

VOLUME 2. AIR OPERATOR ADMINISTRATION

Chapter 1. Air Operator Certificate

1.1 General. This chapter provides direction and guidance for the certification of organisation certificate under Part III (Licensing Of air Services) and Part IV (Air Operators Certificate) to operate in accordance with MCAR 1996. The paragraphs below describe the process which both the applicant and DCA must undergo to ensure the applicant complies with all certification and operational requirement before certificate issuance. This process is designed to ensure that an applicant's programs, system and intended methods of compliance are thoroughly reviewed, evaluated and tested. The process once completed, provides reasonable assurance that the applicant's infrastructure (program, method and system) will result in continued compliance after certification.

1.2 The Certification Process. The certification process which will be followed by the DCA for the initial issuance of Air Operator's Certificate (AOC) is divided into the following steps:

- a. Pre – application
- b. Formal application
- c. Document compliance
- d. Demonstration and Inspection
- e. Certification

1.2.1 The flow chart (Fig. 2.1.1) provides an overview of the certification process. This chart is designed to be unfolded and referred to while reading the narrative description of the five phases of the certification process. Such simultaneous reference will assist the inspector in understanding the process. This flow chart should also be referred to at various stages during the certification project. The chart is particularly useful in determining whether the “Schedule of Events” is reasonable in terms of sequence, timeliness, and inspector resource availability. It also provides a perspective on how a particular event affects other events and is an important reference for planning various activities during the certification project.

1.2.2 The Applicant will design a Schedule of Events to allow the applicant to provide his best estimate of when an event or item will occur or be ready for DCA inspection. Space is provided for the DCA to record revisions to the applicant's estimates or to record when the event or item actually occurred. Space is also available for the applicant or the DCA to add events which have not been pre printed on the schedule of events.

1.3 **PRE-APPLICATION PHASE.**

1.3.1 This phase includes all of the preliminary contact with the prospective operator prior to the submission of a formal application. During this time, the DCA will make the potential operator aware of the regulatory requirements which must be met in order to obtain an AOC and of the exact steps in the certification process which must be accomplished before the AOC may be issued. It is essential that the applicant has a clear understanding of the form, content, and documents required for the formal application.

1.4 **FORMAL APPLICATION.**

1.4.1 The formal application will consist of a letter to the Director General, DCA containing the following information:

- a. The name and address of the applicant and the main base of the proposed operations;
- b. Description of the applicant's business organisation, corporate structure, and names and addresses of those entities and individuals having a major financial interest;
- c. Information on management organisation and key staff members, including their title, name, background, qualifications and experience;
- d. Detailed information on flight operations under the following heading:
 - type of aircraft, communication and navigation equipment, instruments, equipment and flight documents to be used;
 - arrangement for maintenance and inspection of aircraft and associated equipment;
 - State of Registry of the aircraft - if foreign registered a copy of the lease agreement should be provided;
 - data concerning each flight crew member including types of certificates or license number, ratings, medical certificate and evidence of currency in as signed aircraft;
 - arrangements for crew and ground personnel training and qualification;
 - installations and equipment available;
 - proposed routes, including geographical tracks, minimum flight altitudes, destination and alternate aerodromes to be used including data on instrument

approach procedures, proposed aerodrome operating minima, navigation and communications facilities;

details of operational control and supervision methods to be used; and

nature of operations - passenger/cargo/mail, day, night, VFR or IFR, etc.;

- e. Detailed description of how the applicant intends to show compliance with each provision of the applicable code of air navigation regulations;
- f. Specified financial data; and
- g. Desired date for operation to commence.

1.5 DOCUMENT COMPLIANCE.

1.5.1 After the DCA has determined that the proposed operation meets the necessary financial, economics, and legal criteria for the issuance of Air Service Licence or Air Service Permit, a preliminary technical assessment of the operation will be undertaken. Before this assessment can commence, the operator will be required to submit to the DCA the following documents or their equivalent(s):

- Aircraft Flight Manual (s)
- Maintenance Manual
- Basic Operations Manual
- Flight Attendant Manual
- Minimum Equipment Lists and Configuration Deviation Lists
- Flight Operations Officer or Dispatcher Manual
- Weight and Balance Manual
- Route Manual
- Dangerous Goods Manual
- Training Manual
- Security Manual

1.5.2 A brief description of the purpose and content of the above manuals, along with guidance for evaluating the content of the operator's manual system is contained in Chapter 3 of Volume 3. This guidance and report form contained therein will be used to assess these

documents. It must be emphasised that the company manual or manuals must be sufficiently detailed to provide a comprehensive account of practically every aspect of the operator's organisation, policies, and procedures. The primary focus of the preliminary technical assessment will be necessary for DCA inspectors to meet regularly with appropriate applicant officials in order to:

- a. Become fully informed concerning the nature and extent of the proposed operations, the types of aircraft to be utilised, the organisational structure, management philosophy, established lines of authority and the duties and responsibilities of key personnel;
- b. Develop a firm understanding regarding the applicant's proposed maintenance and inspection programme for aircraft and related equipment;
- c. Develop a firm understanding of the applicant's proposed system for establishing and maintaining all required company operational, maintenance and personnel records;
- d. Confirm the various phases of the applicant's ground school, maintenance, and flight training programmes in order to make a general assessment of their adequacy and conformity with the DCA policies relative to training;

1.5.3 Based upon a preliminary review of the content of the operators manual system, the information contained in the application, and additional information obtained during meetings with appropriate operator's officials, the DCA must make the following general determinations:

- a. The applicant has aircraft which are suitable for the proposed operation. In this regard the following questions should be considered:
 - Are the aircraft to be operated at realistic power settings and speeds?
 - Is the aircraft's operating mass likely to be critical for the proposed operation?
 - Are operating flight levels, stage lengths and aerodrome dimensions within the aircraft's performance capability?
 - Can the aircraft be properly maintained, inspected and supported with the available maintenance and spare parts resources?
 - Are the aircraft suitably instrumented and equipped for the proposed operation?
- b. The applicant has the potential overall ability to conduct the proposed operation. In this regard the following questions should be considered:
 - Can the operation as outlined, be safely executed with the resources available?
 - Is the flight crew establishment sufficient to enable the proposed operation to be carried out without infringement of flight or duty time limitations?
 - Is the requirement for aircraft utilisation reasonable?
 - Does the plan of operations permit compliance with aircraft maintenance schedules?

- Can the selected routes or areas of operations and minimum flight altitudes be navigated safely with the navigation equipment available?
- Does the applicant have full appreciation of the responsibilities under the regulatory requirements including the obligations as a potential holder of an AOC?
- Does the applicant have an overall fitness to safely conduct the proposed operation? This should include a comprehensive review of the background of the individuals who hold responsible positions in management or any position of significant control over the applicant's activities. As a minimum, the background and qualifications of the Directors or board members and management and executive staff should be evaluated.
- Are there provisions for the establishment of an accident prevention and flight safety programme?
- Are the company's organisational structure and management practices and philosophy adequately described so as to enable all employees to carry out their duties safely and in a standardised manner?

1.5.4 In conjunction with the above, during the course of the preliminary technical assessment, the DCA will:

- a. Advise and counsel appropriate applicant personnel regarding problems and questions that arise concerning certification procedures and requirements, including explanations concerning DCA regulations and accepted methods of compliance;
- b. Explain to the applicant the type of AOC that is contemplated, the significance of any limitations that may be prescribed and the operations specifications that will be issued in conjunction with the AOC;
- c. Confirm, in a letter addressed to the applicant, any commitments made or serious difficulties noted during the course of the preliminary assessment;

1.5.5 When the preliminary assessment is completed, the DCA should be in possession of sufficient information to determine, with a reasonable degree of certainty, the ability of the applicant to satisfactorily conduct the proposed operation. If the assessment is favourable, the applicant should be encouraged to proceed with its plans with the assurance that an AOC will be issued subject to satisfactory completion of the operational inspection.

1.6 **DEMONSTRATIONS and OPERATIONAL INSPECTIONS.**

1.6.1 The preliminary assessment of the application, as described in the preceding paragraphs, should provide the DCA with a general appreciation of the scope of the proposed operation and the potential ability of the applicant to conduct it. However, before authorising the issuance of the AOC, the DCA will need to investigate thoroughly the operating ability of the applicant. This important and relatively more detailed phase of the investigation will require the applicant to demonstrate through day-to-day administration and operations, including in some cases a series of proving flights over the proposed routes, the adequacy of

facilities, equipment, operating procedures and practices, and the competence of administrative, flight and ground personnel.

1.6.2 Operational inspections and required demonstrations will normally be conducted in the following sequence:

- a. Organisational Structure/Management Evaluation
- b. Operational Control Inspection
- c. Training Programme Inspection
- d. Training and Qualification Records Inspection
- e. Flight and Duty Time Records Inspection
- f. Station Facility Inspections
- g. Emergency Evacuation Demonstration
- h. Ditching Demonstration
- i. Proving Flights including En Route Cockpit and Cabin Inspections

1.6.3 Detailed information regarding the conduct of these inspections and demonstrations are as described below:

a. **Organisational Structure And Management Evaluation.**

The applicant's organisational structure, managerial style, direction and philosophy must be further evaluated to ensure that necessary and proper control is exercised over the proposed operational and the personnel involved. The preliminary assessment of this area which was conducted in accordance with the preceding paragraphs mainly ensured that these organisational elements were clearly spelled out in the operator's manuals and instructions. During the operational inspection portion of the approval process, the FOSU will have the opportunity to verify that these policies are fully understood and implemented throughout the organisation.

Through discussions with key management personnel and observations, the inspectors must determine whether clear lines of authority and specific duties and responsibilities must be clearly outlined in the applicant's operations and maintenance manuals and other company documents, and it should also be determined that acceptable procedures are established, and followed, for conveying such company procedures and operating instructions to keep affected personnel currently informed. The authorities, tasks, responsibilities and relationships of each key position must be clearly understood and followed by individuals occupying these positions.

The applicant's staffing must be investigated to determine whether an adequate number of personnel are employed at the executive and other levels to perform necessary functions. The number and nature of personnel will vary with the size and complexity of the organisations. Through a sampling questioning process, the DCA inspector must make a finding that management personnel are qualified, experienced and competent to perform their assigned duties.

At all levels applicant personnel must be thoroughly integrated into the operation and be made fully aware of the channels of communication to be used in the course of their work and of the limits of their authority and responsibility.

b. Operational Control Inspection.

Evaluation of the overall effectiveness of an operational control organisation should include a thorough analysis of the following factors:

(i) An operator is required to establish and maintain an approved method of control and supervision of flight operations. Because of the nature and extent of the duties and responsibilities involved in the supervision of flight operations, the DCA and the operator should consider the advantages of an approved method of control and supervision of flight operations officer/flight dispatcher is assigned to duty in the company operations control centre and is responsible, while on duty, for carrying out the operational control procedures and policies specified in the operations manual.

