATOs that only do checking and testing activities are merely applying “quality control” measures, which are designed to catch product and service defects but not necessarily prevent them. For example, an ATO that administers exams at the end of the training syllabus, only to discover that a large proportion of the students have failed to meet the required standard, has only identified a deficiency in expected results. The implication could be that there is a problem with the training programme or the instructor or even the student selection criteria. In this instance the ATO has no idea what the real problem is or what to do about it. Quality control, by itself, provides limited value without the suite of complementary activities that comprise QA.

3.2 QA, on the other hand, attempts to improve and stabilise the training process and to identify and avoid, or at least minimise, issues that lead to problems in the first place. It continuously verifies that standards are adhered to throughout the training process by introducing various checkpoints and controls. It further introduces a system of audits to ensure that documented policies, processes and procedures are consistently followed. It is the “assurance” part of quality management.

3.3 A QA plan for an ATO should encompass well-designed and documented policies, processes and procedures for at least the following activities:

a) monitoring of training services and process controls;

b) monitoring of assessment and testing methods;

c) monitoring of personnel qualifications and training;

d) monitoring of training devices and equipment qualification, calibration and functionality, as applicable;

e) conduct of internal and external audits;

f) development, implementation and monitoring of corrective and preventive actions and associated reporting systems (see Section 8 of this appendix); and

g) utilise appropriate statistical analysis to identify and respond appropriately to trends.

3.4 An effective QA plan will aid significantly in the ATO’s compliance with requirements, its conformity with the standards and the adequacy of its training activities. To take the ATO’s performance to a higher level requires a structure that ensures that the combined QA effort of the employees reaches its full potential.

Note.— CAD 1011 – ATO and CAD 1002 – FC require ATOs only to establish and implement QA policies, processes and procedures acceptable to the CAAM granting the approval, which ensures that training and instructional practices comply with all relevant requirements.

3.5 QA plans by themselves are subject to breakdowns in human performance and therefore are in need of robust organisational structures that underpin the QA efforts of individuals. It is for this reason that ATOs should embrace the QS governance model described in this appendix.

4 Quality System For the ATO

4.1 A QS is the aggregate of all the ATO's activities, plans, policies, processes, procedures, resources, incentives and infrastructure working in unison towards a total quality management approach. It requires an organisational construct complete with policies, processes, procedures and resources that underpins a commitment to achieve excellence in product and service delivery through the implementation of best practices in quality management.

4.2 An ATO that supports its QA plan with a well-designed, implemented and maintained QS structure should be able to easily and repeatedly achieve results that exceed both the requirements of the applicable national regulations and the expectations of the ATO's clients.

4.3 The basic attributes of an effective QS should include, but are not necessarily limited to:

a) a managerial structure that facilitates and encourages clear and unencumbered access to the decision makers (Appendix 2 provides some examples in Figures 1 and 2);
b) an overarching company commitment to achieving excellence in the delivery of training services, rather than meeting minimum requirements;
c) quality policies, processes and procedures that are well-designed, consistently applied and subject to formalised review and refinement processes;
d) an employee training plan that instils and promotes best practices in quality management efforts;
e) an organisational risk profile and corresponding risk management plan, which together provide a comprehensive list of hazards that are tied to the ATO's activities and establish mitigating measures to effectively manage those risks which threaten the achievement of desired standards of performance; and
f) a strategic review of policies and procedures which measures the ATO's current assumptions, objectives and plans by applying a relevance test matched to evolving trends in the industry or changes occurring within the ATO.

5 Organisational Risk Profile

5.1 An organisational risk profile is an inventory of identified hazards and threats that present risks which are likely to prevent conformity with the required standards of performance. This "threat to quality" list is normally arrived at by first establishing a directory of those activities that routinely take place in order to deliver and administer a training programme. Once complete, the activity directory is then expanded to identify the hazards and threats associated with each individual activity. Some examples of routine activities that should be examined during this process are:

a) selection and training of staff;
b) training programme development, validation and review;
c) development and maintenance of training courseware;
d) administrative staff duties in support of the training programme, the instructors and evaluators, and the students;
e) delivery of training;
f) record keeping;

g) assessment and examination processes; and

h) client and CAAM feedback.

5.2 The risks identified through this exercise should not be limited to just those which currently exist but should also include those potential risks that could arise from a change to existing circumstances or conditions.

6 Risk Management Plan

6.1 A risk management plan is designed to mitigate the identified risks, real or potential, which were derived from the organisational risk profile exercise. The plan's objective is not to eliminate risk so much as it is to effectively manage risk by putting in place risk controlling measures.

6.2 A well-developed and implemented risk management plan will substantially aid in accurately scoping out the depth and frequency of planned QA-related activities.

6.3 The plan should be subject to the management review process outlined in 4.3 f) of this appendix.

6.4 The current risk management plan should be readily accessible to all employees so that it can be accurately followed and open to comment for improvement.

7 Coherence Matrix

7.1 A coherence matrix, sometimes known as a correspondence/compliance matrix, is a powerful addition to the ATO's compliance efforts. It is a detailed, tabulated document that lists all the applicable regulatory requirements imposed on the ATO. Beside each listed provision there should be at least two descriptive elements that identify:

a) the existing processes that are designed to ensure continuous compliance with that specific regulatory rule or standard; and

b) the individual managerial position responsible for the effective implementation of each process.

7.2 The coherence matrix should indicate the most recently completed and next intended audits designed to validate the functionality of each of the identified processes. Any recent audit findings should be listed in the matrix or referred to as being documented in a separate "register of findings".

7.3 The coherence matrix is developed and managed by the quality manager and is subject to the management review process outlined in 4.3 f) of this appendix.

7.4 The current coherence matrix should be readily accessible to all employees so that it can be accurately followed and open to comment for improvement.

8 Corrective and Preventive Action Reports

8.1 QA plans should include a well-structured reporting system to ensure that suggestions by ATO personnel for both corrective and preventive actions are recorded and promptly addressed. Paragraph 3.3 f) of this appendix identifies this as a necessary component of QA.

8.2 After an analysis of the reports submitted, the reporting system should specify who is required to rectify a discrepancy and/or non-conformity in each particular case and the procedure to be followed if corrective action is not completed within an appropriate timescale. Just as important, the reporting system should identify who is required to investigate and act upon any report identifying measures that could prevent a non-conformity from occurring.

8.3 Corrective and preventive action reports should be able to be submitted anonymously, if individuals so choose, to maximise the opportunity for open and effective reporting.
Note.— Since corrective and preventive action reports, in this instance, represent suggestions for improvement in conformity levels and deal with quality issues, this reporting system and its processes should be managed by the quality manager.

9 Quality-Related Documentation

9.1 Relevant documentation includes parts of the training and procedures manual which may be included in a separate quality manual.

9.2 In addition, the relevant documentation should include the following:

a) description of the ATO;

b) quality policy and strategy;

c) glossary;

d) organisational risk profile;

e) risk management plan;

f) coherence matrix;

g) procedures and reporting system for corrective and preventive actions;

h) specified training standards;

i) assignment of duties and responsibilities in relation to the QA or QS; and

j) training procedures related to the QS to ensure regulatory compliance.

9.3 The QA audit programme documentation should reflect:

a) the schedule of the monitoring process

b) audit procedures;

c) reporting procedures;

d) procedures for follow-up and corrective actions;

e) the record-keeping system; and

f) document control.

10 QA Audit Programme

The QA audit programme should include all planned and systematic actions necessary to provide confidence that every training activity is being conducted in accordance with all applicable requirements, standards and procedures.

11 Quality Inspection

11.1 A quality inspection is an activity in support of QA and quality audits (see Section 12). The primary purpose of a quality inspection is to review a document or observe a particular event, action, etc., in order to verify whether established training procedures and requirements were followed during the conduct of the inspection and whether the required standard was achieved.

11.2 Examples of typical subject areas for quality inspections are:

a) actual training sessions;

b) maintenance, if applicable;

c) technical standards; and

d) training standards.

12 Quality Audits

12.1 An audit is a systematic and independent comparison between the way in which training is being conducted and the way in which it should be conducted according to the published training procedures.

12.2 Audits should include at least the following quality procedures and processes:

a) a description of the scope of the audit, which should be explained to the personnel to be audited;

b) planning and preparation;

c) gathering and recording evidence; and

d) analysis of the evidence.

12.3 The various techniques that make up an effective audit are:

a) a review of published documents;

b) interviews or discussions with personnel;

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.

13 Auditors

13.1 The ATO should decide, depending on the complexity of the organisation and the training being conducted, 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.

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

14 Auditor's Independence

14.1 Auditors should not have any day-to-day involvement in the area of the operation or maintenance activity that is to be audited.

14.2 An ATO 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 through the use of part-time auditors. An ATO whose structure and size does not justify the establishment of full-time auditors may undertake the audit function using part-time personnel from within its own organisation or from an external source under the terms of an agreement acceptable to the CAAM.

14.3 In all cases the ATO 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 has some familiarity with the type of activity conducted by the ATO.

14.4 The QA audit programme of the ATO should identify the persons within the organisation who have the experience, responsibility and authority to:

a) perform quality inspections and audits as part of ongoing QA;

b) identify and record concerns or findings and the evidence necessary to substantiate such concerns or findings;

c) initiate or recommend solutions to concerns or findings through designated reporting channels;

d) verify the implementation of solutions within specific and reasonable timescales; and

e) report directly to the quality manager.

15 Audit Scheduling

15.1 A QA audit programme should include a defined audit schedule and a periodic review cycle. The schedule should be flexible and allow unscheduled audits when negative trends are identified. The quality manager should schedule follow-up audits when necessary to verify that a corrective action resulting from a finding was carried out and that it is effective.

15.2 An ATO should establish a schedule of audits to be completed during a specific calendar period. This schedule should be influenced by the organisational risk profile and be

reflected in both the risk management plan and the coherence matrix documents. As a minimum, all aspects of the training should be reviewed within a period of twelve months in accordance with the audit programme.

15.3 When an ATO defines the audit schedule, it should take into account significant changes to the management, organisation, training or technologies, as well as changes to the standards and requirements as discussed in paragraph 4.3 f) of this appendix.

16 Monitoring and Corrective Action

16.1 The aim of monitoring within the QS is primarily to investigate and judge its effectiveness and thereby ensure that defined policy and training standards are continuously complied with. Monitoring and corrective action functions fall under the responsibilities of the quality manager. Monitoring activity is based upon:

a) quality inspections;

b) quality audits; and

c) corrective and preventive action reports and subsequent follow-up.

16.2 Any non-conformity identified as a result of monitoring should be communicated by the quality manager to the manager responsible for taking corrective action or, if appropriate, to the head of training or, when circumstances warrant, to the accountable executive. Such non-conformity should be recorded for the purpose of further investigation in order to determine the cause and to enable the recommendation of an appropriate corrective action.

16.3 The QA audit programme should include procedures to ensure that corrective and preventive actions are developed in response to findings. Personnel implementing these procedures should monitor such actions to ensure that they have been completed and verify their effectiveness. Organisational responsibility and accountability for the implementation of corrective action resides with the department where the finding was identified. The accountable executive will have the ultimate responsibility for ensuring, through the quality manager, that the corrective action has re-established conformity with the standard required by the ATO and any additional requirements established by the CAAM or the ATO.

16.4 As part of its QS, the ATO should identify internal and external clients and monitor their satisfaction by measurement and analysis of feedback.

17 Continuous Improvement Process

17.1 As stated in 2.2 of this Appendix, the quality manager should be responsible for the review and continuous improvement of the established QS's policies, processes and procedures. The following tools, on which the quality manager relies, are essential to the continuous improvement process:

a) organisational risk profile;

b) risk management plan;

c) coherence matrix;

d) corrective and preventive action reports; and

e) inspection and audit reports.

17.2 These tools and processes are interrelated and help define the continuous improvement efforts of the ATO. For example, any corrective or preventive action report could identify a deficiency or an opportunity for improvement. As outlined in 8.2 of this Appendix, the quality manager would then be required to ensure the identified issue was addressed and corrective action effectively implemented. The same would be true if the issue was identified during an inspection or audit.