(ii) The operations manual should specify the responsibilities and functions assigned to flight operations officers/flight dispatcher. The detailed responsibilities should include the provision of assistance to the pilot-in-command in flight preparation; completion of operational and ATS flight plans; liaison with air traffic, meteorological and communication services; and the provision to the pilot-in-command during flight of information necessary for the safe and efficient conduct of the flight. The flight operations officer/flight dispatcher should also be responsible for monitoring the progress of each flight under jurisdiction and for advising the pilot-in-command of company requirements for cancellation, re-routing or replanning should it not be possible to operate as planned. With regard to the foregoing, it should be understood that the pilot-in-command is the person ultimately responsible for the safety of the flight.

Volume 3, Chapter 4 of this manual provides detailed guidance concerning Operational Control inspections. The FOSU will follow these procedures when conducting an inspection for initial issuance of an AOC, and will utilise the Checklist/Report form contained in that chapter for reporting the results of the inspection.

c. Training Programme Inspection.

The training programme could be described in detail in the operations manual or in a training manual, as part of the operations manual but issued as a separate volume. The choice will generally depend upon the extent of the operations and the number and types of aircraft in the operator's fleet. Most applicants find it convenient to set forth their training programmes in a training manual of one or more volumes to facilitate easy applications and updating. Depending on the scope and complexity of the proposed operation the required training programmes may be carried out under the direct control of the applicant or conducted by other training facilities under contract to the applicant or a combination thereof. In this case, the applicant will be required to provide a comprehensive description of the contract training for approval by the DCA. In any

event the Operations Directorate will carry out a thorough analysis of all phases of the applicant's ground and flight training aids/devices, training standards, related facilities and record keeping are adequate. The qualifications of ground and flight instructor personnel should be established as well as evaluation of their effectiveness.

For purposes of initial approval of training programmes for issuance of an AOC, the DCA may require the applicant to formalise in detail only those training courses which must be accomplished prior to the first revenue flight of the airline, such as basic company indoctrination and initial or conversion ground and flight training. Other courses, such as periodic or recurrent flight and ground training, may be fully developed after the commencement of flight operations.

The detailed guidance and procedures contained in *Volume 3, Chapter 7* of this manual will be used for inspecting and approving training programmes for initial issuance of and AOC.

d. **Records Inspections.**

The primary purpose of records inspections is to ensure that the applicant has set up adequate system for collecting and maintaining the following types of records:

- Operations and Flight (trip) records
- Flight and Duty Time records
- Training and Qualification records

An operator is not required to remove records from his facilities for purposes of inspection. DCA inspectors will normally examine all records on the operator's premises. Should removal of records become necessary, the applicant should be given an itemised receipt for all records removed.

(i) ***Operations and Flight Records.*** The primary objective of an operations and flight records inspection during the certification process is to ensure that the operator has established a system for collecting and maintaining specific operational records for a period of at least 3 months. All of the elements of such a system should be in place awaiting the commencement of operations. The operations and flight records system will be inspected in accordance with the guidance contained in *Volume 3, Chapter 5* of this manual.

(ii) ***Flight and Duty Time Records.*** As with operations and flight records, the applicant will probably not have accumulated any records concerning flight and duty time prior to the commencement of revenue operations. At this phase in the certification process, it will be determined that the applicant has developed an adequate system for maintaining these records. The flight and duty time record-keeping system will be inspected in accordance with *Volume 3, Chapter 6* to this manual.

(iii) ***Training and Qualification Records.*** The applicant must have developed a method, including development of proper forms, for recording all training and

qualification events which establish the qualification of crewmembers to occupy required positions in an airplane. The system must provide for the secure collection and maintenance of such records. At the time of operational certification for an AOC, the applicant must already have accumulated required training and qualification records for his initial cadre of flight operations personnel. The applicants system for recording events and collecting and maintaining such records will be examined in accordance with the guidance contained in *Volume 3, Chapter 8* of this manual.

e. **Station Facility Inspections.**

Each aerodrome which the operator intends to use must be inspected prior to the first revenue flight to that aerodrome, in order to ensure that the operator has the organisation, facilities, and staffing to handle his aircraft at that destination. Station facility inspections may be accomplished during proving flights. However, if no proving flight is scheduled to a proposed operator destination, the DCA and the operator must make arrangements to travel to and inspect that facility by another means. Information on station facility inspections along with the appropriate checklist/report form is contained in *Volume 3, Chapter 11* of this manual.

f. **Emergency Evacuation Demonstration.**

In order to demonstrate that the airplane seating configuration, location and operation of emergency exits, and crew training and procedures will permit a successful evacuation of passengers in an emergency situation., the applicant will have to perform an emergency evacuation demonstration, prior to issuance of an AOC, for each aircraft type which he intends to operate. Procedures to be followed for these demonstrations may be found in *Volume 2, Chapter 4* of this manual.

g. **Ditching Demonstration.**

The applicant must demonstrate competency in removing and launching life rafts and in the use of emergency and survival equipment contained in those rafts. Procedures for ditching demonstrations are described in *Volume 2, Chapter 5* of this manual.

h. **Proving Flights.**

As a final demonstration that he has the proper organisation, facilities, equipment, and training to successfully carry out revenue flights, the applicant will be required to perform a series of proving flights in accordance with the guidance contained in *Volume 2, Chapter 3 and Volume 3 Chapters 9 and 10* of this manual.

1.7 AIR OPERATOR CERTIFICATE.

1.7.1 **General.** Properly conducted and documented, the assessment and inspection programme outlined in the foregoing paragraphs will enable the DCA to determine if the applicant has fulfilled all technical safety and regulatory requirements for the issuance of an AOC. The programme will have provided specific information related to:

- a. The scope of the applicant's proposed operation;
- b. The adequacy of the organisation and resources;
- c. The adequacy and effectiveness of company policies, directives, operating instructions and procedures prescribed by the applicant to be followed by the personnel in the conduct of the operation; and
- d. The applicant's willingness and ability to implement the State's operating regulations and rules applicable to the proposed operation.

Note: It will also reveal any deficiencies related to the operation and provide opportunities during the assessment and inspection phases for the applicant to remedy any such deficiencies .

1.7.2 **Determination On The Application.** Following the completion of the assessment and inspection programme, the Flight Operations Division will be in a position to recommend to the Director General that the applicant is either:

- a. Properly equipped and capable in all respects of conducting the proposed operation safely, efficiently and reliably in accordance with the AOC's operations specifications or limitations; or
- b. Is not, or is not yet (pending correction of specified deficiencies), capable of conducting the proposed operation in an acceptable manner.

1.7.3 In those cases where the application is successful, the DCA will prepare an Air Operator Certificate in accordance with the example contained in *figure 2.1.2* at the end of this chapter.

Operations specifications and limitations which will be applicable to the certificate will also be prepared for the operator as described below.

1.7.4 Should the applicant be considered not yet capable of conducting the proposed operation in the required manner, an AOC will not be issued and the applicant will be so advised by letter, indicating the reasons for the lack of approval.

1.7.5 **Issuance Of The Air Operator Certificate.** Provided that the Director General is satisfied with the reports of the DCA inspectors and has determined that there is no economic

or legal bar to the proposed operation, it should proceed with the issuance of an AOC and the associated operations specifications.

1.7.6 The AOC will contain or make reference to the following information:

- operator's identification (name, location);
- date of issue and period of validity;
- description of the types of operations authorised;
- the type(s) of aircraft authorised for use; and
- authorised areas of operation and routes.

1.7.7 When the AOC is issued the operator should be provided at the same time with officially authenticated copies of the approved operations specifications. The operator should also be advised as to the procedure to prepare and process future requests for amendments of operations specifications.

1.7.8 Once the operator has received the AOC and the approved operations specifications, the operator may inaugurate the flight operations authorised. Thereafter, the operator is responsible for conducting all operations in full compliance with these authorisations and the applicable provisions of the MCAR. From that moment, the DCA will establish a continued surveillance on the operator to ensure that the required standards of operation are maintained, in accordance with Volume 3 of this manual.

1.8 OPERATIONS SPECIFICATIONS.

1.8.1 **Background.** Within the air transportation industry there is a need to establish and administer safety standards to accommodate many variables, including: a wide variety of aircraft; a wide range of operator capabilities; the various situations requiring different types of air transportation; and the continual, rapid changes in aviation technology. It is impractical to address these variables through the promulgation of safety regulations for each and every type of air transport situation and the varying degrees of operator capabilities. Also it is impractical to address the rapidly changing aviation technology and environment through the regulatory process. Safety regulations would be extremely complex and unwieldy if all possible variations and situations were addressed by regulation. Instead, the safety standards established by regulation should usually have a broad application which allows varying acceptable methods of compliance. Operations Specifications provide an effective method for establishing safety standards which address a wide range of variables. In addition, Operations Specifications can be adapted to a specific operator's class and size of aircraft and type and kind of operation. Operations Specifications can be tailored to suit an individual operator's needs. Only those authorisations, limitations, standards, and procedures that are applicable to an operator need to be included.

1.8.2 Operations Specifications are issued along with the AOC and amended as necessary to reflect the current fleet and operating environment of the airline. Amendments to the Operating Specifications serve as variances to the AOC.

1.8.3 The operator must make the content of his Operations Specifications available to all company personnel. To that end, they should be included in appropriate sections of his Operations and Maintenance manuals.

1.8.4 **Content of Operations Specifications.** Operations Specifications are broken down into several parts as follows:

Part A - Describes *general operating conditions* and lists the make and model of the aircraft which the operator is approved to operate along with the maximum seating capacity if those aircraft. This part also contains any other general authorisations or limitations not covered in other parts

Part B - Describes *en-route authorisations and limitations* including a description of the types of route segments which may be used, adherence to instrument flight rules, and operations at aerodromes without control towers

Part C - Describes *aerodrome authorisations and limitations* including the types of approach procedures which the operator is approved to conduct, standard takeoff minima, and minima for circling and straight in approaches. This part also lists all aerodromes to which the carrier is approved to operate.

Part D - Describes the *operator's maintenance programme* including maintenance authorisations on inspections, overhauls and rework of components. Part D is the responsibility of the Airworthiness Division of the DCA. Flight operations inspectors have no input to Part D.

Part E - Specifies all authorisation of standard mass quantities and *mass and balance* control. Completion and issuance of Part E is also the responsibility of the Airworthiness Division.

Part F - This part is optional. It specifies the *authorised interchange of aircraft* between the operator and other operators; the type of equipment is specified; the crews to be utilised; the routes and aerodromes to be used; the operations manual and aircraft operating manual to be utilised (i.e., which operator's manual); and applicable aerodrome (or heliport) operating minima. and will contain specific information on any authorised wet-lease arrangements which the operator has entered into.

Part G - This part is also optional. It specifies the parties to the *agreement and the duration thereof; the type of lease* (i.e., wet or dry); in the case where two operators are involved, the operator responsible for operational control; the routes, area of operation and aerodromes (or heliports) involved; the type and registration numbers of the aircraft involved; the party responsible for maintenance; and reference to States' approval letter/order of the lease.