17.3 The effective implementation of change and the subsequent validation that the change did indeed result in the desired outcome are critical to the continuous improvement process. Simply introducing a well-meaning suggestion for improvement into the ATO without carefully managing that change could have undesirable consequences. It is therefore incumbent upon the quality manager to responsibly introduce, monitor and validate improvement efforts.

17.4 A simple but effective process to use in managing continuous improvement is known as the plan-do-check-act, or PDCA, approach, which is illustrated in Figure B-1 and described below:

a) *Plan.* Map out the implementation of the recommended change, identifying at least:
   1) the people who will be affected by the change;
   2) the required quality control measures necessary to mitigate risk; and
   3) the desired outcome and its intended consequences.

b) *Do.* Execute the implementation plan once all affected groups have accepted the proposal and understand their role in ensuring its success.

c) *Check.* Apply sufficient quality control “stage” checks throughout the implementation phase to ensure any unintended deviations in the execution are identified and addressed without delay.

d) *Act.* Analyse the results and take appropriate action as necessary.

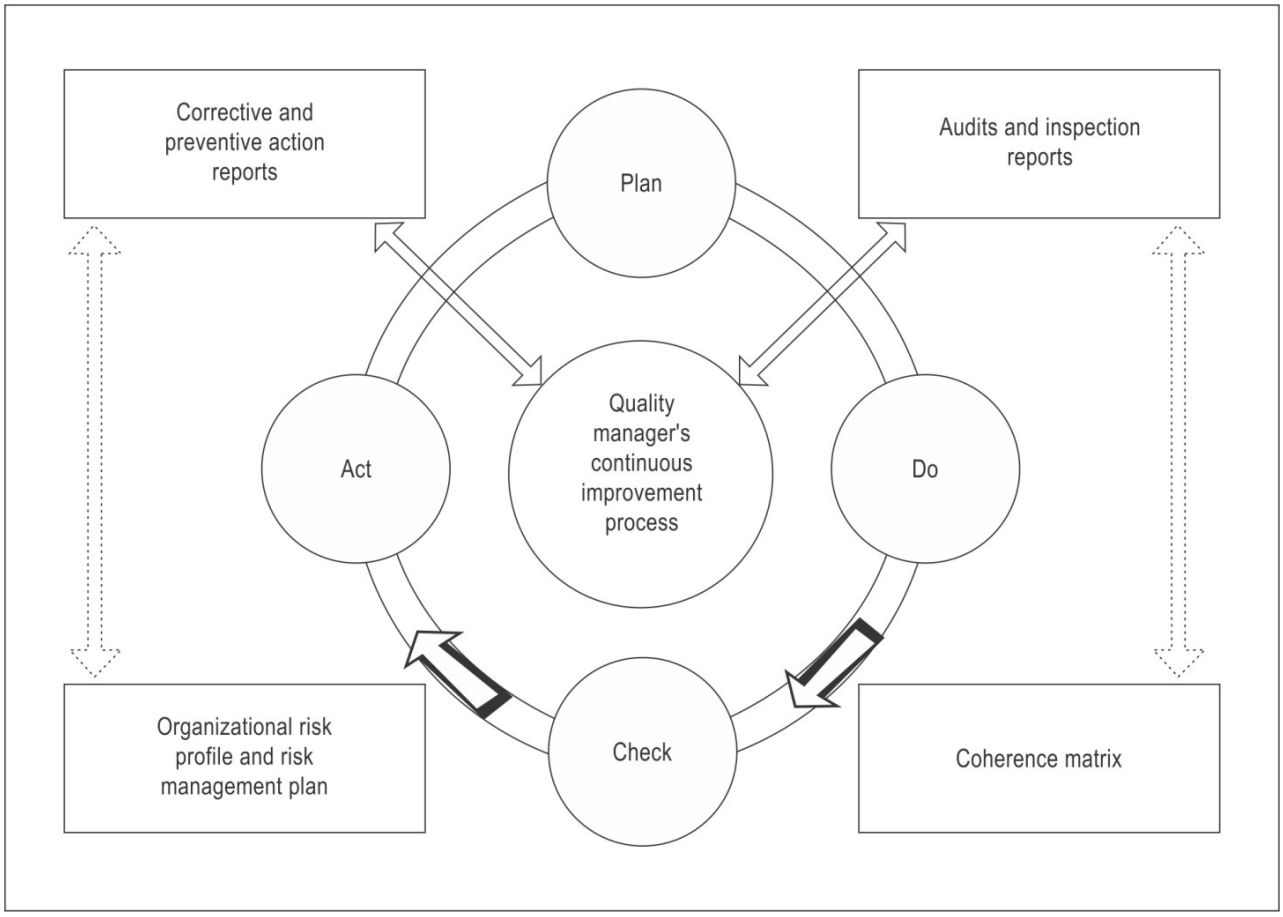

Figure 1. The plan – do – check – act approach

18 Management Review and Analysis

18.1 Management should accomplish a comprehensive, systematic and documented review and analysis of the QS, training policies and procedures and should consider:

a) the results of quality inspections, audits and any other indicators;

b) the overall effectiveness of the management organisation in achieving stated objectives; and

c) the correction of trends and, where applicable, the prevention of future non-conformities.

Note.— Paragraph 4.3 of this appendix identifies the basic attributes which require review and analysis.

18.2 Conclusions and recommendations made as a result of the review and analysis should be submitted to the responsible manager, in writing, for action. The responsible manager should be an individual who has the authority to resolve relevant issues and take action. The head of training should decide on the frequency, format and structure of meetings for internal review and analysis, in coordination with the accountable executive, if different, because the accountable executive has the overall responsibility for the QS including the frequency, format and structure of the internal management review and analysis activities (see 1.2 of this appendix).

19 Records

19.1 Accurate, complete and readily accessible records documenting the result of the QA audit programme should be maintained by the ATO. Records are essential data to enable an ATO to analyse and determine the root causes of non-conformity so that areas of non-compliance can be identified and subsequently addressed.

19.2 Records should be retained at least for the period that may be mandated by national requirements. In the absence of such requirements, a period of three years is recommended. The relevant records include:

a) audit schedules

b) quality inspection and audit reports;

c) responses to findings;

d) corrective and preventive action reports;

e) follow-up and closure reports; and

f) management review and analysis reports.

20 QA Responsibility for Satellite ATOs

20.1 An ATO may decide to subcontract certain training activities to external organisations subject to the approval of the CAAM.

20.2 The ultimate responsibility for the training provided by the satellite ATO always remains with the ATO. A written agreement should exist between the ATO and the satellite ATO clearly defining the training services to be provided and the level of quality to be assured. The satellite ATO's activities relevant to the agreement should be included in the ATO's QA audit programme.

20.3 The ATO should ensure that the satellite ATO has the necessary authorisation/approval when required and commands the resources and competence to undertake the task.

21 QA TRAINING

21.1 As outlined in 4.3 d) of this appendix, appropriate and thorough training is essential to optimise quality in every organisation. To achieve this, the ATO should ensure that all staff members understand the objectives as laid out in the quality manual, to a level relevant to their duties, including:

a) the concept of QA and associated systems;

b) quality management;

c) the quality manual;

d) inspections and audit techniques; and

e) reporting and recording.

21.2 Time and resources should be allocated to provide appropriate levels of QA training to every employee.

21.3 QA courses are available from the various national or international standards institutions, and an ATO should consider whether to offer such courses to those likely to be involved in the management or supervision of QA processes. ATOs with sufficient appropriately qualified staff should consider the possibility of providing in-house training.

12.2 Appendix 2 – Organisational Structure of the ATO

1 Role of the Course Developers

An ATO needs course developers for courseware development to conduct the training needs analysis, develop the training material and evaluate the training material during the course validation delivery. As such, course developers are highly specialised personnel who may be contracted from an outside organisation to develop courseware as described in Chapter 7, 7.1. Normally, course developers belong to a separate component of the ATO reporting to the head of training. That component is not represented in the following organisational charts.

2 Examples of Organisational Charts

2.1 The following organisational charts are by no means exhaustive and do not pretend to meet all operational requirements. They are provided only to assist ATOs in developing and maintaining an organisational structure that is consistent with the needs of an effective quality system (QS) governance model.

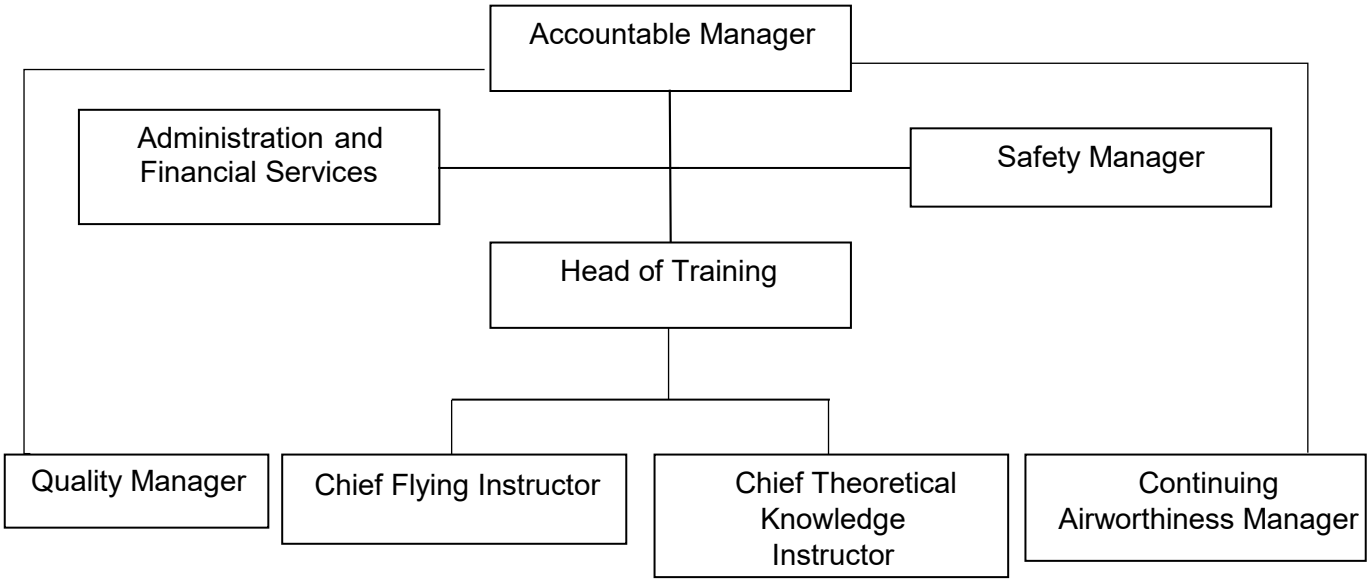

Figure 1. Sample of a generic FTO

2.2 This example depicts an ATO that is part of a much larger company, which oversees it as a business unit, for example a complex TRTO.

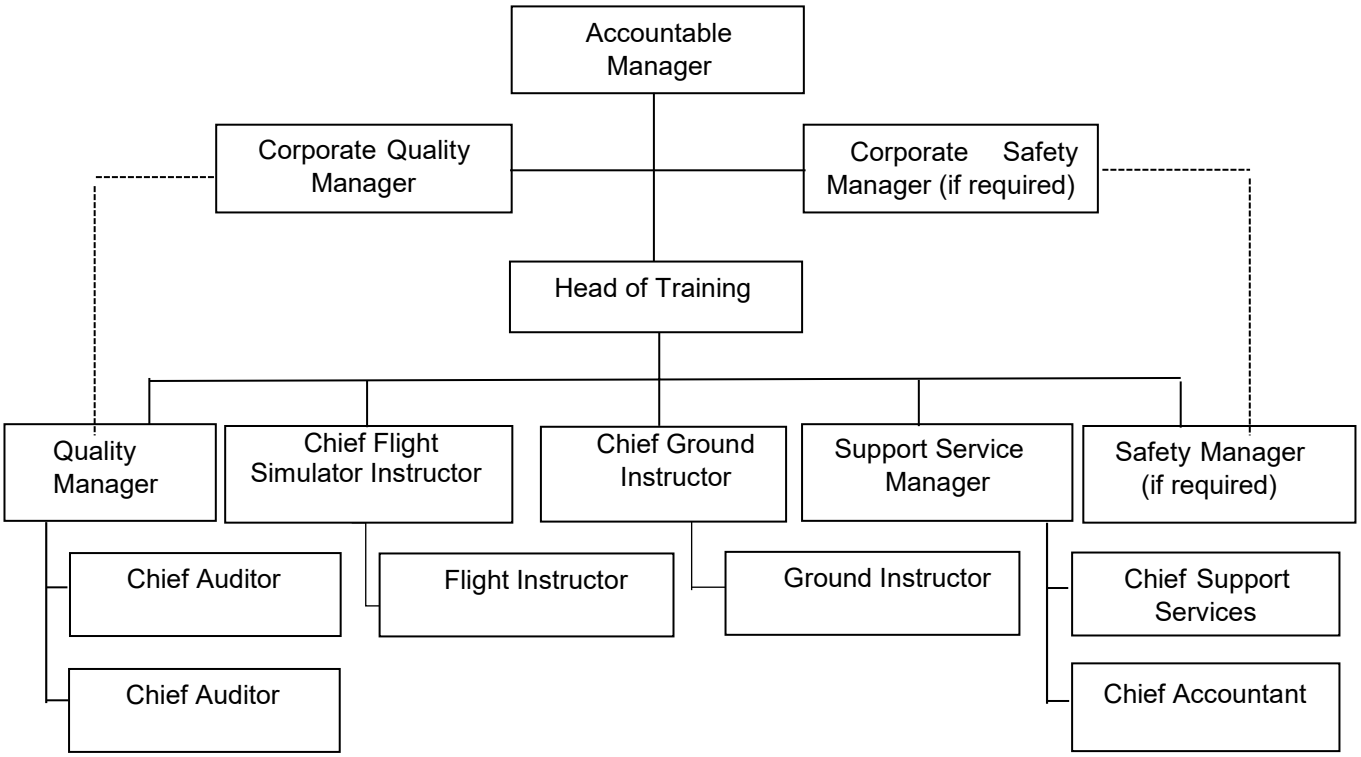

Figure 2. Example of a generic TRTO

Note.— TRTO's that provide flying training, the organisation structure should be adjusted accordingly within the scope of this Appendix.

12.3 Appendix 3 – Theoretical Knowledge Instructional Time

Each theoretical knowledge course shall comprise the minimum hours stipulated in the table below:

THEORETICAL KNOWLEDGE COURSE	MINIMUM HOURS
PPL(A), PPL(H)	100
CPL(A), CPL(H)	350
ATPL(A), ATPL(H)	750

The following tables show the recommended minimum instructional hours for each subject.

No.	SUBJECT	INSTRUCTIONAL HOURS
1.	Air Law	15
2.	Human Performance and Limitations	10
3.	Meteorology	10
4.	VFR Communications	10
5.	Radio Telephony (Practical)	5
6.	Principles of Flight	10
7.	Operational Procedures	10
8.	Flight Performance, Planning and Loading	10
9.	Aircraft General Knowledge (A) or (H)	10
10.	Navigation	10

Table 1. PPL(A) and PPL(H) Theoretical Knowledge

No.	SUBJECT	INSTRUCTIONAL HOURS
1.	Air Law I & II	40
2.	Airframes, Systems and Engines	50
3.	Instrumentation	
4.	Mass and Balance	
5.	Performance – Aeroplane/Helicopter	60
6.	Flight Planning and Monitoring	
7.	Human Performance	50
8.	Meteorology	40
9.	General Navigation	100
10.	Radio Navigation	
11.	Operational Procedures	10
12.	Principal of Flight – Aeroplane/Helicopter	30
13.	VFR Communications	30
14.	IFR Communications (Only applicable to CPL/IR(A) and CPL/IR(H)	

Table 2. CPL(A) and CPL(H) Theoretical Knowledge

No.	SUBJECT	INSTRUCTIONAL HOURS
1.	Air Law I & II	40
2.	Airframes, Systems and Engines	80
3.	Instrumentation	
4.	Mass and Balance	
5.	Performance – Aeroplane/Helicopter	90
6.	Flight Planning and Monitoring	
7.	Human Performance	50
8.	Meteorology	60
9.	General Navigation	150
10.	Radio Navigation	
11.	Operational Procedures	20
12.	Principal of Flight – Aeroplane/Helicopter	30
13.	VFR Communications	30
14.	IFR Communications (Only applicable to CPL/IR(A) and CPL/IR(H)	

Table 3. ATPL(A) and ATPL(H) Theoretical Knowledge

12.4 Appendix 4 – Recommended Hours for Flying Syllabus

Each flying course shall comprise the minimum hours stipulated in the table below:

	Dual	PIC/Solo	SPIC	Total
AEROPLANE				
PPL	25	15	-	40
CPL/IR	130	40	30	200
HELICOPTER				
PPL	25	15	-	40
CPL	85	15	35	135
CPL/IR	125	15	40	180
CPL (FROZEN ATPL)	95	15	40	150
CPL/IR (FROZEN ATPL)	140	15	40	195

Table 1. Recommended Hours for Aircraft Flying Syllabus

Note 1.— The hours given in the table above are recommended hours for each flying course. ATOs may appropriate hours differently from what is given above to accommodate specific training requirements, but shall meet the minimum requirements of CAD 1 – PEL.

NO.	EXERCISES	DUAL	PIC	SPIC	PROG TOTAL
1.	Effects of Controls 1&2	1:30			1:30
2.	Straight and Level 1&2	1:30			3:00
3.	Climbing and Descending	1:00			4:00
4.	Descending 2	1:00			5:00
5.	Medium Turns	1:00			6:00
6.	Stalling 1	1:00			7:00
7.	Stalling 2	1:00			8:00
8.	Circuits 1	1:00			9:00
9.	Circuits 2	1:00			10:00
10.	Circuits 3	1:00			11:00
11.	Circuits 4	1:00			12:00
12.	Circuits 5	1:00			13:00
13.	Circuits 6	1:00			14:00
14.	Circuits 7	1:00			15:00
15.	Circuits 8	1:00			16:00
16.	First Solo		0:30		16:30
17.	Circuits 9	0:30			17:00
18.	Circuits 10		0:30		17:30
19.	GH 01	1:00			18:30
20.	GH 02		1:00		19:30
21.	GH 03	1:00			20:30
22.	GH 04		1:00		21:30
23.	IF 01	1:00			22:30
24.	IF 02	1:00			23:30
25.	GH 05	1:00			24:30
26.	IF 03	1:00			25:30
27.	IF 04	1:00			26:30
28.	XC 01	2:00			28:30
29.	XC 02		1:30		30:00
30.	XC 03	3:00			33:00
31.	GH 06	1:00			34:00
32.	GH 07		1:00		35:00
33.	XC 04		3:30		38:30

NO.	EXERCISES	DUAL	PIC	SPIC	PROG TOTAL
34.	GH 08	1:00			39:30
35.	GH 09	1:30			41:00
36.	GH 10		1:00		42:00
37.	GH 11	1:30			43:30
38.	PT 1 GH			1:30	45:00
39.	S Sim 01 Basic instrument flight	1:00			46:00
40.	S Sim 02 Basic instrument flight	1:00			47:00
41.	S Sim 03 VOR Tracking	1:00			48:00
42.	S Sim 04 VOR Tracking with Wind Correction	1:00			49:00
43.	S Sim 05 Radial Intercepts Inb/Otb	1:00			50:00
44.	S Sim 06 Radial Intercepts Inb/Otb	1:00			51:00
45.	S Sim 07 VOR Hold	1:00			52:00
46.	S Sim 08 VOR Hold	1:00			53:00
47.	S Sim 09 Hold and Approaches	1:00			54:00
48.	S Sim 10 Hold and Approaches	1:00			55:00
49.	S Sim 11 Hold and Approaches	1:00			56:00
50.	S Sim 12 Hold and Approaches	1:00			57:00
51.	S Sim 13 SID and STAR (VOR)	1:00			58:00
52.	S Sim 14 SID and STAR (VOR)	1:00			59:00
53.	S Sim 15 SID and STAR (GPS)	1:00			60:00
54.	S Sim 16 SID and STAR (GPS)	1:00			61:00
55.	S Sim 17 Airways	1:00			62:00
56.	S Sim 18 Airways	1:00			63:00
57.	S Sim 19 Airways	1:00			64:00
58.	S Sim 20 Airways	1:00			65:00
59.	GH 12	1:30			66:30
60.	XC 05			2:30	69:00
61.	XC 06		3:30		72:30
62.	XC 07		5:00		77:30
63.	XC 08		3:30		81:00
64.	XC 09			3:30	84:30
65.	XC 10		3:30		88:00
66.	XC 11		3:30		91:30

NO.	EXERCISES	DUAL	PIC	SPIC	PROG TOTAL
67.	XC 12		3:30		95:00
68.	XC 13		3:00		98:00
69.	NF 1	1:00			99:00
70.	NF 2	1:00			100:00
71.	NF 3		1:00		101:00
72.	NF 4	1:00			102:00
73.	NF 5		1:00		103:00
74.	IF 05	1:00			104:00
75.	IF 06	1:00			105:00
76.	IF 07	1:00			106:00
77.	IF 08	1:00			107:00
78.	IF 09	1:00			108:00
79.	IF 10	1:00			109:00
80.	IF 11	1:00			110:00
81.	IF 12	1:30			111:30
82.	IF 13	1:30			113:00
83.	IF 14	1:30			114:30
84.	IF 15	1:30			116:00
85.	IF 16	1:30			117:30
86.	IF 17	1:30			119:00
87.	IF 18	1:30			120:30
88.	IF 19	1:30			122:00
89.	IF 20	1:30			123:30
90.	IXC 01			2:00	125:30
91.	IXC 02			2:00	127:30
92.	IXC 03			2:00	129:30
93.	IXC 04			2:00	131:30
94.	IXC 05			2:00	133:30
95.	IF 21			1:00	134:30
96.	IF 22			1:30	136:00
97.	IF 23			1:30	137:30
98.	IF 24			1:30	139:00
99.	IF 25			1:30	140:30

NO.	EXERCISES	DUAL	PIC	SPIC	PROG TOTAL
100.	PT 2 - IF			1:30	142:00
101.	UPRT (IF) 01	1:00			143:00
102.	UPRT (IF) 02	1:00			144:00
103.	UPRT (IF) 03	1:00			145:00
104.	GH 13	1:30			146:30
105.	GH 14	1:30			148:00
106.	GH 15	1:30			149:30
107.	GH 16	1:30			151:00
108.	GH17 GH/XC			2:00	153:00
109.	PT 3 – GH/XC			2:00	155:00
110.	TGH 01	1:00			1:00
111.	TGH 02	1:00			2:00
112.	TGH 03	1:00			3:00
113.	TGH 04	1:00			4:00
114.	TGH 05	1:00			5:00
115.	TGH 06	1:00			6:00
116.	TGH 07	1:00			7:00
117.	MCC 01	2:00			164:00
118.	MCC 02	2:00			166:00
119.	MCC 03	2:00			168:00
120.	MCC 04	2:00			170:00
121.	MCC 05	2:00			172:00
122.	MCC 06	2:00			174:00
123.	MCC 07	1:30			175:30
124.	MCC 08	1:30			177:00
125.	TE Sim 01	1:00			178:00
126.	TE Sim 02	2:00			180:00
127.	TE Sim 03	2:00			182:00
128.	TE IF 01	1:00			183:00
129.	TE IF 02	1:00			184:00
130.	TE AW 01	1:30			185:30
131.	TE AW 02	1:30			187:00
132.	TE AW 03	1:30			188:30

NO.	EXERCISES	DUAL	PIC	SPIC	PROG TOTAL
133.	TE AW 04	1:30			190:00
134.	TE AW 05	2:30			192:30
135.	TE AW 06	2:30			195:00
136.	TE AW 07	2:30			197:30
137.	PT 4 (CPL/IR Flight Test)			2:30	200:00
GRAND TOTAL		**130:00**	**37:30**	**32:30**	**200:00**