1.8.5 **Specific Procedures for the Issuance of Operations Specifications.** The text of standard Operations Specifications is contained in *figure 2-1-3* at the end of this chapter. At

least Parts A through E will be issued to the operator along with the original AOC. Parts F and G will be issued if appropriate to the operation. The following is a brief description of the considerations which must go into preparing each part:

Part A: Paragraphs 1 through 3 of Part A are standard and will not be modified. The make, model, and maximum passenger seating capacity will be entered under paragraph 4, based upon the number of seats for which the operator has performed successful ditching and emergency evacuation demonstrations for each type.

Part B: Paragraph 1 is standard. The names and locations of any aerodromes where the operator is authorised to use a flight information service unit in lieu of operator air/ground communications are listed at the end of the standard text in paragraph 2.

Part C: Paragraph 1 is standard. The types of approaches which the operator is approved to conduct, based the equipment installed in each airplane type and model of airplane and upon the types of approaches for which crew members train as part of the operator's approved training programme, must be listed in paragraph 2a. Standard paragraphs 2b through 2e describe takeoff minima and minima for circling, non precision, and precision approaches. All of the aerodromes to which the airline is approved to operate (regular, alternate, and refuelling), must be listed in paragraph 3. Airports which the operator is specifically prohibited to operate under any circumstances except in an emergency may also be listed in paragraph 3.

Part D: To be completed by the Airworthiness Division.

Part E: To be completed by the Airworthiness Division.

Part F: To be completed in the event that the operator enters into an equipment interchange agreement (sharing of airplanes of certain route segments) with another airline. The text in this part is standard, but the blanks must be completed in order to describe the nature of the agreement and restrictions surrounding it. See Volume 2 Chapter 6 for more information on interchange agreements.

Part G: To be completed in the event that the operator enters into a wet lease agreement with another airline. See Volume 2 Chapter 6 for more information on leases.

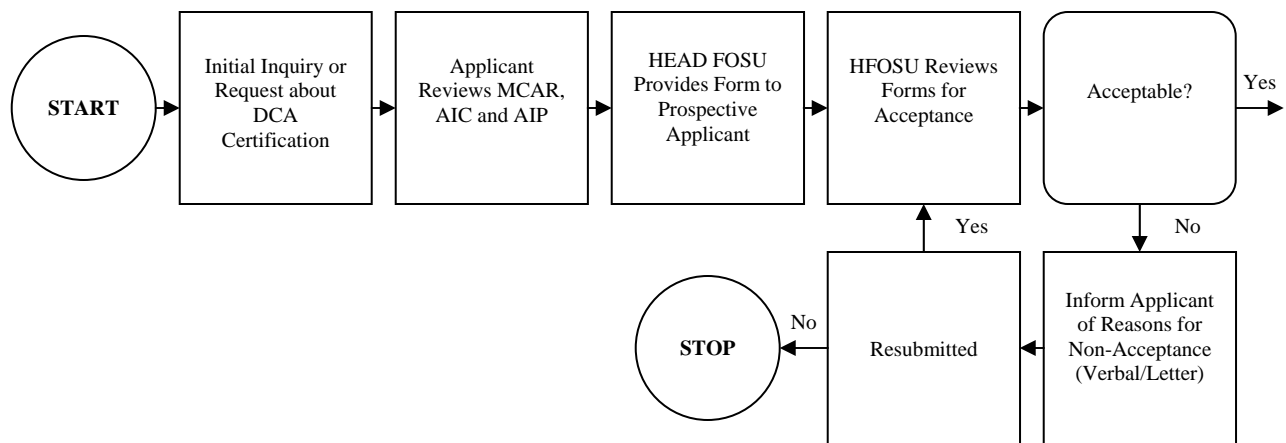
1.8.6 *The standard provisions contained in the above Parts as shown in figure 2.1.3 at the end of this chapter must be issued to all new operators along with the AOC.* For existing operators, operations specifications must be developed and issued as soon as practicable. When additional provisions are necessary in order to apply further conditions to any operator, these may be developed by the DCA and added to the appropriate Part at any time.

1.8.7 The DCA official who prepares each page of the Operations Specifications must sign for the DCA at the bottom of the page. An authorised representative of the operator, usually the Director of Flight Operations or his immediate subordinate, must sign in receipt for each page in the space provided at the bottom.

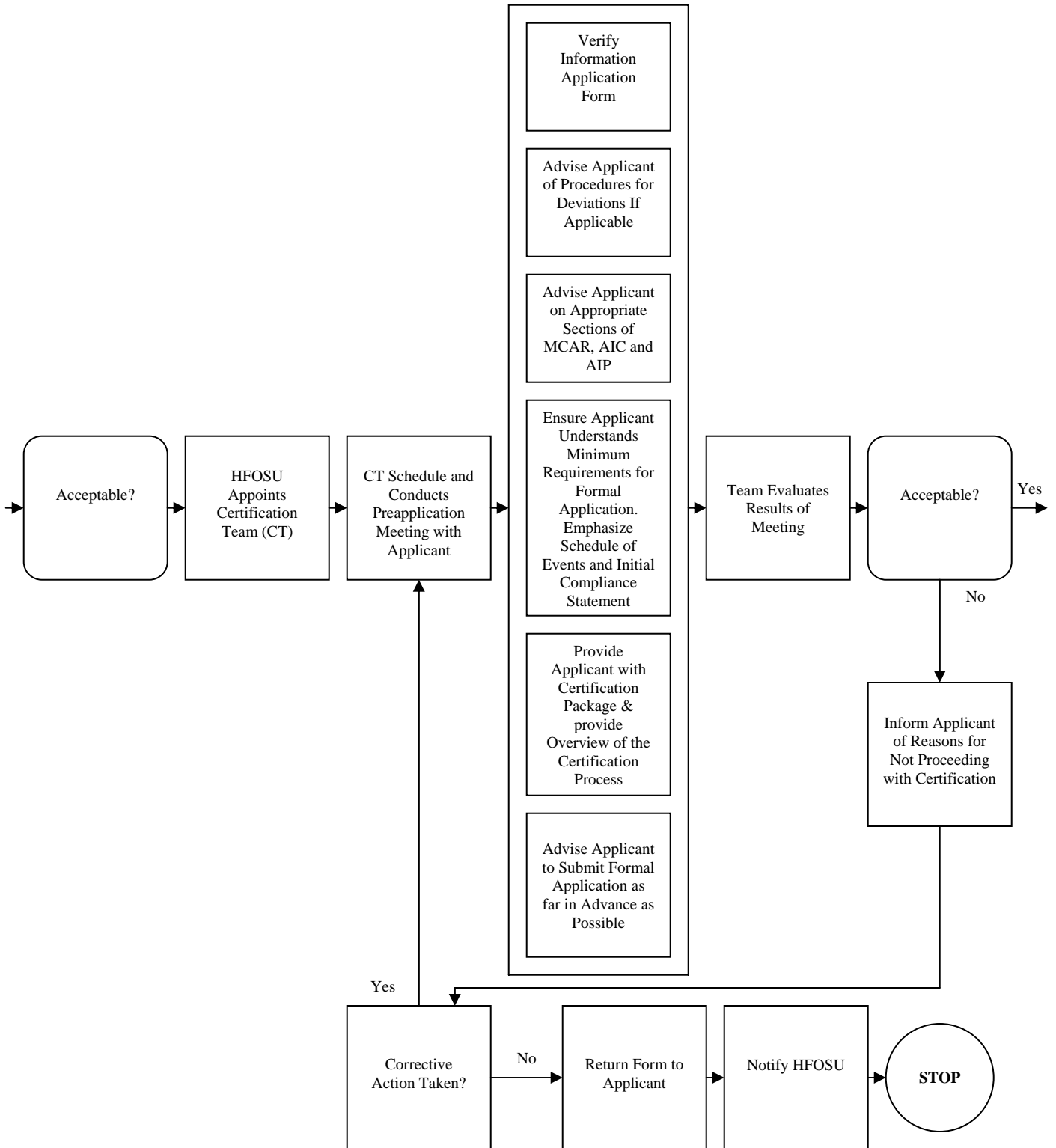
1.8.8 Amendments to Operations Specifications. Amendments to Operations Specifications may be initiated by either the DCA or the operator. If the DCA initiates an amendment, it will prepare the amended page(s) and deliver them to the operator with a cover letter which describes the justification for the change.

1.8.9 If the operator desires to amend the Operations Specifications (typically when adding or deleting routes, airports, or airplanes) he will do so by providing a letter to the Director General which describes the exact nature of the change requested and provides justification for the operations specifications amendments, including appropriate documentation if necessary. For example, a request for a change to Part G should include a copy of the lease agreement. Upon receipt of the request letter, the DCA will analyse the narrative justification and attached documents. If the change is approved, applicable pages to the Operations Specifications will be revised, signed, and delivered to the operator under a cover letter. The operator's signature must be obtained on the bottom of the revised pages upon delivery.

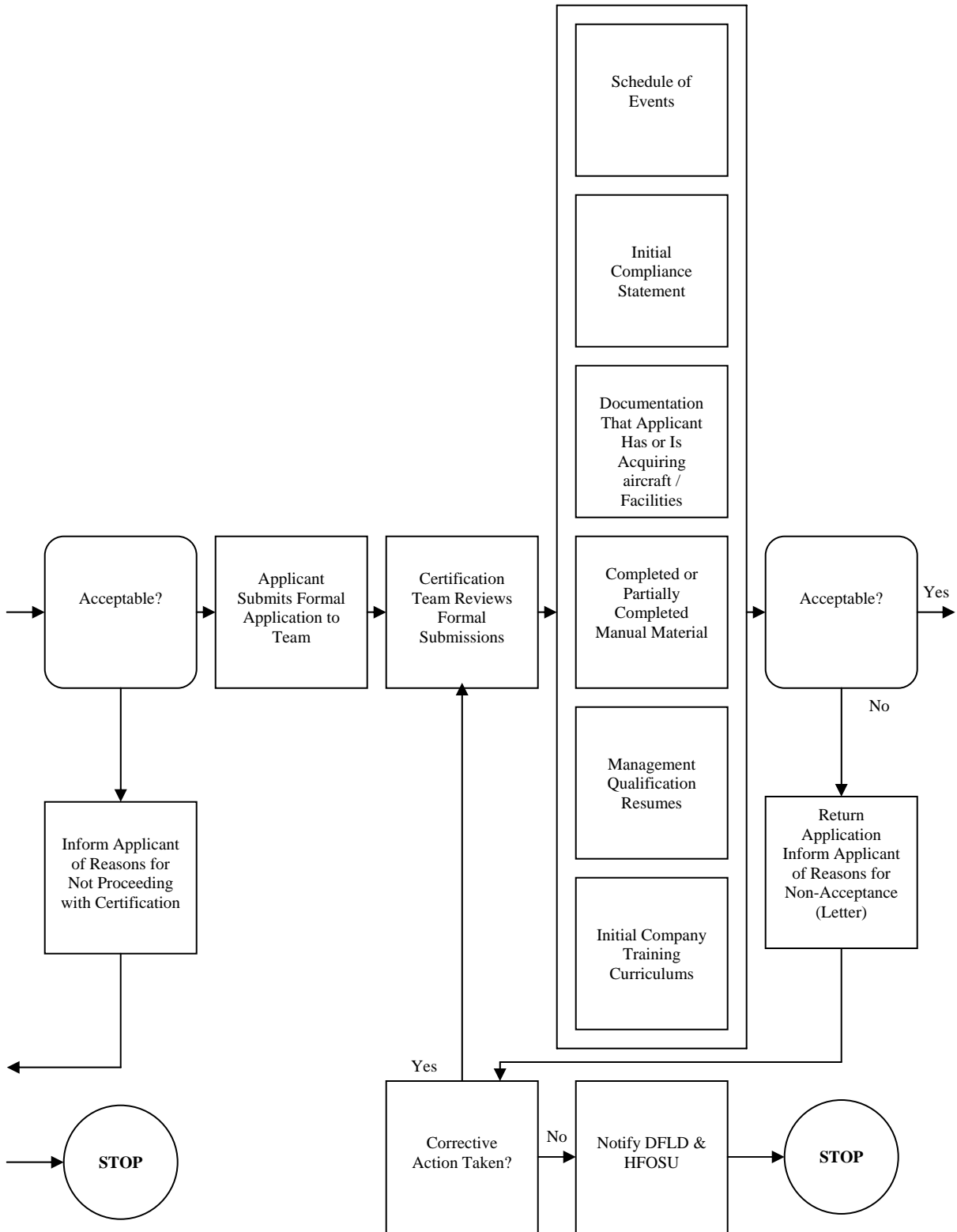
Figure 2.1.1 CERTIFICATION PROSESS
PREAPPLICATION PHASE