Table 2. CPL/IR Sample Syllabus

12.5 Appendix 5 – Multi-Crew Pilot Licence Competency Units

	Duty
1. APPLY THREAT AND ERROR MANAGEMENT (TEM) PRINCIPLES	
1.1 Recognise threat	
1.2 Manage threat	
1.3 Recognise error	
1.4 Manage error	
1.5 Recognise undesired aircraft state	
1.6 Manage undesired aircraft state	
List of competency elements and performance criteria for each competency unit	
2. PERFORM AIRCRAFT GROUND AND PRE-FLIGHT OPERATIONS	
2.0 Recognise and manage potential threats and errors	
2.1 Perform dispatch duties	
2.1.1 Verifies technical condition of the aircraft, including adequate use of MEL	PF/PM
2.1.2 Checks technical bulletins and notices	PF/PM
2.1.3 Determines operational environment and pertinent weather	PF/PM
2.1.4 Determines impact of weather on aircraft performance	PF/PM
2.1.5 Applies flight planning and load procedures	PF/PM
2.1.6 Determines fuel requirement	PF/PM
2.1.7 Files an ATS flight plan (if required)	PF/PM
2.2 Provide flight crew and cabin crew briefings	
2.2.1 Briefs flight crew in all relevant matters	PF
2.2.2 Briefs cabin crew in all relevant matters	PF
2.3 Perform pre-flight checks and cockpit preparation	
2.3.1 Ensures the airworthiness of the aircraft	PF
2.3.2 Performs the cockpit preparation and briefings	PF/PM

List of competency elements and performance criteria for each competency unit		Duty
2.3.3	Performs FMS initialisation, data insertion and confirmation	PF/PM
2.3.4	Optimises and checks take-off performance and take-off data calculation	PF/PM
2.3.5	Conducts relevant briefings	PF
2.4	**Perform engine start**	
2.4.1	Asks for, receives, acknowledges and checks ATC clearance	PM
2.4.2	Performs engine start procedure	PF/PM
2.4.3	Uses standard communication procedures with ground crew and ATC	PF/PM
2.5	**Perform taxi**	
2.5.1	Receives, checks and adheres to taxi clearance	PM
2.5.2	Taxis the aircraft including use of exterior lighting	PF
2.5.3	Complies to taxi clearance	PF/PM
2.5.4	Maintains lookout for conflicting traffic and obstacles	PF/PM
2.5.5	Operates thrust, brakes and steering	PF
2.5.6	Conducts relevant briefings	PF
2.5.7	Uses standard communication procedures with crew and ATC	PM
2.5.8	Completes standard operating procedures and checklists	PF/PM
2.5.9	Updates and confirms FMS data	PF/PM
2.5.10	Manages changes in performance and departure route	PF/PM
2.5.11	Completes de-icing/anti-icing procedures	PF/PM
2.6	**Manage abnormal and emergency situations**	
2.6.1	Identifies the abnormal condition	PF/PM
2.6.2	Interprets the abnormal condition	PF/PM
2.6.3	Performs the procedure for the abnormal condition	PF/PM
2.7	**Communicate with cabin crew, passengers and company**	
2.7.1	Communicates relevant information to cabin crew	PF
2.7.2	Communicates relevant information to company	PF/PM
2.7.3	Makes passenger announcements when appropriate	PF/PM

List of competency elements and performance criteria for each competency unit		*Duty*
3.	**PERFORM TAKE-OFF**	
3.0	**Recognise and manage potential threats and errors**	
3.1	**Perform pre-take-off and pre-departure preparation**	
3.1.1	Checks and acknowledges line-up clearance	PF/PM
3.1.2	Checks correct runway selection	PF/PM
3.1.3	Confirms validity of performance data	PF/PM
3.1.4	Checks approach sector and runway are clear	PF/PM
3.1.5	Confirms all checklists and take-off preparations completed	PF/PM
3.1.6	Lines up the aircraft on centre line without losing distance	PF
3.1.7	Checks weather on departure sector	PF/PM
3.1.8	Checks runway status and wind	PF/PM
3.2	**Perform take-off roll**	
3.2.1	Applies take-off thrust	PF
3.2.2	Checks engine parameters	PF/PM
3.2.3	Checks airspeed indicators	PF/PM
3.2.4	Stays on runway centre line	PF
3.3	**Perform transition to instrument flight rules**	
3.3.1	Applies V_1 procedures	PF/PM
3.3.2	Rotates at V_r to initial pitch attitude	PF
3.3.3	Establishes initial wings level attitude	PF
3.3.4	Retracts landing gear	PM
3.3.5	Maintains climb-out speed	PF
3.4	**Perform initial climb to flap retraction altitude**	
3.4.1	Sets climb power	PF
3.4.2	Adjusts attitude for acceleration	PF
3.4.3	Selects flaps according to flap speed schedule	PF/PM
3.4.4	Observes speed restrictions	PF
3.4.5	Completes relevant checklists	PF/PM
3.5	**Perform rejected take-off**	
3.5.1	Recognises the requirement to abort the take-off	PF
3.5.2	Applies the rejected take-off procedure	PF
3.5.3	Assesses the need to evacuate the aircraft	PF/PM

List of competency elements and performance criteria for each competency unit		*Duty*
3.6	**Perform navigation**	PF
3.6.1	Complies with departure clearance	PF
3.6.2	Complies with published departure procedures, e.g. speeds	PF/PM
3.6.3	Monitors navigation accuracy	PM
3.6.4	Communicates and coordinates with ATC	
3.7	**Manage abnormal and emergency situations**	PF/PM
3.7.1	Identifies the abnormal condition	PF/PM
3.7.2	Interprets the abnormal condition	PF/PM
3.7.3	Performs the procedure for the abnormal condition	
4.	**PERFORM CLIMB**	
4.0	**Recognise and manage potential threats and errors**	
4.1	**Perform standard instrument departure/en-route navigation**	PF
4.1.1	Complies with departure clearance and procedures	PF/PM
4.1.2	Demonstrates terrain awareness	PF/PM
4.1.3	Monitors navigation accuracy	PF
4.1.4	Adjusts flight to weather and traffic conditions	PM
4.1.5	Communicates and coordinates with ATC	PF/PM
4.1.6	Observes minimum altitudes	PF
4.1.7	Selects appropriate level of automation	PF/PM
4.1.8	Complies with altimeter setting procedures	
4.2	**Complete climb procedures and checklists**	PF/PM
4.2.1	Performs the after-take-off items	PF/PM
4.2.2	Confirms and checks according to checklists	
4.3	**Modify climb speeds, rate of climb and cruise altitude**	PF
4.3.1	Recognises the need to change speed/rate of climb/cruise altitude	
4.3.2	Selects and maintains the appropriate climb speed/rate of climb	PF
4.3.3	Selects optimum cruise flight level	PF/PM
4.4	**Perform systems operations and procedures**	PF/PM
4.4.1	Monitors operation of all systems	PF/PM
4.4.2	Operates systems as required	

List of competency elements and performance criteria for each competency unit		*Duty*
4.5	**Manage abnormal and emergency situations**	
4.5.1	Identifies the abnormal condition	PF/PM
4.5.2	Interprets the abnormal condition	PF/PM
4.5.3	Performs the procedure for the abnormal condition	PF/PM
4.6	**Communicate with cabin crew, passengers and company**	
4.6.1	Communicates relevant information to cabin crew	PF
4.6.2	Communicates relevant information to company	PF/PM
4.6.3	Makes passenger announcements when appropriate	PF
5.	**PERFORM CRUISE**	
5.0	**Recognise and manage potential threats and errors**	
5.1	**Monitor navigation accuracy**	
5.1.1	Demonstrates adequate area knowledge	PF/PM
5.1.2	Demonstrates adequate route knowledge	PF/PM
5.1.3	Navigates according to flight plan and clearance	PF
5.1.4	Adjusts flight to weather and traffic conditions	PF
5.1.5	Communicates and coordinates with ATC	PM
5.1.6	Observes minimum altitudes	PF/PM
5.1.7	Uses all means of automation	PF
5.2	**Monitor flight progress**	
5.2.1	Selects optimum speed	PF
5.2.2	Selects optimum cruise flight level	PF
5.2.3	Monitors and controls fuel status	PF/PM
5.2.4	Recognises the need for a possible diversion	PF/PM
5.2.5	Creates a diversion contingency plan if required	PF/PM
5.3	**Perform descent and approach planning**	
5.3.1	Checks weather of destination and alternate airport	PF/PM
5.3.2	Checks runway in use and approach procedure	PF/PM
5.3.3	Sets the FMS accordingly	PM
5.3.4	Checks landing weight and landing distance required	PM
5.3.5	Checks MEA, MGA and MSA	PF/PM
5.3.6	Identifies top of descent point	PF
5.3.7	Conducts relevant briefings	PF

List of competency elements and performance criteria for each competency unit		*Duty*
5.4	**Perform systems operations and procedures**	
5.4.1	Monitors operation of all systems	PF/PM
5.4.2	Operates systems as required	PM
5.5	**Manage abnormal and emergency situations**	
5.5.1	Identifies the abnormal condition	PF/PM
5.5.2	Interprets the abnormal condition	PF/PM
5.5.3	Performs the procedure for the abnormal condition	PF/PM
5.6	**Communicate with cabin crew, passengers and company**	
5.6.1	Communicates relevant information to cabin crew	PF
5.6.2	Communicates relevant information to company	PF/PM
5.6.3	Makes passenger announcements when appropriate	PF
6.	**PERFORM DESCENT**	
6.0	**Recognise and manage potential threats and errors**	
6.1	**Initiate and manage descent**	
6.1.1	Starts descent according to ATC clearance or optimum descent point	PF
6.1.2	Selects optimum speed and descent rate	PF
6.1.3	Adjusts speed to existing environmental conditions	PF
6.1.4	Recognises the need to adjust the descent path	PF
6.1.5	Adjusts the flight path as required	PF
6.1.6	Utilises all means of FMS descent information	PF
6.2	**Monitor and perform en-route and descent navigation**	
6.2.1	Complies with arrival clearance and procedures	PF
6.2.2	Demonstrates terrain awareness	PF/PM
6.2.3	Monitors navigation accuracy	PF/PM
6.2.4	Adjusts flight to weather and traffic conditions	PF
6.2.5	Communicates and coordinates with ATC	PM
6.2.6	Observes minimum altitudes	PF/PM
6.2.7	Selects appropriate level/mode of automation	PF
6.2.8	Complies with altimeter setting procedures	PF/PM
6.3	**Replanning and update of approach briefing**	
6.3.1	Rechecks destination weather and runway in use	PM
6.3.2	Briefs/rebriefs about instrument approach and landing as required	PF

List of competency elements and performance criteria for each competency unit		*Duty*
6.3.3	Reprogrammes the FMS as required	PM
6.3.4	Rechecks fuel status	PF/PM
6.4	**Perform holding**	
6.4.1	Identifies holding requirement	PF/PM
6.4.2	Programmes FMS for holding pattern	PM
6.4.3	Enters and monitors holding pattern	PF
6.4.4	Assesses fuel requirements and determines max. holding time	PF/PM
6.4.5	Reviews the need for a diversion	PF/PM
6.4.6	Initiates diversion	PF
6.5	**Perform systems operations and procedures**	
6.5.1	Monitors operation of all systems	PF/PM
6.5.2	Operates systems as required	PF/PM
6.6	**Manage abnormal and emergencysituations**	
6.6.1	Identifies the abnormal condition	PF/PM
6.6.2	Interprets the abnormal condition	PF/PM
6.6.3	Performs the procedure for the abnormal condition	PF/PM
6.7	**Communicate with cabin crew, passengers and company**	
6.7.1	Communicates relevant information to cabin crew	PF
6.7.2	Communicates relevant information to company	PF/PM
6.7.3	Makes passenger announcements when appropriate	PF
7.	**PERFORM APPROACH**	
7.0	**Recognise and manage potential threats and errors**	
7.1	**Perform approach in general**	
7.1.1	Executes approach according to procedures and situation	PF
7.1.2	Selects appropriate level/mode of automation	PF
7.1.3	Selects optimum approach path	PF
7.1.4	Operates controls smoothly and with coordination	PF
7.1.5	Performs speed reduction and flap extension	PF/PM
7.1.6	Performs relevant checklists	PF/PM
7.1.7	Initiates final descent	PF
7.1.8	Achieves stabilised approach criteria	PF
7.1.9	Ensures adherence to minima	PF/PM

List of competency elements and performance criteria for each competency unit		Duty
7.1.10	Initiates go-around if required	PF
7.1.11	Masters transition to visual segment	PF
7.2	**Perform precision approach**	
7.2.1	Performs ILS approach	PF
7.2.2	Performs low visibility ILS CAT II/III approach	PF
7.2.3	Performs PAR approach	PF
7.2.4	Performs GPS/GNSS approach	PF
7.2.5	Performs MLS approach	PF
7.3	**Perform non-precision approach**	
7.3.1	Performs VOR approach	PF
7.3.2	Performs NDB approach	PF
7.3.3	Performs SRE approach	PF
7.3.4	Performs GPS/GNSS approach	PF
7.3.5	Performs ILS loc approach	PF
7.3.6	Performs ILS back beam approach	PF
7.4	**Perform approach with visual reference to ground**	
7.4.1	Performs standard visual approach	PF
7.4.2	Performs circling approach	PF
7.5	**Monitor the flight progress**	
7.5.1	Ensures navigation accuracy	PF/PM
7.5.2	Communicates with ATC and crew members	PM
7.5.3	Monitors fuel status	PF/PM
7.6	**Perform systems operations and procedures**	
7.6.1	Monitors operation of all systems	PF
7.6.2	Operates systems as required	PF
7.7	**Manage abnormal and emergency situations**	
7.7.1	Identifies the abnormal condition	PF/PM
7.7.2	Interprets the abnormal condition	PF/PM
7.7.3	Performs the procedure for the abnormal condition	PF/PM
7.8	**Perform go-around/missed approach**	
7.1.1	Initiates go-around procedure	PF
7.1.2	Navigates according to missed approach procedure	PF
7.1.3	Completes the relevant checklists	PF/PM

List of competency elements and performance criteria for each competency unit		*Duty*
7.8.4	Initiates approach or diversion after the go- around	PF
7.8.5	Communicates with ATC and crew members	PM
7.9	**Communicate with cabin crew, passengers and company**	
7.9.1	Communicates relevant information to cabin crew	PF
7.9.2	Communicates relevant information to company	PF/PM
7.9.3	Makes passenger announcements when appropriate	PF
8.	**PERFORM LANDING**	
8.0	**Recognise and manage potential threats and errors**	
8.1	**Land the aircraft**	
8.1.1	Maintains a stabilised approach path during visual segment	PF
8.1.2	Recognises and acts on changing conditions for wind shift/wind shear segment	PF
8.1.3	Initiates flare	PF
8.1.4	Controls thrust	PF
8.1.5	Achieves touchdown in touchdown zone on centre line	PF
8.1.6	Lowers nose wheel	PF
8.1.7	Maintains centre line	PF
8.1.8	Performs after-touchdown procedures	PF
8.1.9	Makes use of appropriate braking and reverse thrust	PF
8.1.10	Vacates runway with taxi speed	PF
8.2	**Perform systems operations and procedures**	
8.2.1	Monitors operation of all systems	PF
8.2.2	Operates systems as required	PF
8.3	**Manage abnormal and emergencysituations**	
8.3.1	Identifies the abnormal condition	PF/PM
8.3.2	Interprets the abnormal condition	PF/PM
8.3.3	Performs the procedure for the abnormal condition	PF/PM
9.	**PERFORM AFTER-LANDING AND POST FLIGHT OPERATIONS**	
9.0	**Recognise and manage potential threats and errors**	
9.1	**Perform taxi-in and parking**	
9.1.1	Receives, checks and adheres to taxi clearance	PM
9.1.2	Taxis the aircraft including use of exterior lighting	PF

List of competency elements and performance criteria for each competency unit		*Duty*
9.1.3	Controls taxi speed	PF/PM
9.1.4	Maintains centre line	PF
9.1.5	Maintains lookout for conflicting traffic and obstacles	PF
9.1.6	Identifies parking position	PF/PM
9.1.7	Complies with marshaller/stand guidance	PF/PM
9.1.8	Applies parking and engine shut-down procedures	PF
9.1.9	Completes with relevant checklists	PF/PM
9.2	**Perform aircraft post-flight operations**	
9.2.1	Communicates with ground personnel and crew	PF
9.2.2	Completes all required flight documentation	PF/PM
9.2.3	Ensures securing of the aircraft	PF
9.2.4	Conducts the debriefings	PF
9.3	**Perform systems operations and procedures**	
9.3.1	Monitors operation of all systems	PF/PM
9.3.2	Operates systems as required	PF/PM
9.4	**Manage abnormal and emergency situations**	
9.4.1	Identifies the abnormal condition	PF/PM
9.4.2	Interprets the abnormal condition	PF/PM
9.4.3	Performs the procedure for the abnormal condition	PF/PM
9.5	**Communicate with cabin crew, passengers and company**	
9.5.1	Communicates relevant information to cabin crew	PF
9.5.2	Communicates relevant information to company	PF/PM
9.5.3	Makes passenger announcements when appropriate	PF

Table 1. Multi-crew Pilot Licence Competency Units

12.6 Appendix 6 – Example of MPL Training Specifications

The table below contains an example of a completed training specification for an initial multi-crew licence course.

Purpose	
What is the purpose of the training?	To train ab initio aeroplane pilots for co-pilot duties.
State the phase(s) of training.	Core Flying Skills and Basic Phases (ab initio pilot training on single- and/or multi-pilot, and single- and/or multi-engine aeroplane) Intermediate Phase (reinforcement of multi-crew coordination and IFR operations). Advanced Phase (type rating and instrument qualification on multi-pilot, multi- engine turbine-powered aeroplane used in commercial air transport operations).
What qualification, if any, will the trainee achieve on successful completion of the training?	Multi-crew pilot licence with aircraft type rating and instrument privileges as appropriate to proceed for commercial air transport line training (initial operating experience).
Tasks	
Describe the tasks associated with the purpose of the training.	The trainee shall carry out the following tasks: 1) flight planning and preparation; 2) aeroplane checks and cockpit procedures, radio-telephony procedures, CRM and TEM; 3) basic aircraft handling in the phases of flight in both VFR and IFR conditions, with asymmetric concepts; 4) aeroplane upset prevention and recovery; 5) cross-country flying procedures and technique, including diversion procedures; 6) basic and applied instrument flying technique, including standard instrument departure (SID), standard instrument arrival (STAR), airways tracking, holding procedures, arrival and approach charts and procedures (precision and non-precision), missed approach procedures; 7) solo flight and night flying operations; 8) multi-crew operations including pilot flying (PF)/pilot monitoring (PM) duties, abnormal and emergency procedures, CRM and TEM; 9) multi-engine turbine aeroplane operations, maximum demonstrated crosswind take-off and landing, and asymmetric handling; 10) pset prevention and recovery training and abnormal procedure handling considerations for turbine aeroplane; 11) line oriented flight training (LOFT), including IFR RNAV (PBN) international flights; and 12) take-offs and landings on aeroplane type.

Operational Requirements	
Which procedures will be applied?	Air operator's operations manual, aeroplane flight manual as appropriate.
Describe the operational (or simulated) environment required to successfully achieve the purpose of the training.	Actual and simulated flight as PF and PM duties in appropriately qualified aeroplane and FSTD. On aircraft training in take-offs and landings on aeroplane type to proficiency (with at least the minimum required number of take-offs and landings to comply with PANS-TRG and national regulations). LOFT in accordance with the operator's procedures for PF and PM duties.
Describe the nature of the traffic necessary to achieve the training outcome.	Actual and simulated air traffic as applicable: a) mix of IFR and VFR traffic; b) arrivals, departures, overflights and circuit traffic; and c) heavy and medium jets, business jets, light aircraft, helicopters, ground vehicles.
Which non-routine situations are necessary for successful completion of the training?	a) aeroplane system malfunctions; b) rejected take-off; c) engine fire and failure in various phases of flight; d) missed approaches, including baulked landings; e) asymmetric approaches and landing; f) landing emergencies; g) pilot incapacitation on multi-crew aeroplane and medical emergencies; h) traffic alert and collision avoidance system resolution advisory (TCAS-RA); i) wind shear recovery and enhanced ground proximity warning system (EGPWS); j) emergency descent; k) UPRT; and l) Runway incursions and excursions.
Describe the working position configuration.	Co-pilot's position in a multi-crew aeroplane type.
Technical Requirements	
List any specific operational (or simulated operation) systems and/or equipment that are necessary to achieve the training outcome.	a) appropriate aeroplane type for solo flying experience; b) aeroplane or appropriately qualified FSTD for multi-crew, multi-engine turbine-powered aeroplane type including training in IFR operations; and c) aeroplane and appropriately qualified FSTD for UPRT.
Regulatory Requirements	
Which rules and regulations are applicable?	a) National regulations on the provision of MPL; and b) ICAO Doc 9868 and Annexes 1 and 6, Part I, for training and licensing Standards and requirements.
Are there any regulatory requirements that will affect the following aspects of the training: • duration; • content;	a) theoretical knowledge requirements at the airline transport pilot licence level; b) practical training in both PF and PM duties to achieve and demonstrate the competencies of the adapted competency model to the final competency standard; c) multi-crew aircraft type rating for licence endorsement; d) instrument qualification on appropriate aircraft type;

• assessment procedures; • course approval; • any other?	e) specified minimum number of take-offs and landings on aircraft type; f) flight simulation devices approved by the CAA; and g) training programme incorporating type rating, and assessment standards approved by the CAA.
Organisational Requirements	
Describe any organisational requirements that may impact the training?	Approved training organisation with appropriate staff and training devices for both theoretical knowledge and practical training.
Organisational Requirements	
Other constraints.	a) appropriately authorised instructors; b) training in UPRT to be conducted by instructors appropriately qualified and approved by the CAA; c) approved type rating programme in the Advanced Phase; and d) examiners must be appropriately qualified, and current for flight checks.
Simulation Requirements	
List the simulation requirements that are necessary to achieve the training outcome, if any.	a) part-task trainer; and b) FSTD of appropriate type commensurate with MPL Phase of training (refer to Doc 9625, Volume 1 and CAD 1, Appendix 3).

Table 1. Example of MPL Training Specifications

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12.7 Appendix 7 – Competency Framework for Flight Operations Officer (FOO)/Flight Dispatcher

1. This appendix provides guidance to authorities, approved training organisations (ATOs) and airlines on the measures to be taken to facilitate the efficient implementation of competency-based training and assessment for FOOs.
2. The competency framework for FOOs provides the basis that ATOs and Operators shall use to develop an adapted competency model suitable for their operating environment.
3. ATOs and Operators shall use the training specifications and the adapted competency model to develop their training and assessment programmes.
4. The competency framework for FOOs is generic and applicable to all the job functions (flight dispatcher, operations controller, etc.). Consequently, the framework does not address the specific definition of duties, sharing of tasks, and proficiency levels existing in the organisation.
5. The framework is independent of the operating conditions, including the type of equipment in use or of the major areas of application.

Note 1. —The competencies and observable behaviours in the table below are not listed according to any pre-defined priority. Observable behaviours may include, but are not limited to, the observable behaviours listed in the table below.

Note 2.— The principles of risk management should be integrated in the development of competency-based training and assessment programmes.