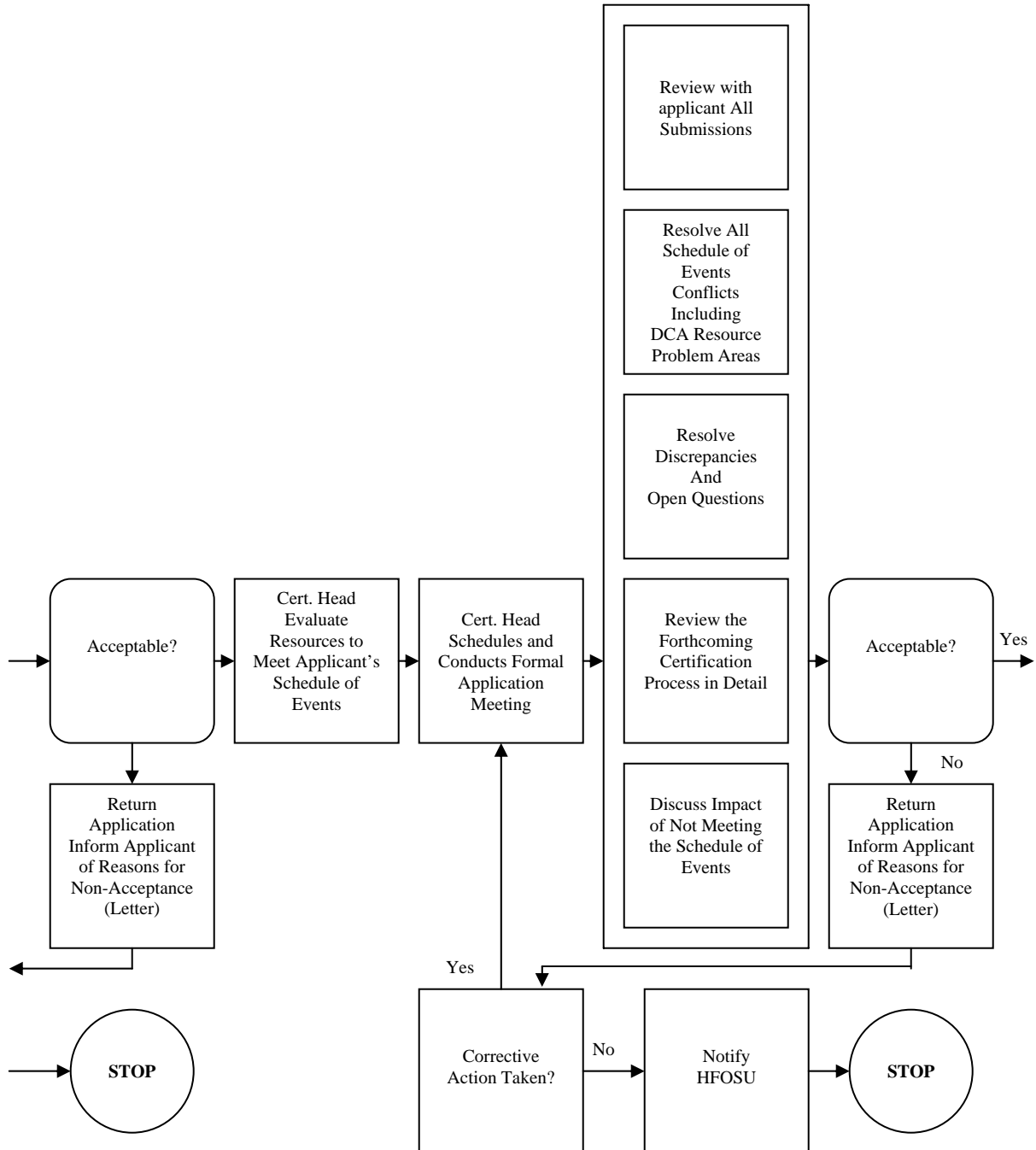
PREAPPLICATION MEETING



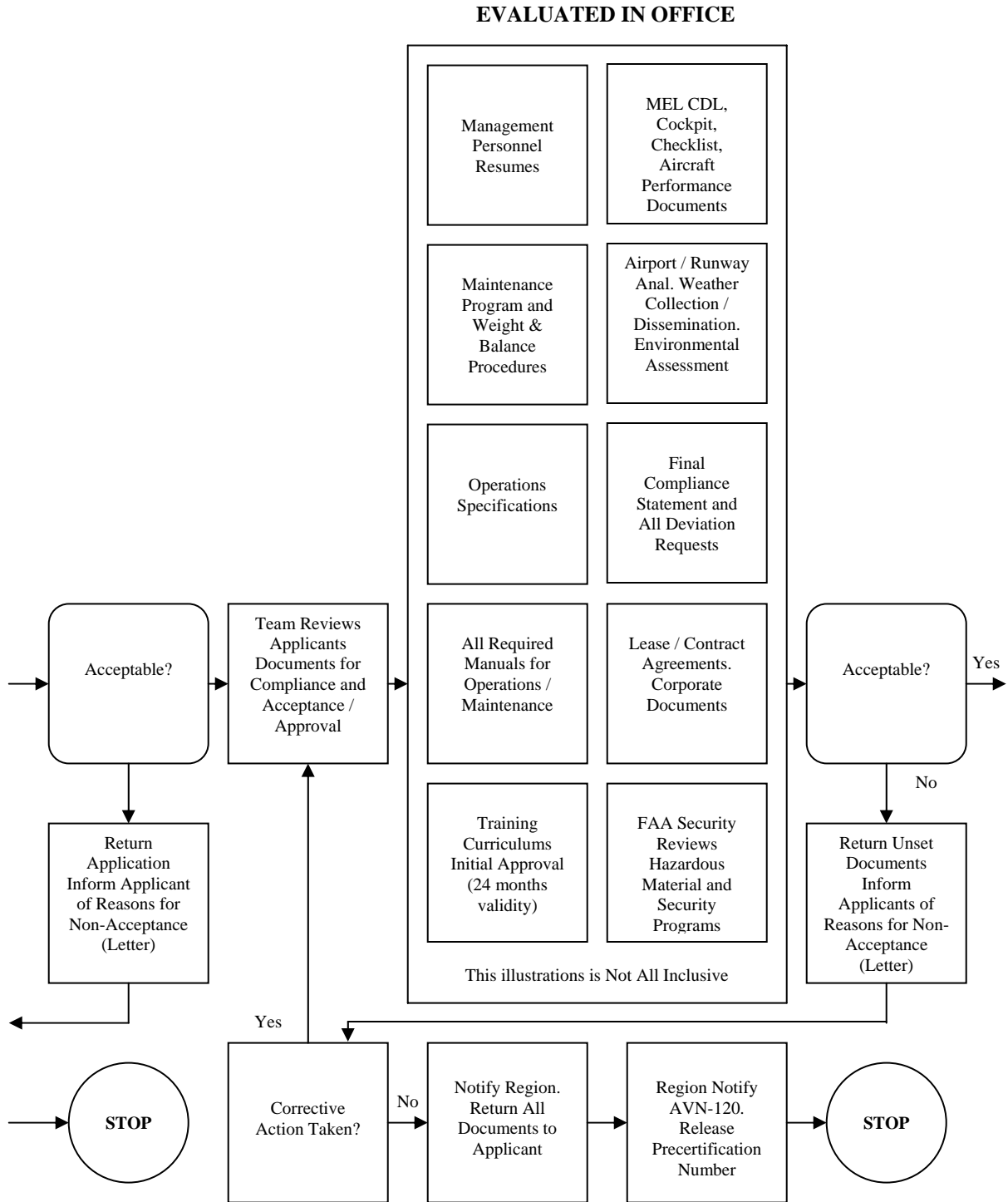
FORMAL SUBMISSIONS



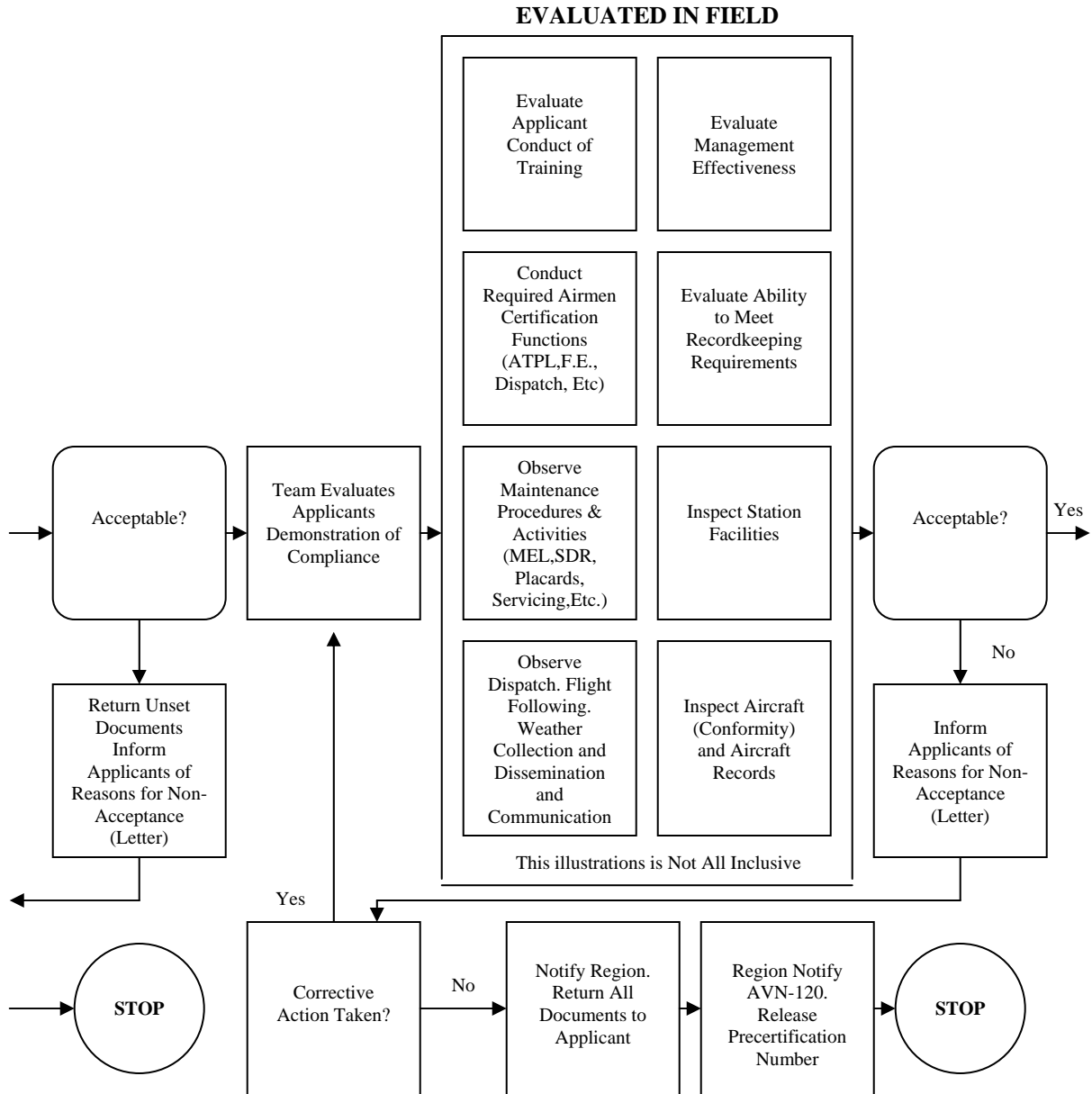
FORMAL APPLICATION MEETING

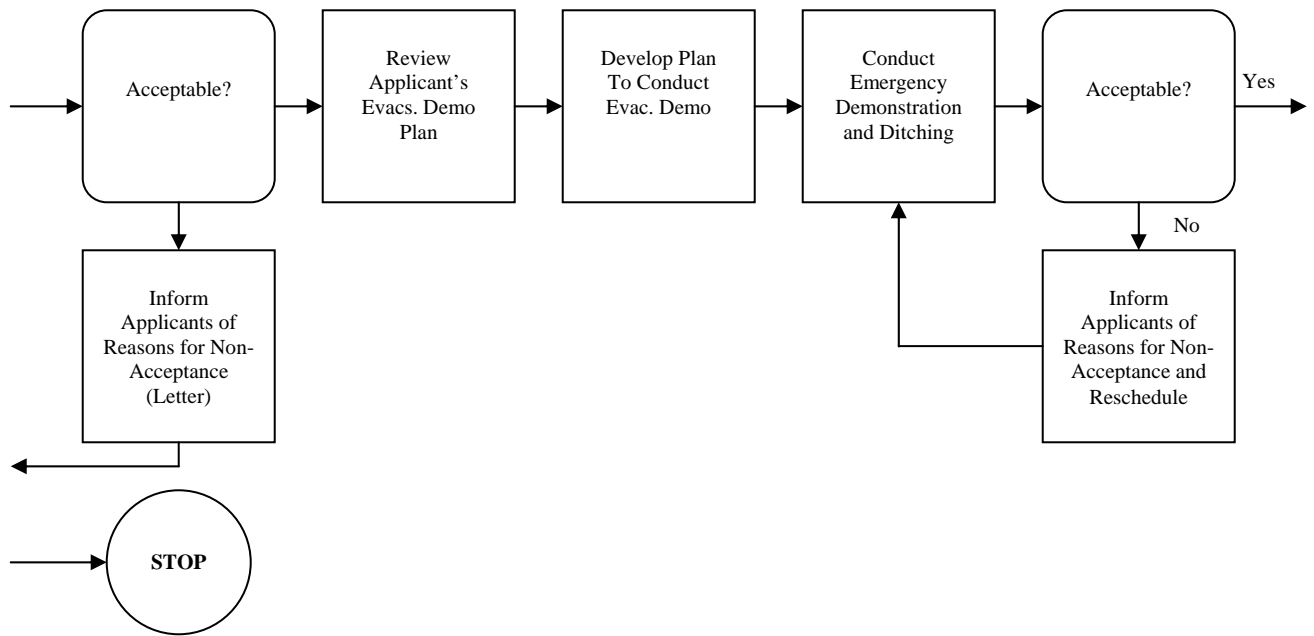


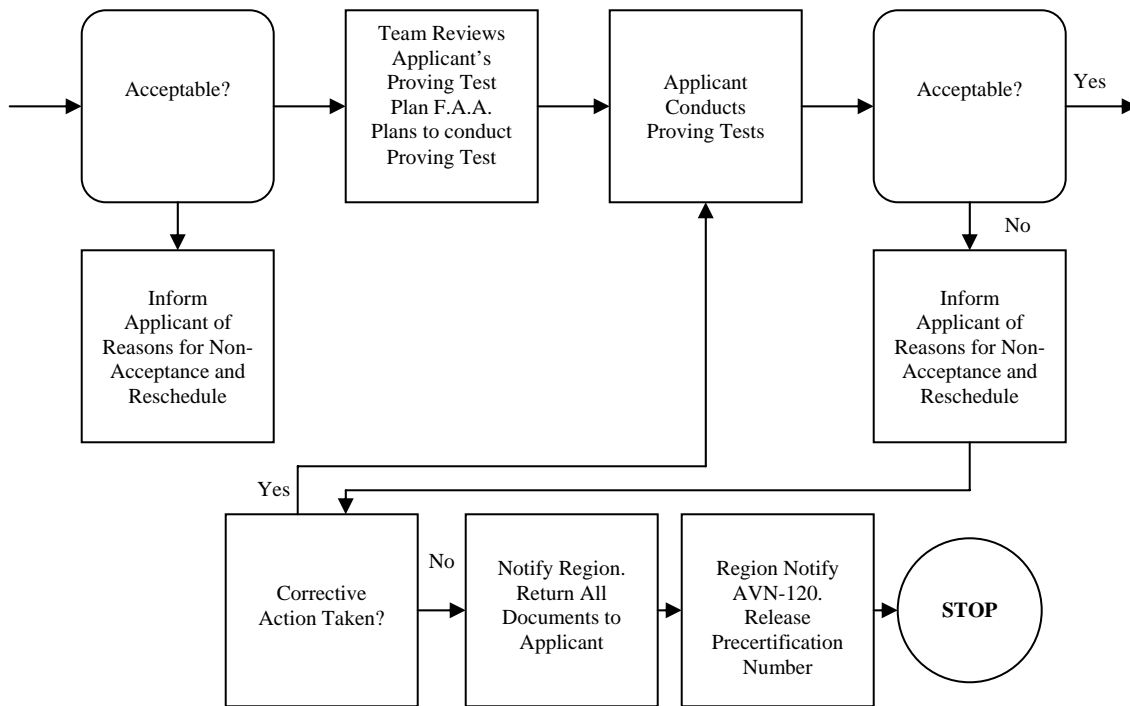
DOCUMENT COMPLIANCE PHASE