Competency	*Description*	*Observable behaviours (OB)*
Application of procedures and regulations	Identifies and applies procedures in accordance with published operating instructions and applicable regulations.	OB 1.1 Interprets SOPs appropriately
		OB 1.2 Applies SOPs flexibly where necessary
		OB 1.3 Follows all procedures in a timely manner.
		OB 1.4 Complies with applicable regulations and procedures
Technical expertise	Applies and improves individual technical knowledge and skills.	OB 2.1 Retrieves the applicable data and operating procedures
		OB 2.2 Explains to other stakeholders the intent of the applicable procedure for a given context when necessary
		OB 2.3 Uses appropriate operational information (Meteorological, airports, crew, aircraft, network, general) to make optimum decisions
		OB 2.4 Uses standard and non-standard information distribution systems and sources
		OB 2.5 Keeps up to date with changes to operational standards
Process Improvement	Contributes to the continuous improvement of the system.	OB 3.1 Consistently provides appropriate guidance to stakeholders and colleagues on how to implement procedures
		OB 3.2 Analyses evidence to identify opportunities for process improvement
		OB 3.3 Proposes process improvements for approval/adoption by management
		OB 3.4 Provide suitable justification for proposed improvements
		OB 3.5 Recognises trends in practice of one's own technical area
Communication	Communicates effectively in all situations.	OB 4.1 Ensures the recipient is ready and able to receive the information
		OB 4.2 Selects appropriately what, when, how and with whom to communicate
		OB 4.3 Conveys messages clearly, accurately and concisely
		OB 4.4 Uses and interprets non-verbal communication appropriately
		OB 4.5 Confirms that the recipient correctly understands important information
		OB 4.6 Listens actively when receiving information
		OB 4.7 Asks relevant and effective questions
		OB 4.8 Adheres to standard radiotelephone phraseology and procedures

Competency	*Description*	*Observable behaviours (OB)*
		OB 4.9 Accurately interprets communication in the language used in the Operation Manuals and in the operational environment
Situational Awareness	Perceives and comprehends all of the relevant information available and anticipates what could happen that may affect the operation.	OB 5.1 Identifies hazards and assesses risks
		OB 5.2 Adjusts the operation in response to changes in the available the available resources (infrastructure, IT-systems, personnel)
		OB 5.3 Assesses the status of the operation (technical status of aircraft, weather conditions, NOTAMS, industrial action etc.)
		OB 5.4 Monitors current operations to identify operational risk
		OB 5.5 Develops contingency plans sufficiently in advance of an identifiable threat or risk
Workload management	Manages available resources efficiently to prioritise and perform tasks in a timely manner under all circumstances.	OB 6.1 Plans, prioritises and schedules tasks effectively
		OB 6.2 Manages time efficiently when carrying out tasks
		OB 6.3 Maintains self-control in all situations
		OB 6.4 Collaborates to balance workload
		OB 6.5 Delegates tasks when necessary
		OB 6.6 Recognises overload and asks for help early
		OB 6.7 Monitors and cross-checks actions
		OB 6.8 Verifies that tasks are completed with the expected outcome
		OB 6.9 Manages interruptions, distractions and failures
		OB 6.10 Evaluates individual capacity to perform work and takes appropriate action
Problem solving and decision-making	Accurately identifies risks and resolves problems. Uses appropriate decision- making techniques.	OB 7.1 Identifies relevant information required for the analysis of operational situations
		OB 7.2 Develops and applies an appropriate model for the situation (relations, coefficients etc.)
		OB 7.3 Makes appropriate decisions when confronted with conflicting, unexpected or incomplete information
		OB 7.4 Adapts decision-making process to available time

Competency	*Description*	*Observable behaviours (OB)*
		OB 7.5 Evaluates options in view of safety, costs and operational stability
		OB 7.6 Define the deadlines that limit the available options
		OB 7.7 Uses appropriate decision-making processes and tools
		OB 7.8 Evaluates own decision-making to improve performance
Leadership and teamwork	Collaborates up, down and across the organisation to foster and promote a clear vision and common goals. Energises others to achieve the operational goals.	OB 8.1 Manages professional relationships with appropriate role boundaries
		OB 8.2 Gains the trust and confidence of others
		OB 8.3 Inspires others to collaborate and strive towards excellence
		OB 8.4 Resolves conflicts and disagreements in a constructive manner
		OB 8.5 Takes responsibility for mistakes
		OB 8.6 Provides relevant information and solutions to others
		OB 8.7 Provides and seeks effective and constructive feedback

Table 1. Competency Framework for Flight Operations Officer/Flight Dispatcher

12.8 Appendix 8 – Recommended Flight Operations Officer/Flight Dispatcher Training Syllabus

Phase One – Basic Knowledge

Subject Matter	Recommended Duration (hours)		Remarks
	Trainees without previous aviation experience	Trainees with previous aviation experience	
Civil Air Law and Regulations	30	18	
Certification of Operators			
The Convention on International Civil Aviation (The Chicago Convention)			
International air transport issues addressed by the Chicago Convention			
The International Civil Aviation Organization (ICAO)			
Responsibility for aircraft airworthiness			
Regulatory provisions of the flight manual			
The aircraft minimum equipment list (MEL)			
The operations manual			
Aviation Indoctrination	12	6	
Regulatory			
Aviation terminology and terms of reference			
Theory of flight and flight operations			
Aircraft propulsion systems			
Aircraft systems			
Aircraft Mass (weight) and Performance	27	15	
Basic principles for flight safety			
Basic mass (weight) and speed limitations			
Take-off runway requirements			
Climb performance requirements			
Landing runway requirements			
Buffet boundary speed limitations			
Navigation	24	12	
Position and distance; time			
True, magnetic and compass direction; gyro heading reference and grid direction			
Introduction to chart projections: The gnomonic projection; the Mercator projection; great circles on Mercator charts; other cylindrical projections; Lambert conformal conic projection; the polar stereographic projection			

ICAO chart requirements			
Charts used by a typical operator			
Measurement of airspeeds; track and ground speed			
Use of slide-rules, computers and scientific calculators			
Measurement of aircraft altitude			
Point of no return; critical point; general determination of aircraft position			
Introduction to radio navigation; ground-based radar and direction-finding stations; relative bearings; VOR/DME - type radio navigation; instrument landing systems.			
Navigation procedures			
ICAO CNS/ATM systems (an overview)			
Air Traffic Management	39	21	
Introduction to air traffic management			
Controlled airspace			
Flight rules			
ATC clearance; ATC requirements for flight plans; aircraft reports			
Flight information service (FIS)			
Alerting service and search and rescue			
Communications services (mobile, fixed)			
Aeronautical information service (AIS)			
Aerodrome and airport services			
Meteorology	42	2 1	
Atmosphere; atmospheric temperature and humidity			
Atmospheric pressure; pressure-wind relationships			
Winds near the Earth's surface; wind in the free atmosphere; turbulence			
Vertical motion in the atmosphere; formation of clouds and precipitation			
Thunderstorms; aircraft icing			
Visibility and RVR; volcanic ash			
Surface observations; upper-air observations; station model			
Air masses and fronts; frontal depressions			
Weather at fronts and other parts of the frontal depression; other types of pressure systems			
General climatology; weather in the tropics			
Aeronautical meteorological reports; analysis of surface and upper-air charts			
Prognostic charts; aeronautical forecasts			
Meteorological service for international air navigation on			
Field trip to local meteorological office			

Mass (weight) and balance control	27	15	
Introduction to mass and balance			
Load planning			
Calculation of payload and loadsheet preparation			
Aircraft balance and longitudinal stability			
Moments and balance			
The structural aspects of aircraft loading			
Dangerous goods and other special cargo			
Issuing loading instructions			
Transport of Dangerous Goods by Air	9	9	
Introduction			
Dangerous goods, emergency and abnormal situations			
Source documents			
Responsibilities			
Emergency procedures			
Flight Planning	18	9	
Introduction to flight planning			
Turbo-jet aircraft cruise control methods			
Flight planning charts and tables for turbo-jet aircraft			
Calculation of flight time and minimum fuel for turbo-jet aircraft			
Route selection			
Flight planning situations			
Reclearance			
The final phases			
Documents to be carried on flights			
Flight planning exercises			
Threats and hijacking			
EDTO			
Flight Monitoring	16	16	
Position of aircraft			
Effects of ATC reroutes			
Flight equipment failures			
En-route weather changes			
Emergency situations			
Flight monitoring resources			
Position reports			
Ground resource availability			

Communications – Radio	18	6	
International aeronautical telecommunications service			
Elementary radio theory			
Aeronautical fixed service			
Aeronautical mobile service			
Radio navigation service			
Automated aeronautical service			
Human Factors	15	15	
The meaning of Human Factors			
Dispatch resource management (DRM)			
Awareness			
Practice and feedback			
Reinforcement			
Security (emergencies and abnormal situations)	8	6	
Familiarity			
Security measures taken by airlines			
Procedures for handling threats, bomb scares, etc.			
Emergency due to dangerous goods			
Hijacking			
Emergency procedures			
Personal security for the FOO/FD			

Table 1. Basic Knowledge Training Syllabus

Phase Two – Applied Practical Training

Subject Matter	Recommended Duration
Applied Practical Training	
Applied practical flight operations	25 hours
Simulator LOFT observation and synthetic flight training	4 hours
Flight dispatch practices (on-the-job training)	13 weeks
Route familiarization	1 week

Table 2. Applied Practical Training

13 Attachments

13.1 Attachment A - Prospective Operator's Pre-Assessment Statement Form (Pops)

Notes to applicant

General

1. Please ensure form is correctly filled; the applicable fee is fully paid and that all required supporting documentation is provided. Incomplete/incorrect form or/and inadequate payment will lead to delays in processing your application.
2. Applications shall be submitted as early as possible before the planned commencement date of operation. The entire certification process usually takes 9 months, subject to compliance by the applicant and taking into consideration the time required for the entire certification process and its complexity. Where space is insufficient for the information required, the words "See Attachment 1,2,3" etc should be written and the necessary attachments supplied with the application form.
3. Completed form and supporting documents are to be submitted with the AOC application fee (non-refundable) to one of the following addresses:

Mailing address	Office address (for hand delivery)
Director, Flight Operations Division Civil Aviation Authority of Malaysia 27 Persiaran Perdana Level 2 Podium Block, Precinct 4 62618 Putrajaya, Malaysia.	Civil Aviation Authority of Malaysia Pihak Berkuasa Penerbangan Awam Malaysia No. 27 Persiaran Perdana Aras 1-4 Blok Podium 62618 Putrajaya Malaysia

Payment

4. The fee payable for this purpose is prescribed in Civil Aviation (Fees and Charges) Regulations 2016.
5. Payment for this application can be made via cheque.
6. Crossed cheque payment must be made payable to "Civil Aviation Authority of Malaysia".

Collection

7. You will be notified when the certificate is ready for collection at the Flight Operations Division office.

NOTE 1

Operator principal place of business telephone and fax details, including the country code. E-mail to be provided if available.

NOTE 2

Contact details, at which operational management can be contacted without undue delay.

NOTE 3

The particulars given should be those of the person who will be the operator of the aircraft, in the case of an incorporated body, the body, the names, addresses and nationality of the Directors, and the Chief Executive Officer (or Managing Director of General Manager), and in the case of an unincorporated corporation, the names, addresses and nationality of all partners. This list should reflect the organisational structure of the company applying for the AOC and the financial data and business plan.

NOTE 4

Give the manufacture and model of aircraft (for which a Certificate is required) to be operated (e.g. Cessna 152, Diamond 42) and the number of each type and state of registry and registration marks, owned or immediately available for operation by the applicant. If aircraft are not currently available, give the date on which they will be.

NOTE 5

This relates to the normal operating bases for each type of aircraft used by the applicant.

NOTE 6

If more than one type of aircraft is to be operated, give the starting dates proposed for each type.

NOTE 7

A separate list of routes (including alternate routes) should be provided for each type of aircraft. Please name each aerodrome to be used on each route, including technical stops and alternate aerodromes for the purpose of training.

NOTE 8

Give details of the address, location and size of accommodation to be used by operating staff (including administrative and support staff) and students. Please state whether the accommodation is to be used solely by the applicant's staff and students or otherwise.

NOTE 9

The minimum time between receipt of completed manuals and the proposed date for the commencement of operations is 9 months. If manuals are not submitted with the application, please give date(s) when they will be presented for inspection. Applicants shall ensure that the validity of the manuals submitted to CAAM is maintained at all times.

NOTE 10

If the routine ground handling and maintenance of the applicant's aircraft is carried out by a number of contractors or service providers, please list them all and give details of the work for which each is responsible. CAAM will advise the applicant if further information is required. Reference to the Malaysia Airworthiness Requirements should be made. Details of leasing contracts should be attached.

NOTE 11

Please list the names, qualifications and experience of the persons (e.g. Designated Flight Examiner, Flight Instructor, etc) responsible for testing:

(a) Flight Instructors
(b) Assistant Flight Instructors
(c) Student pilots
(d) Engineers, if any

The persons named should be those authorised by the applicant/CAAM to sign on its behalf. Records are to be maintained under the relevant provisions of the MCAR 2016.

NOTE 12

1. The information provided under this heading should give a clear picture of the chain of responsibility for all major aspects of management and of the arrangements for suitably qualified deputies to assume the functions of Senior Executive temporarily absent from duty. In particular, the persons responsible for the following duties should be named:

   a. The issue and amendment of operations and training manuals, and other instructions to members of operating crew;

   b. Management of the operations department;

   c. Controlling the rostering of crew for flying duty;

   d. General supervision of flight operations;

   e. Ensuring the crew and ground personnel training and periodic tests are carried out as necessary;

   f. The discipline and general supervision of each grade of flying staff;

   g. Control and general supervision of the traffic or other department responsible at the main operating base(s) for compiling ship papers (including loadsheets) and for the loading aircraft;

   h. Co-ordinating any necessary action arising from Commanders' voyage reports;

   i. Making arrangements for the service of handling agents.

Note: Provided all the necessary information is given, it can be presented in the form best suited to the applicant's organisation and general circumstances.

CIVIL AVIATION AUTHORITY OF MALAYSIA

PROSPECTIVE OPERATOR'S PRE-ASSESSMENT STATEMENT FORM (POPS)

Part I – Particulars of Applicant *(This person will be the main point of contact for CAAM)*		
Title:	Name of Applicant:	Tel:
Designation:	Email:	

Part II – Particulars of Organisation	
Name of Organisation:	
Address of main base of operations:	
Name(s) if different from above in which operations will be conducted:	
Tel (**See Note 1**):	Fax (**See Note 1**):
E-mail (**See Note 1**):	
Operational Point of Contact (**See Note 2**): **Tel: (60)** **Fax: (60)** **Email:**	

Part III – Particulars of Directors/Share Holders (See Note 3)				
Designation	Name	Address	Telephone	Nationality

Part IV – Particulars of ATO Post Holders		
Personnel	**Name & Designation**	**Contact Number & Email Address**
Accountable Manager:		
Head of Training:		

Chief Flight Instructor/Chief Flight Simulator Instructor:		
Chief Ground Instructor:		
Safety Manager:		
Continuing Airworthiness Manager or equivalent:		
Quality Manager:		

Part V – Particulars of Aircraft for Operations (for ATO utilising aircraft) (See Note 4)			
Aircraft Type	No. of Aircraft	State of Registry	Registration Marks
Aerodromes at which each type of aircraft will be based (**See Note 5**):			
Proposed date for the commencement of operations (**See Note 6**):			
Routes on which training are expected to be conducted with each type of aircraft. Specify all aerodromes to be used on each route, including alternates (**See Note 7**):			

Aircraft Type	Routing

Part VI – Particulars of FSTD for training (for ATO utilising FSTD)
FSTD details:
Number of FSTD, type and model:
Part VII – Details of The Arrangements to Support the Proposed Operations
Details of office accommodation available for use by operating staff (**See Note 8**):
Name(s) and address(es) of organisation(s) responsible for all ground handling and maintenance of each type of aircraft (**See Note 10**):
Part VIII – Particulars of Examiners (If applicable)
Names, qualifications and experience of the persons responsible for qualification and testing (**see Note 11**):
Part IX – Types of Training Proposed At the ATO
List the types of training proposed (e.g. PPL (A)/(H) Course, MPL Course, Initial Type Rating Course, Flight Instructor Course, etc.):
Part X – Applicant Checklist (Please check the applicable boxes)

Supporting documents to be submitted	**Yes**	**No**
Cheque attached for COA application fee	☐	☐
Organisation Chart, financial data, and Business plan (**see Note 3**)	☐	☐
Draft/final copies of operations manuals and complete CAAM Forms (**see Note 9**)	☐	☐
Leasing contracts with ground services provider(s) and aircraft maintenance organisation(s) (**see Note 10**)	☐	☐
Qualifications of the examiners (**see Note 11**)	☐	☐
Details of the duties and responsibilities of the COA post holders declared in Part IV. Individual resumes are to be attached. (**see Note 12**)	☐	☐

Part XI – Applicant Declaration	
I hereby declare that the information given in this form is true in every respect and that I will comply with all the necessary requirements for the grant of a Certificate of Approval. I further declare that all documents submitted in support of this application are true in every respect. I hereby apply for the grant of a Certificate of Approval.	
Name, Signature of Accountable Manager & Company Stamp	Date (Day / Month / Year)

For Official Use		
Fee Payable:	Cheque No.:	Receipt No.:
Received by: Authorised Collection Officer (Name Stamp & Signature) Date (Day / Month / Year)		
COA No.:	Period of validity:	
Remarks[1]:		

Assessed by: Flight Operations Inspector (Name Stamp, Date & Signature)	Assessed by: Airworthiness Inspector (Name Stamp, Date & Signature)
Supported by: Director of Flight Operations (Name Stamp, Date & Signature)	Supported by: Director of Airworthiness (Name Stamp, Date & Signature)

[1] To indicate the completion of document evaluation and validation of the applicant's ability to comply with the CAD 1011 – ATO or CAD 1002 - FC with safe operating practices. Additionally, indicate the outcome of the application – whether or not, the evaluation is satisfactory and the grant of the COA is recommended.

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13.2 Attachment B: ATO Application Form For TRTO

CAAM	**CIVIL AVIATION AUTHORITY OF MALAYSIA**
APPLICATION FORM FOR APPROVED TRAINING ORGANISATION – TYPE RATING TRAINING ORGANISATION (TRTO)	
APPLICATION FOR ☐TRAINING ORGANISATION / ☐TRAINING SPECIFICATIONS ☐INITIAL ISSUE* /☐ RENEWAL / ☐AMENDMENT*	
1. Operator / Training Organisation name	2. Sponsor*
Operator and Trading Name (If any):	Name:
Address:	Address:
Phone: Fax:	Phone: Fax:
Email:	Email:
3. Principal Base of Training (*):	4. Extended/ Foreign Base of Training (*):
Facility Name:	Facility Name:
Address:	Address:
Phone: Fax:	Phone: Fax:
Email:	Email:

5. Personnel Accepted /to be approved by CAAM* or point of contact *: Name & equivalent designation if other than describes: Name, Phone & email			
Position	**Name**	**Phone**	**Email**
Accountable Manager:			
Head of Training:			
Chief Flight Simulator Instructor:			
Chief Ground Instructor:			
Quality Manager:			
Support Service Manager:			
Safety Manager (if applicable):			
Others* (with designation):			

6. Proposed Start Date:*	
7. Organisation Structure (initial COA / Change organisation):	Please attach a description of the applicant's business organisation/ structure and names and contact numbers of those entities and individuals having a major financial interest (share holder).
8. Financial Data (initial COA):	Please attach sufficient financial data to support the financial viability of your proposal and to ensure there are adequate funds for a specified period after commencement of the operation.

9. Comments*: TRTO /Training specifications change (brief of changes or in cover letter to amplify the detail)

10. AIRCRAFT and/or SIMULATOR details (for initial issue TRTO / Renewal / Amendment (not submitted previously)

No	Aircraft/Simulator manufacturer (FTD)	Make Model Series	Aircraft Reg/ Sim ID	Sim Level	MSN (if applicable)	Year Mfg	Seats
Sample: Airbus/ Boeing		*A320-214*	*AXB/2RUK*	*A-D*	*1202*	*2010*	*5*
A.							
B.							
C.							
D.							

11. Descriptions of training:		*(Sample) A320*	*(Sample) B737*	AC/SIM Type	AC/SIM Type	REMARKS	
Only filled with (☒ tick mark) for the approval requested. Leave Blank ☐ for not requested item							
A.	Initial Type Rating Course	☐	☐	☐	☐		
B.	Additional Type Rating	☐	☐	☐	☐		
D.	MCC Course	☐	☐	☐	☐		
E.	MCC Course + Type Rating	☐	☐	☐	☐		
F.	ATPL Check/Certificate	☐	☐	☐	☐		
G.	Proficiency / Recurrent Check	☐	☐	☐	☐		
H.	Takeoff Landing Currency (LC)	☐	☐	☐	☐		
I.	Instrument Currency (IC)	☐	☐	☐	☐		
J.	PIC Right Seat Qualification	☐	☐	☐	☐		
K.	SIC Initial Qualification	☐	☐	☐	☐		
L.	SIC Recurrent	☐	☐	☐	☐		
M.	SIC Upgrading to PIC	☐	☐	☐	☐		
N.	All Weather Operations	☐	☐	☐	☐		
O.	Differences Course Initial	☐	☐	☐	☐		
P.	Differences Course Recurrent	☐	☐	☐	☐		
Q.	Maintenance Training	☐	☐	☐	☐		

12. Other Training:		Non CBT	CBT	13. Special Operations Training:		Non CBT	CBT
A.	ATPL Ground Training	☐	☐	A.	AWO: LVO/LVTO	☐	☐
B.	MCC Ground Training	☐	☐	B.	ETOPS/EDTO	☐	☐
C.	Crew Resource Management (CRM) Training	☐	☐	C.	HUD/ HGS	☐	☐
D.	Winter Operations (COLD Wx OPS)	☐	☐	D.	NAT-HLA	☐	☐
E.	FI (1)/FI (3) Course	☐	☐	E.	PBN/RNP/RNAV	☐	☐
F.	SEP	☐	☐	F.	RVSM	☐	☐
G.	Cabin Crew Training	☐	☐	G.	TCAS	☐	☐
H.	Others (if any):			H.	UPRT	☐	☐
		☐	☐				
		☐	☐				
		☐	☐				

Statement of Compliance: I confirm that information in this application complies with the applicable regulations			
Applicant's Name:			
Applicant's Designation:			
Submission Date:		Applicant's Signature:	
Note: See last page for filling instructions.			

FOR CAAM USE ONLY

FOI Name _____

☐ ACCEPT ☐ REJECT

Remarks _____

FOI Signature _____

Date _____

Application Fee:	
Receipt No:	
Cheque / P.O:	
Initial:	
Date:	

APPLICATION GUIDE AND REQUIREMENT:

A. Application for TRTO

1. Cover letter describing the intention such as initial renewal or amendment
2. For INITIAL ISSUE or RENEWAL of TRTO all item must be filled.
3. For TRAINING SPECIFICATIONS, only affected training or changes or additional to be filled.