DEMONSTRATION & INSPECTION PHASE

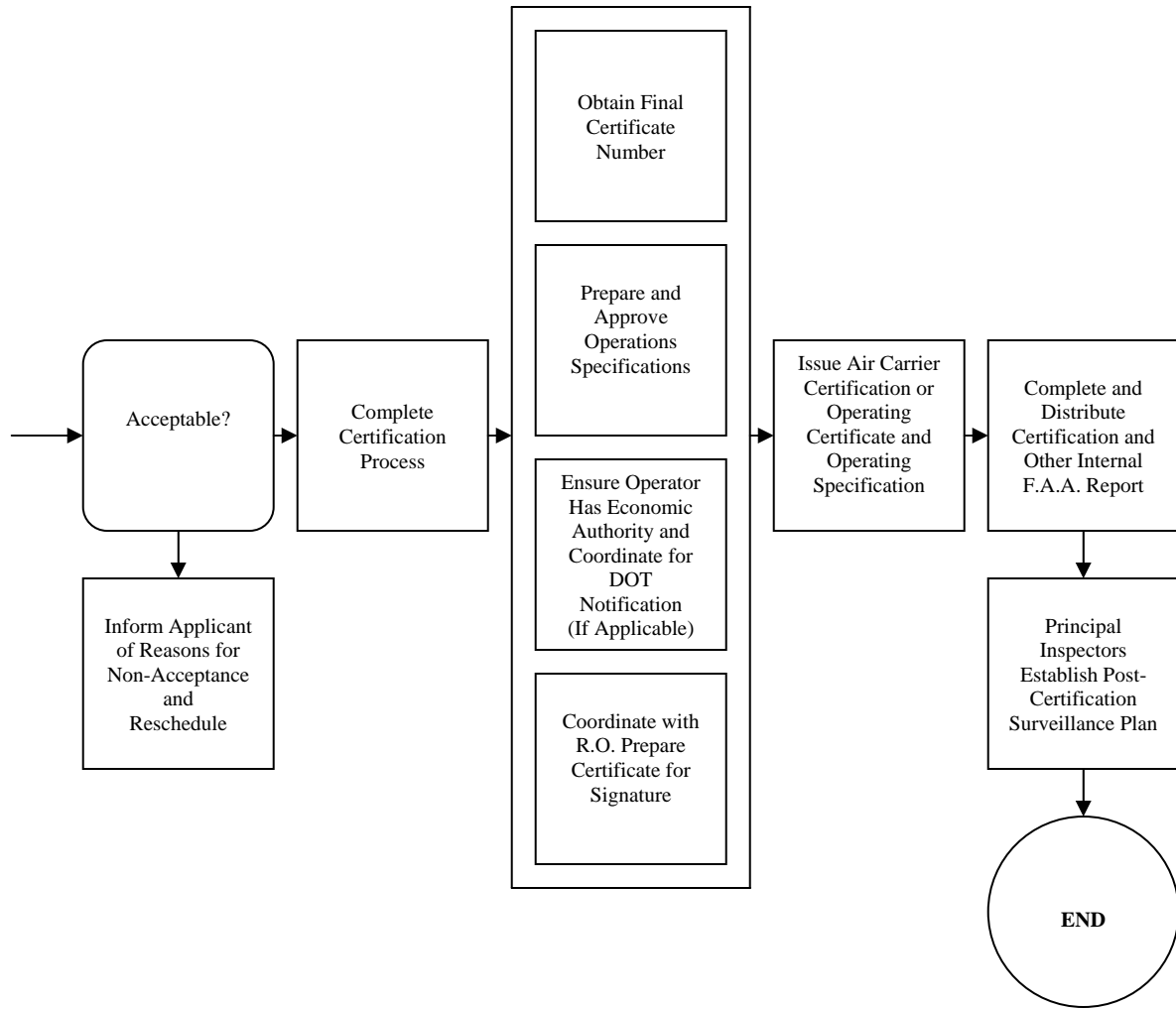






CERTIFICATION PHASE

FINAL CERTIFICATION ACTIONS





MALAYSIA
JABATAN PENERBANGAN AWAM
DEPARTMENT OF CIVIL AVIATION

No: 0505

AIR OPERATOR'S CERTIFICATE

Certificate No.: AOC 08

This certifies that

MALAYSIAN AIRLINE SYSTEM BERHAD

(Company No. 10601-w)

Flight Operations Division
4th Floor, Support Facility Building
MAS Campus, Southern Support Zone
64000 KLIA, Sepang

has met the requirements of Civil Aviation Regulations 1996, as amended, and prescribed therein, for the issuance of this certificate and is authorised to operate as an Air Operator and conduct

Scheduled Journeys (Passenger / Cargo)

And

Non Scheduled Journeys (Passenger / Cargo)

in accordance with the said Regulations; and the terms, conditions, and limitations contained in the approved Operations Specifications.

This certificate is not transferable and, unless cancelled, suspended, superseded, or revoked, shall continue in effect from 01st January 2005 to 31st December 2005.

Ghaldi.

En. Azha'uddin b. Abdul Rahman
for Director General Civil Aviation
Malaysia

Date : 23 DEC. 2004

Figure 2.1.3

Department of Civil Aviation Malaysia		
OPERATIONS SPECIFICATIONS		
Issued to:		
Air Operator Certificate No.:		
PART A—GENERAL		
1. Applicability. These operations specifications are issued pursuant to ICAO requirements and DCA operating regulations and rules.		
2. Definitions and Abbreviations. Unless otherwise specified herein, all words, phrases and abbreviations defined in the ICAO Doc 8400 Abbreviations and Codes have the same meaning when used in these operations specifications.		
3. Aircraft Authorisation. The operator named herein is authorised to operate the following makes and models of aircraft in scheduled air transport. The maximum permitted passenger seating capacity is determined as a result of analysis or demonstration for each make and model aircraft.		
Make	Model	Maximum Passenger Seating Capacity
Effective Date:		
DCA Approval Signature: _____		Operator Acceptance Signature: _____
Title:		Title:

Department of Civil Aviation Malaysia

OPERATIONS SPECIFICATIONS

PART B—EN-ROUTE AUTHORISATIONS AND LIMITATIONS

1. Aircraft Operations Within the Territory of Malaysia.

Except as otherwise specified in sub-paragraph d) below, aircraft are authorised to operate over any of the following routes:

- a. Any route or route segment established by the DCA or appropriate agency.
- b. In addition to the routes specified in sub-paragraph a, flights may be planned and operated within controlled airspace over direct and other routes predicated on VOR facilities provided:
 - (1) such routes lie within the published operational service volume of extended service volume of the VOR facilities used; and
 - (2) operations are conducted at least 2 000 ft above terrain or at or above the MEA if one is established.
- c. Routes listed in the Attachment to these operations specifications, if any. Off-airway routes listed in the Attachment to these operations specifications have a width of four nautical miles on each side of the course between the points defining such off-airway routes unless otherwise specified.
- d. Sub-paragraphs a through c do not apply when it is necessary to avoid a potentially hazardous meteorological condition and when otherwise cleared by air traffic control.

2. Aircraft Operations Outside the Territory of Malaysia.

Operations shall be conducted over the routes defined in approved Aeronautical information publications (AIP) or over the routes listed in the Attachment to these operations specifications.

Effective Date:

DCA Approval Signature: _____ Operator Acceptance Signature: _____
Title: _____ Title: _____

PART B—EN-ROUTE AUTHORIZATIONS AND LIMITATIONS (PAGE 2)

3. **Instrument Flight Rules.**

- a. Except as provided in sub-paragraph b below, during the en-route phase of flight all aircraft will be operated within the navigable airspace in accordance with instrument flight rules. However, during the terminal phase of flight, operations may be conducted under visual flight rules provided:
- (1) the aircraft is being given radar vectors by Air Traffic Control; or
 - (2) at controlled aerodromes, the pilot-in-command is in direct communication with the control tower, approach control, or departure control serving the aerodrome of arrival/departure; or
 - (3) at uncontrolled aerodromes, the pilot-in-command is in direct communication with an air/ground radio communications facility capable of providing aerodrome traffic advisory service.
- b. Propeller aircraft may be operated under VFR over approved routes or route segments listed in the Attachment to these operations specifications; provided appropriate weather reports or forecasts or any combination thereof at the time of dispatch indicate that the visibility along such route or route segment is and will remain at or above 5 nautical miles. However, for terminal area operations, the VFR take-off and landing minimum prescribed in the operating regulations and rules or in these operations specifications for particular aerodromes are applicable. The Director approves VFR routes when the certificate holder shows that the traffic density along a route or route segment is low and that IFR operations are impractical due to:
- (1) inadequate air/ground ATC communications; or
 - (2) inadequate en-route and terminal area navigation facilities; or
 - (3) high minimum en-route instrument altitudes; or
 - (4) other unique conditions, such as circuitous IFR routes between terminals.

Effective Date:

DCA Approval Signature: _____ Operator Acceptance Signature: _____
Title: _____ Title: _____

PART B—EN-ROUTE AUTHORIZATIONS AND LIMITATIONS (PAGE 3)

4. **Operations at Aerodromes Without Aerodrome ATC Tower Service.**

Operations will not be conducted at aerodrome without aerodrome traffic control tower service unless flight are furnished local traffic advisory information through at least one of the following sources:

- a. an air/ground radio communications facility located in a position from which the operator is capable of observing local traffic and issuing traffic advisories. The air/ground radio communications facility is not required under the following conditions:
 - (1) if a destination aerodrome is equipped with a DCA approved air traffic control tower, the air/ground radio communications facility is not required during periods that the control tower is not in operation provided that data consisting of active runway(s) identification, wind direction and velocity and reported traffic activity for that aerodrome is obtained from the Flight Information Service unit serving that aerodrome;
 - (2) flight operations may be conducted during periods of temporary (not over 48 hours) equipment failure of the operator air/ground radio communication facility provided that data consisting of active runway(s) identification, wind direction and velocity and reported traffic for that aerodrome is obtained from the Flight Information Service unit, or the operator radio serving that aerodrome.

- b. A DCA approved Flight Information Service unit may, subject to DCA approval, be used in lieu of the operator air/ground communication facility specified in paragraph 4 a above, to provide local traffic advisory information to airline flights. Except as authorised in paragraphs 4 a) (1) and (2) above, Flight Information Service units authorised to provide this service must be physically located on the aerodrome and have a view of the aerodrome environment at least equal to that of an operator air/ground radio communication facility.

Effective Date:

DCA Approval Signature: _____ Operator Acceptance Signature: _____
Title: _____ Title: _____

Department Civil of Aviation Malaysia

OPERATIONS SPECIFICATIONS

PART C—AERODROME AUTHORISATIONS AND LIMITATIONS

1. General

Except as provided in the operating regulations and rules the operator will not use any aerodromes other than those listed in paragraph 3. Unless the instrument approach procedures and the aerodrome operating minima are specified in these provisions and attached hereto, the terms "instrument approach procedure" and "aerodrome operating minima", when used in this Part, means the instrument approach procedure and aerodrome operating minima prescribed in the operating regulations and rules. In the case of aerodromes located outside the territory of this State, the instrument approach procedures prescribed or approved by the State in which the aerodrome is located are applicable provided they meet the criteria prescribed by the ICAO PANS-OPS and are included in an acceptable Aeronautical information publication. In those cases where the DCA has not made this determination, the operator shall make such determination and notify the DCA that the foreign instrument approach procedure meets ICAO PANS-OPS criteria, submitting supporting documentation to this effect.

2. Instrument Approach Procedures and Aerodrome Operating Minima.

a. Instrument Approach Procedures.

The operator is authorised to conduct the following types of instrument approach procedures:

Non-precision: [] VOR [] VOR/DME [] NDB

Precision: [] ILS, Category I [] ILS Category II [] ILS Category III [] PAR

Effective Date: _____

DCA Approval Signature: _____ Operator Acceptance Signature: _____
Title: _____ Title: _____

PART C—AERODROME AUTHORISATIONS AND LIMITATIONS (Page 2)

b. **Take-off Minimums.** Take-off minima at all aerodromes shall be greater than, or equal to, the applicable landing minima, unless an approved take-off alternate aerodrome is available for use and in no case less than 800m RVR, except as provided below in conjunction with the specified facilities.

FACILITIES	RVR
Runway edge lights, runway centre line lights, centre line markings, and TDZ, mid and roll-out RVR with readout down to at least 175 m.	200 m
Runway edge light, runway centre line lights, centre line markings, TDZ, and roll-out RVR with readout down to at least 300 m.	350 m
Runway edge lights and either centre line lights or centre line markings.	500 m

c. **Circling Minimums.** The certificate holder shall not conduct circling manoeuvres when the ceiling is less than 1000 ft/300m or the visibility is less than 3 statute/2.6 nautical miles unless the pilot-in-command has successfully completed an approved training programme for the circling manoeuvre or satisfactorily completed a proficiency check for the circling manoeuvre. When conducting an instrument approach procedure which requires a circling manoeuvre, the certificate holder shall not use a landing minimum lower than the published minimum for that approach. The following are the lowest authorised circling minimums which are applicable to all aerodromes:

Aeroplane category:	A	B	C	D
MDH	120m (400ft)	150m (500ft)	180m (600ft)	210m (700ft)
Visibility	1600m	1600 m	2400 m	3600 m

Note: Circling minima for all wide-bodied aeroplanes are MDH 300m and visibility 3sm/2.6nm.

Effective Date:

DCA Approval Signature: _____ Operator Acceptance Signature _____
 Title: _____ Title: _____

PART C—AERODROME AUTHORISATIONS AND LIMITATIONS (Page 3)

d. Authorised Straight-in Non-precision Approach Procedures.