B. Initial (fill all) or Amendment (fill *):

1. Operator / TRTO Name *: Attach contract / Trade license along with application of security clearances online
2. Sponsor*: Attach Legal / Contract / Board resolutions
3. Principal Base of Training (*): attach contract with local authority / Municipality
4. Extended/ Foreign Base of Training (*): attach contract with applicable organisation
5. Personnel Accepted (NPH Nominated Post Holder) / to be approved by the CAAM(*): Attach contract & CV, for individual area the applicable requirement shall be attach / reflected:
   a. Accountable Manager: Attach CV reflecting previous experience
   b. Head of training: attach FI/DFE qualification document, CV shall contain AC type and flight hours and previous managerial experience / letter of previous employment
   c. Chief Flight Simulator Instructor/Chief Flight Instructor: attach FI/DFE qualification document, CV shall contain AC type and flight hours and previous managerial experience / letter of previous employment
   d. Chief Theoretical Knowledge Instructor: attach CV reflecting aircraft type or other supporting documents
   e. Quality Manager: attach CV reflecting Quality area, Audit training and previous experience / letter of previous employment
   f. Support Service Manager: attach CV reflecting aircraft type or other supporting documents
   g. Safety Manager: attach CV reflecting supporting documents
6. Proposed Start Date: fill proposed starting date or expected expiry date (if renewed)
7. Organisation Structure for initial TRTO / *Change organisation): attach a description of the applicant's business organisation contact and include individuals having a major financial interest (share holder).
8. Financial Data (*Initial/Renewal of TRTO): Please attach sufficient financial data to support the financial viability of your proposal and to ensure there are adequate funds.
9. Comments (*): TRTO /Training specifications change (brief of changes or in cover letter to amplify the detail) Statement of Compliance: I confirm that information in this application complies with the applicable regulations.
10. Aircraft or Simulator Details:
    AC/Simulator Manufacturer: entry only aircraft model, unless for Instrument training device, AC /SIM ID: enter Aircraft Registration or Simulator ID, SIM Level, (A to D, AG to DG, A-D Interim, etc), MSN: Manufacture Serial Number if applicable, Year of Manufacture, Number of seats (include observer seat), MCTOM: Maximum Certified Takeoff Weight / Mass, lease yes or no if the equipment is purchased.
11. Description of Training: Fill each training when applicable simulator is to be used in this training / check
12. Other training
    a. ATPL: Training for the issuance of an ATPL
    b. MCC: Multi-crew cooperation training
    c. CRM: Crew resource management training
    d. WINTER OPS: Cold weather operations training
    e. FI(1)/FI(3)/DFE: Type Rating /Simulator Instructor / Examiner

f. Blank: Fill in as required for other training offered that is not listed.

13. Special Operations Training:
    a. AWO (LVO / LVTO): All Weather Operations (Low Visibility Operations/Low Visibility Take Off)
    b. ETOPS/EDTO: ETOPS/EDTO Training
    c. HUD/ HGS: Head Up Display/Guidance training
    d. NAT-HLA: North Atlantic High Level Airspace Training
    e. PBN/RNP/ RNAV: Performance Based Navigation Training
    f. RVSM: Reduced Vertical Separation Minima Training
    g. TCAS : Traffic Collision Avoidance System Training
    h. UPRT: UPSET Preventive and Recovery Training

For initial approval, attach relevant Training and Procedures Manuals, Quality systems & Training schemes.
Amendment to an approved course or operations/training manual: submit applicable Training records, authorisation sheets, technical logs, lectures, study notes and briefings and any other relevant material. Have to be submitted on initial or amended additional training.

13.3 Attachment C: ATO Application Form For FTO

CAAM	**CIVIL AVIATION AUTHORITY OF MALAYSIA**

APPLICATION FORM FOR APPROVED TRAINING ORGANISATION – FLIGHT TRAINING ORGANISATION (FTO)

APPLICATION FOR ☐TRAINING ORGANISATION / ☐TRAINING SPECIFICATIONS
☐INITIAL ISSUE* /☐ RENEWAL / ☐AMENDMENT*

1. Operator / Training Organisation name	2. Sponsor*
Operator and Trading Name (If any):	Name:
Address:	Address:
Phone: Fax:	Phone: Fax:
Email:	Email:
3. Principal Base of Training (*):	4. Extended/ Foreign Base of Training (*):
Facility Name:	Facility Name:
Address:	Address:
Phone: Fax:	Phone: Fax:
Email:	Email:

5. Personnel Accepted /to be approved by the CAAM* or point of contact *: Name & equivalent designation if other than describes: Name, Phone & email			
Position	**Name**	**Phone**	**Email**
Accountable Manager:			
Head of Training:			
Chief Flight Instructor:			
Chief Ground Instructor:			
Quality Manager:			
Continuing Airworthiness Manager:			
Safety Manager:			
Others* (with designation):			

6. Proposed Start Date:*	
7. Organisation Structure (initial COA / Change organisation):	Please attach a description of the applicant's business organisation/ structure and names and contact numbers of those entities and individuals having a major financial interest (share holder).
8. Financial Data (initial COA):	Please attach sufficient financial data to support the financial viability of your proposal and to ensure there are adequate funds for a specified period after commencement of the operation.

9. Comments*: FTO /Training specifications change (brief of changes or in cover letter to amplify the detail)

10. AIRCRAFT and/or SIMULATOR details (for initial issue FTO / Renewal / Amendment (not submitted previously))

No	Aircraft/Simulator manufacturer (FTD)	Make Model Series	Aircraft Reg/ Sim ID	Sim Level	MSN (if applicable)	Year Mfg	Sim/Aircraft Seats
Sample: Diamond		*DA40*	*9M-XXX DAA/2TRR*	*B*		*2010*	*2*
A.							
B.							
C.							
D.							
E.							
F.							

11. Descriptions of training:			REMARKS
Only filled with (☒ tick mark) for the approval requested. Leave Blank ☐ for not requested item			
A.	PPL (A)/(H) Course	☐	
B.	CPL (A)/(H) Course	☐	
D.	IR (A)/(H)Course	☐	
E.	ATPL (A)/(H) Course	☐	
F.	MPL Course	☐	
G.	Flight Instructor Course	☐	
H.	Multi-Engine Course	☐	
I.	Abridge Course	☐	
J.	CPL/IR (Frozen ATPL) (A)/(H)	☐	
K.	CPL/IR (H)	☐	
L.	Proficiency/Recurrent Training	☐	
M.	Other(s):		

Statement of Compliance: I confirm that information in this application complies with the applicable regulations			
Applicant's Name:			
Applicant's Designation:			
Submission Date:		Applicant's Signature:	
Note: See last page for filling instructions.			

FOR CAAM USE ONLY

FOI Name _____

☐ ACCEPT ☐ REJECT

Remarks _____

FOI Signature _____

Date _____

Application Fee:	
Receipt No:	
Cheque / P.O:	
Initial:	
Date:	

APPLICATION GUIDE AND REQUIREMENT:

C. Application for FTO

1. Cover letter describing the intention such as initial renewal or amendment
2. For INITIAL ISSUE or RENEWAL of FTO all item must be filled.
3. For TRAINING SPECIFICATIONS, only affected training or changes or additional to be filled

D. Initial (fill all) or Amendment (fill *):

1. Operator / FTO Name *: Attach contract / Trade license along with application of security clearances online
2. Sponsor*: Attach Legal / contract / Board resolutions
3. Principal Base of Training (*): attach contract with local authority / Municipality
4. Extended/ Foreign Base of Training (*): attach contract with applicable organisation
5. Personnel Accepted (NPH Nominated Post Holder) / to be approved by the Authority (*): Attach contract & CV, for individual area the applicable requirement shall be attach / reflected:
   a. Accountable manager: Attach CV reflecting previous experience
   b. Head of training: attach FI/DFE qualification document, CV shall contain AC type and flight hours and previous managerial experience / letter of previous employment
   c. Chief Flight Instructor/Chief Flight Simulator Instructor: attach FI/DFE qualification document, CV shall contain AC type and flight hours and previous managerial experience / letter of previous employment
   d. Chief Ground Instructor: attach CV reflecting aircraft type or other supporting documents
   e. Quality Manager: attach CV reflecting Quality area, Audit training and previous experience / letter of previous employment
   f. Continuing Airworthiness Manager: attach CV reflecting aircraft type or other supporting documents
   g. Safety Manager: attach CV reflecting supporting documents
6. Proposed Start Date: fill proposed starting date or expected expiry date (if renewed)
7. Organisation Structure for initial FTO / *Change organisation): attach a description of the applicant's business organisation contact and include individuals having a major financial interest (shareholder).
8. Financial Data (*initial/Renewal of FTO): Please attach sufficient financial data to support the financial viability of your proposal and to ensure there are adequate funds.
9. Comments (*): FTO /Training specifications change (brief of changes or in cover letter to amplify the detail) Statement of Compliance: I confirm that information in this application complies with the applicable regulations.
10. Aircraft or Simulator Details:
    AC/Simulator Manufacturer: entry only aircraft model, unless for Instrument training device, AC /SIM ID: enter Aircraft Registration or Simulator ID, SIM Level, (A to D, AG to DG, A-D Interim, etc), MSN (if applicable): Manufacture Serial Number, Year of Manufacture, Number of seats (include observer seats), MCTOM: Maximum Certified Takeoff Weight / Mass, lease yes or no if the equipment is purchased.
11. Description of Training: Fill each training that will be conducted and remarks as required.
    For initial approval, attach relevant Training and Procedures Manuals, SMS Manual, Quality Systems & Training schemes.
    Amendment to an approved course or operations/training manual: submit applicable Training records, authorisation sheets, technical logs, lectures, study notes and briefings and any other relevant material. Have to be submitted on initial or amended additional training.

13.4 Attachment D - Application for Nomination of Post Holder

CAAM	**CIVIL AVIATION AUTHORITY OF MALAYSIA**

APPLICATION FOR NOMINATION OF POST HOLDERS FOR THE PURPOSE OF AN APPROVED TRAINING ORGANISATION

Note: The operator must have Nominated Post Holders, approved by the CAAM, who are responsible to the Accountable Manager for Flight Crew Training and Flight Safety. Refer to CAD 1011 – ATO Chapter 2.5.1 and CAD 1002 – FC Chapter 2.6.2 for the required Nominated Post Holders.

Biographical Details (2 copies of this form shall be submitted)

1	**Organisation:**	
2	**Address:**	
3	**Position nominated:**	
4	**Full name of person nominated:**	
5	**Date of birth:**	

Please attach with this application giving details in date sequence the following:

(1) General education and technical qualifications.

(2) Full details of employment with positions held during the past ten years.

Signature:	Company Stamp:
Name: (Executive Chairman /Accountable Manager)	Date:

FOR CAAM USE

The candidate is ☐ APPROVED ☐ REJECTED for the position of:

.....

Name:			
Date:		Signature:	
CAAM Stamp:			

Note: The Director of Flight Operations Division, Civil Aviation Authority of Malaysia must be given at least 14 days prior notice of a proposed change of a Nominated Post Holder.

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13.5 Attachment E: ATO Corrective Action Form

CAAM	**CIVIL AVIATION AUTHORITY OF MALAYSIA**

APPROVED TRAINING ORGANISATION CORRECTIVE ACTION FORM
(Respond Within 14 Days)

Approved Training Organisation	COA Number	Date (dd/mm/yy)

Code	Finding/Observation

Feedback	Remarks
Immediate Corrective Action:	
Root Cause Analysis:	
Root Cause Correction:	
Follow Up:	
Closure:	

Name:			
Designation:			
Date:		Applicant's Signature:	

Remarks by CAAM			
The corrective action has been reviewed, verified and found to be: ☐ ACCEPTABLE ☐ UNACCEPTABLE			
Remarks:			
Name:			
Date:		Signature:	

RESPONSE TO FINDINGS

With regards to the responses to the CAAM findings, the ATO should respond to non-compliances using the following five points closure plan:

1. **IMMEDIATE CORRECTIVE ACTION**
   Action taken by the responsible manager has in the short term at least contained the non-compliance and stopped it from continuing.

2. **ROOT CAUSE ANALYSIS**
   Sufficient root cause analysis by the responsible person to identify the origin of the finding.

3. **ROOT CAUSE CORRECTION**
   Sufficient root cause correction by the responsible person that should significantly reduce or eliminate the chance of recurrence.

4. **FOLLOW UP**
   Timely follow up by line management or the quality assurance programme to verify the effectiveness of the corrective action taken.

5. **CLOSURE**
   A statement from the Head of Training/Chief Flying Instructor/Chief Theoretical Knowledge Instructor/Safety Manager or equivalent stating his reasons for acceptance of the corrective actions taken.

CAAM RESPONSES TO CORRECTIVE ACTION

With regards to the responses on the ATO's corrective action, the CAAM should respond in ***Remarks by CAAM*** (in the following table) by striking acceptable or unacceptable on the corrective action taken.

If UNACCEPTABLE, the CAAM shall highlight the reason for rejecting the corrective action taken by the ATO. To insert name, date and signature after completion.