The certificate holder shall not use straight-in non-precision instrument approach landing minimums which are lower than those prescribed in the applicable instrument approach procedure. The following are the lowest minimums authorised for use at any airport:

STRAIGHT-IN NON-PRECISION APPROACHES					
Approach light configuration	HAT (see notes 1-3)	Aircraft Category A, B, and C		Aircraft Category D	
		Visibility	TDZ RVR	Visibility	TDZ RVR
No Lights	250ft/75m	1 nm/ 1600m	5000ft/1500m	1nm/1600m	5000ft/1500m
ODALS MALS SALS	250ft/75m	.7nm/1200m	4000ft/ 1200m	1nm/1600m	5000ft/1500m
MALRS SSALR ALSF-1/2	250ft/75m	5nm/800m (see note 4)	2400ft/720m (see note 4)	1nm/1600m (see note 5)	5000ft/1500m (see note 5)
DME Arc (any light configuration)	500ft/ 150m	1 nm/ 1600m	5000ft/ 1500m	1 nm/ 1600m	5000ft/1500m

Note 1 :For NDB approaches with an FAF add 50ft/15m to the HAT

Note 2: For NDB approaches without an FAF add 100ft/30m to the HAT

Note 3: For VOR approaches without an FAF add 50ft/15m to the HAT

Note 4: For NDB approaches, the lowest authorised visibility is .7nm/1200m and the lowest RVR is 4000ft/1200m

Note 5: For LOC approaches, the lowest authorised visibility is .7nm/1200m and the lowest RVR is 4000ft/1200m

Effective Date: _____

DCA Approval Signature: _____ Operator Acceptance Signature _____
 Title: _____ Title: _____

PART C—AERODROME AUTHORISATIONS AND LIMITATIONS (Page 4)

d. Authorised Straight-in Category I Precision Approach Procedures:

The certificate holder shall not use straight-in Category I precision instrument approach landing minimums which are lower than those prescribed in the applicable instrument approach procedure. The following are the lowest minimums authorised for use at any airport:

STRAIGHT-IN CATEGORY I PRECISION APPROACHES (Full ILS, MLS, or PAR)			
Approach Light Configuration	HAT(see notes 1-3)	Aircraft Category A, B, C, or D	
		Visibility	TDZ RVR
No Lights ODALS or MALS or SSALS	200ft/60m	.7nm/ 1200m	4000ft/1200m
MALSR or SSALR or ALSF-1/2	200ft/60m	.5nm/800m	2400ft/720m
MALSR with TDZ and CL or SSALR with TDZ and CL or ALSF-1/2 with TDZ and CL	200ft/60m	Based upon RVR only (see note 2)	1880ft/550m

Note 1: A full ILS requires an operative LOC, GS, and OM or FAF. A precision or surveillance radar fix, an NDB, VOR, DME fix may be used in lieu of an outer marker.

Note 2: Visibility values below 1/2 nautical or statute miles are not authorised.

Note 3: TDZ RVR reports, when available, are controlling for all approaches and landings. Mid and Rollout RVRs normally provide advisory information, but may be substituted for the TDZ RVR if the TDZ RVR is not available.

Effective Date:

DCA Approval Signature: _____ Operator Acceptance Signature _____
 Title: _____ Title: _____

PART D - MAINTENANCE

See ICAO Manual of Procedures for an Airworthiness Organisation (Doc 9389)

Effective Date:

DCA Approval Signature: _____ Operator Acceptance Signature _____
Title: _____ Title: _____

PART E – MASS AND BALANCE

See ICAO Manual of Procedures for an Airworthiness Organisation (Doc 9389)

Effective Date:

DCA Approval Signature: _____ Operator Acceptance Signature _____
Title: _____ Title: _____

Department of Civil Aviation Malaysia

OPERATIONS SPECIFICATIONS

PART F—INTERCHANGE OF EQUIPMENT OPERATIONS

1. The holder of these AOC operations specifications shall conduct all operations authorised under the terms of the interchange of equipment agreement between ABC Airline Company and XYZ Airline Company dated _____ in accordance with the applicable provisions of the MCAR and these operations specifications. Such operations are authorised between the interchange points of _____ and _____ over the routes specified in Part B of ABC Airline Company operations specifications, and to and from the pertinent aerodromes, in accordance with the aerodrome operating minima specified in Part C of XYZ Airline Company operations specifications. Such operations shall be conducted with _____ type of aircraft and XYZ Airline Company flight crews. The XYZ Airline Company shall be responsible for the operational control of such flights. The aircraft utilised in such operations shall be operated and maintained in accordance with ABC Airline Company operations and maintenance manuals and the AOC's operations specifications.

Effective Date:

DCA Approval Signature: _____ Operator Acceptance Signature _____
Title: _____ Title: _____

Department of Civil Aviation Malaysia

OPERATIONS SPECIFICATIONS

PART G—AIRCRAFT LEASING OPERATIONS (WET LEASE)

1. The holder of these AOC's operations specifications shall conduct all operations authorised under the terms of the lease agreement between the ABC Airline Company and the XYZ Airline Company dated _____ in accordance with the provisions of the DCA operating regulations and rules and these operations specifications. Such operations are authorised over the routes and areas specified in Part B of these operations specifications and to and from the pertinent aerodromes listed in this Part, in accordance with the aerodrome operating minima specified in these operations specifications. Such operations shall be conducted with B-747 type aeroplanes and ABC Airline Company flight crews. The ABC Airline Company shall be responsible for the operational control of such flights.
2. This authorisation remains in effect until , or until surrendered, suspended, revoked or otherwise terminated by the Director of the DCA.

Effective Date:

DCA Approval Signature: _____ Operator Acceptance Signature _____
Title: _____ Title: _____

VOLUME 2. AIR OPERATOR ADMINISTRATION

Chapter 2. Approval of Authorised Examiners and Training Captains

2.1 BACKGROUND AND OBJECTIVES. Operators are required to provide enough training captains and Authorised Examiners to carry out the flight training and checks specified in their approved training programmes. The DCA must specifically approve operator personnel who are to serve as authorised examiner after a thorough review of the candidate's background, experience, training, and competency. Whereas training captains are not specifically approved, they must meet certain qualifying criteria and their performance is subject to DCA evaluation.

2.2 ELIGIBILITY REQUIREMENTS FOR AUTHORISED EXAMINERS.

Operator personnel who are to serve as authorised examiner must meet the following requirements:

- a. For pilot authorised examiner, hold the required licence and ratings to serve as a PIC of the specific aircraft in revenue service.
- b. For flight engineer authorised examiner, hold the required licence and ratings to serve as flight engineer in the specific aircraft in revenue service.
- c. The nominated authorised examiners must meet the criteria specified in AIC 9/94 dated 23 December 1994 and holds a Class 1 medical certificate.
- d. The nominated authorised examiners have completed the operator's approved flight instructor and examiner training program. Exception may be considered if the nominated authorised examiner is a Qualified Flying/Helicopter Instructor (QFI/QHI).
- e. For pilot authorised examiner, meet the training and currency requirements to serve as PIC, including ground and flight training, proficiency or competency checks, and 90-day landing currency.
- f. For flight engineer authorised examiner, meet the training and currency requirements to serve as a flight engineer.
- g. Maintain line currency as a crewmember in the position(s) for which checks are authorised .
- h. Have achieved and maintained a favourable record as a crewmember.
- i. Satisfactorily demonstrate to the DCA the ability to conduct the category of checks for which he seeks approval.

2.3 CLASSIFICATION OF AUTHORISED EXAMINERS. There are four authorised examiner designations; three of which are pilot authorised examiner designations and one is a flight engineer authorised examiner designations. Approval for each authorised examiner designation is contingent on the examiner having been properly certificated in the applicable aircraft and crew position; having been trained in accordance with the operator's authorised examiner training program for the specific designation; and having demonstrated to the DCA the ability to conduct and accurately evaluate an airman's performance on the flight checks authorised for that designation. The four authorised examiner designations are:

- a. ***Type Rating Examiner.*** This designation authorises the authorised examiner to conduct proficiency or competency checks and to provide flight instruction from either seat in an aircraft in actual flight or approved simulator or flight training device; supervise the re-establishment of landing currency; conduct special checks such as CAT II or CAT III qualifications provided the authorised examiner is qualified in that activity; and to provide ground instruction if authorised by the operator.
- b. ***Instrument Rating Examiner.*** This category authorises an authorised examiner to conduct instrument or competency checks in an actual aircraft or approved flight simulator or flight training device.
- c. ***Authorised Examiner - Simulator.*** This category permits the authorised examiner to conduct DCA- approved specific checks in an approved simulator only. The examiner need not be holder of the required licence or rating to the aircraft type.
- d. ***Flight Engineer Authorised Examiner.*** This category of authorised examiner authorises the person to conduct flight engineer proficiency checks and instruction to flight engineers in an aircraft in actual flight or approved simulator or flight training device.

2.4 AUTHORISED EXAMINER APPROVAL PROCESS. The following sequence of events will be followed for DCA approval of authorised examiner:

- a. The operator will submit a letter requesting a specific authorised examiner designation for the proposed authorised examiner. This letter will include a brief resume of the airman's background and experience and copies of his license(s) and medical certificate. Copies of the last two Certificate of Test reports must also be included.
- b. The DCA will review the letter of request and attached documentation to ensure that the prospective authorised examiner meets all applicable requirements. Following this review, the applicant will undergo an approved course of training for authorised examiner. Exemption to attend such course may be considered if the applicant is a QFI/QHI.

c. On completion of the above mentioned course, the prospective authorised examiner will be observed and evaluated conducting the entire type of check or checks for which he seeks approval.

d. Provided that steps a through c above are satisfactorily accomplished, the applicant will be issued an approval letter which contains the following information:

- Authorised examiner name and applicable DCA and/or foreign license numbers.
- Specified authorised examiner designation
- Specified aircraft
- Operator or operators the authorised examiner may serve
- Effective date of designation

See Figure 2.2.1 at the end of this chapter for a sample of an authorised examiner authorisation certificate.

e. In the event that the prospective authorised examiner is not found to be satisfactory during any of steps (a through c) above, the DCA will write a letter to the operator explaining the reason for the disapproval.

2.5 CONDUCT OF AN AUTHORISED EXAMINER EVALUATION. The purpose of the authorised examiner evaluation is to ensure that the candidate has achieved the required skills for briefing, evaluating, and debriefing an airman being checked. Except for an initial cadre designation, an authorised examiner evaluation does not entail an evaluation of the candidate's proficiency in the basic crew position. An operator should not request designation of an individual as an authorised examiner when there is any question about the airman's skills in the basic crew position. Should the DCA inspector have reason to question the airman's basic qualifications, the authorised examiner evaluation shall not be conducted until the candidate's qualifications are definitely and thoroughly verified and accepted. An acceptable means of establishing the airman's basic qualifications is for an inspector to conduct a proficiency, competency, or line check of the authorised examiner candidate on a separate occasion before the check airman evaluation. Such checks, however, are not routinely required.

The following general guidance applies to all authorised examiner evaluations:

a. A Flight Operation Surveillance Inspector (FOSI) conducting an authorised examiner evaluation must arrange to meet with the authorised examiner candidate in sufficient time for a pre-evaluation briefing. The inspector shall inform the candidate of the purpose of the evaluation and that the check should be conducted as if the candidate was fully qualified for the requested authorised examiner designation. During the briefing, the inspector should also ask questions of the candidate to determine if the candidate has a thorough knowledge and understanding of applicable DCA regulations, operator policies, methods and procedures.

b. While the check is in progress, the FOSI must observe, but should not interrupt or interfere with the techniques and actions taken by the authorised examiner candidate. The inspector must determine if all required events were accomplished and if each event was properly conducted. The candidate's evaluation of the airman's performance must be accurate. The candidate's debriefing of the airman must be accurate, complete, and constructive.

c. If the FOSI determines that an authorised examiner candidate does qualify for the requested authorised examiner designation, the inspector shall inform the candidate. In this case, the authorised examiner candidate shall certify to the proficiency of the airman being given the check and complete the necessary records. As a matter of policy, the new authorised examiner may be scheduled immediately by the operator to perform checks, even though processing of the designation letter has not been completed.

d. If the FOSI determines a candidate does not qualify for the requested authorised examiner designation, the inspector shall inform the candidate of the unsatisfactory performance and of not being approved as an authorised examiner. In this case, the FOSI must determine whether the airman that received the check performed satisfactorily, and must certify to the proficiency of the airman who was checked for the purpose of authorised examiner evaluation (satisfactory or otherwise), and complete the necessary records. The FOSI shall sign operator forms indicating success or failure of the airman and make a statement of the circumstances on the operator's forms. The company shall be informed by letter of the reason for the disapproval.

e. The failure of an authorised examiner candidate is unusual and usually ends a candidate's eligibility for authorised examiner status. In rare circumstances, however, the DCA may allow a re-evaluation. In such a case, the operator must conduct sufficient additional training, re-certify the candidate's proficiency, and then arrange to have another evaluation conducted by a DCA inspector.

2.6 PERIODIC RENEWAL OF AUTHORISED EXAMINER DESIGNATIONS.

All authorised examiner designations expire three years from the last day of the month on which they were effective. The following procedures will be followed for renewal:

a. At least one month prior to the expiration date of a particular designation, the operator must submit to the DCA a letter requesting renewal of that designation, if so desired. Attached to the renewal request will be a record of all of the checks that the authorised examiner has conducted during the preceding 12 months, along with a copy of the approved examiner's current license(s) and medical certificate. The letter should also advise the DCA as to when the authorised examiner will be available for observation during the next 30 days in the course of conducting a check. At least one primary and alternative date should be provided.

b. The DCA will review the letter and attached documentation, giving particular attention to the number of checks which the authorised examiner has

conducted within the designation sought over the previous year (refer to AIC 9/94). This is to ensure that he is being well-utilised by the operator so as to justify his continued designation.

c. Following a satisfactory review of the documents, the DCA will schedule an inspector to observe the authorised examiner conduct the type of check for which renewal is sought.

d. Provided that the evaluation of the authorised examiner 's performance was found to continue to be satisfactory, an updated authorised examiner letter of approval (see figure 2.2.1) will be sent to the operator.

e. If the renewal evaluation of the authorised examiner 's performance is found to be unsatisfactory for any reason, the authorised examiner shall be informed immediately and the company provided with a letter stating the reason(s) for the disapproval. In this case, as with the original authorised examiner designation, the DCA inspector must then approve or disapprove the actual check which was in progress for the purpose of evaluating the authorised examiner.

Note: See Volume 3 Chapter 13 for further information regarding proficiency checks and authorised examiner performance.

2.7 GROUND INSTRUCTOR AND TRAINING CAPTAINS. An instructor or training captain is a person employed by an operator or training centre for the purpose of training flight crewmembers in an operator's approved training curriculum. These instructors or training captains provide the required training for flight crewmembers to ensure that the acceptable standards of knowledge and the necessary skills to complete a particular curriculum segment are met. When designated by the employer, an air transportation instructor or training captain is responsible for certifying to the knowledge and proficiency of each crewmember upon completion of a training curriculum or curriculum segment. Instructors or training captains must be knowledgeable in the applicable DCA requirements and in the operator's required policies and procedures applicable to each designated area of expertise. An instructor or training captain must possess effective communicative skills. An instructor's manner should reflect honesty and professionalism, and the instructor must exhibit a positive attitude toward safe aviation practices.

2.7.1 Training Captain. The DCA does not formally approve training captain. The operator may designate any person to serve as a training captain in either a simulator or aircraft provided that the following basic qualifications are met:

- Training captains must hold an ATPL and the ratings required to serve as a pilot in command on a specific aircraft in revenue service. Flight Engineer instructors must hold a flight engineer certificate and the necessary endorsements to serve as a flight engineer in revenue service
- Training captains and flight engineer instructors must have a valid Class 1 medical certificate.

- Training captains must meet all training and currency requirements to serve as PIC for the operator including ground and flight training, proficiency or competency checks, and the 90-day landing currency. Similarly, flight engineer instructors must meet all training and currency requirements to serve as a flight engineer for the operator.
- For pilots, must complete an annual line check or line observation recurrent qualification.
- The Training captain must have received the flight instructor qualification training of the operator's approved training program for this designation.
- The Training captain must maintain line currency as a crewmember.

During training programme inspections, the DCA will ensure that all of the operator's assigned flight instructors continue to meet the above qualifications.

2.7.2 Ground Instructors. There are no specific qualification criteria for ground instructors. Through periodic inspections of operator training programmes as described in Volume 3 Chapter 7 of this manual, the DCA will ensure ground instructor competency, uniform methods of presentation, and compliance with approved training syllabi.

Figure 2-2-1. SAMPLE AUTHORISED EXAMINER CERTIFICATE OF APPROVAL

VOLUME 2. AIR OPERATOR ADMINISTRATION

Chapter 3. Proving Flights

3.1 BACKGROUND AND OBJECTIVES. Proving tests consist of a series of flights which are designed to demonstrate prior to the issuance of the AOC that the applicant is capable of operating and maintaining each aircraft type which he proposes to use to the same standards required of an established carrier. Proving flights may also be required of a fully certified airline which is adding a new airplane type to its fleet. Successful proving flights may be considered the final proof that an operator is ready to commence revenue operations with a specific type of airplane. During these inspections, the DCA will have the opportunity to observe and evaluate the in-flight operations within the total operational environment of the air transportation system. In the course of these flights, paying passengers will not be carried. However, it is generally desirable for the applicant to have on board company officials who can make decisions and commitments on behalf of the applicant concerning actions to correct deficiencies. These company officials may also serve as passengers for purposes of realism, so that the cabin attendants can perform their normal duties such as passenger briefings and meal services.

3.2 The applicant and the DCA inspector should plan well in advance for the conduct of the proving flights. All concerned must have a clear understanding and agreement as to what must be accomplished by the applicant to show compliance with the applicable operating regulations and rules. General objectives for pre-certification proving flights should include the determination of the adequacy of:

- a. In-flight procedures laid down in the operations manual and compliance with those procedures;
- b. The facilities and equipment provided to the flight crew to conduct the flight safely and in accordance with regulations;
- c. The support provided by operational control to the flight crew;
- d. The general provision made for ground handling of the aircraft and assisting the flight crew to carry out their duties at all aerodromes utilized by the applicant along the routes; and
- e. En-route facilities.

3.3 Proving test flights are operated exactly as though the applicant is conducting revenue operations. However, during the course of the flights the DCA may introduce simulated situations which will require appropriate responses by crewmembers and ground personnel.

3.4 SPECIFIC PROCEDURES. Proving flights will consist of a minimum of 10 hours (5 hours for domestic flights) flown over routes for which the operator seeks approval.

At least 4 route segments must be flown, if practicable. If the operator seeks approval for night operations, 5 of the 10 hours must be flown at night, if practicable. The sequence of events for the proper planning for and carrying out of proving flights will be as follows:

a. Well before the proving flights (during the pre-application phase of the certification process) the DCA will have briefed the operator regarding the necessity for proving flights, what must be accomplished, and the areas which will be evaluated.

b. At least 10 days prior to the proving flights, the operator must submit a proving test plan consisting of a detailed schedule of the proposed flights including dates, times, and airports to be used, along with a list of names of all crewmembers who will be used on each flight. The applicant should also provide a list of names and titles of non-crewmember personnel who will be aboard the aircraft during the flights. Preliminary flight plan information containing predicted fuel, baggage, and passenger loads for each segment along with predicted gross takeoff and landing weights must also be provided.

c. After receipt of the proving test plan from the operator, the DCA team will develop a proving flight scenario consisting of simulated emergencies and other means of testing the crewmembers' and operator's ability to cope with actual operational contingencies. Since the primary purpose of the proving flights is to ensure basic compliance with safe operating procedures during routine operations, the introduction of simulated abnormal and emergency conditions should be kept to the minimum required to evaluate the operator's capability to respond to such conditions. The following are typical scenarios which may be useful in evaluating the operator's capabilities:

- Diversion to alternate airports for reasons such as weather or maintenance. This tests the company's communications, maintenance, ground handling, and other operational capabilities.
- MEL or CDL situations - this tests crewmembers' understanding of specific operational limitations and the company's operations and maintenance procedures. For example, dispatching with an inoperative AC generator tests the operator's ability to comply with the operational and maintenance provisions of the MEL.
- Performance problems - this requires the aircrew and dispatch or flight control personnel to demonstrate competency and knowledge of such items as aircraft performance, airport analysis charts, and alternative company procedures. For example, simulating one-half inch of standing water on a departure runway will test the operator's ability to make performance adjustments.
- Hazardous cargo - the introduction of simulated hazardous cargo will test the applicant's ability to properly document and handle such items.

- Simulated aircraft emergencies such as engine failure - this tests the flightcrew's knowledge and competency in handling emergency situations. It also tests the operator's communications, maintenance, and other capabilities. Under no circumstances may an actual engine shutdown be required. However, at the discretion of the DCA team leader, a throttle may be retarded to idle thrust during flight and throughout the approach and landing.
- Simulated cabin emergencies - this tests the ability of the cabin attendants to deal with cabin abnormalities in accordance with established company procedures and to coordinate with the flight deck crew. Possible scenarios may include a simulated incapacitated passenger in need of immediate medical assistance, a simulated lavatory fire, or a simulated loss of pressurization.

d. The proving test flights are then carried out in accordance with the operator's plan and the DCA scenario.

e. Following each segment of the flight, the operator should be debriefed by the DCA team leader regarding the progress thus far. Unsatisfactory conditions noted by the team leader should immediately be brought to the attention of the applicant for corrective action. The opportunity should be provided to the applicant to remedy any deficiencies affecting the safety of the operation before any further flights are undertaken. All discrepancies and items of non-compliance must be corrected or resolved to the satisfaction of the DCA team leader before the series of flights can be considered successful. Some examples of deficiencies requiring corrective action are:

- Flight crew member not properly trained, e.g. requires assistance from applicant supervisors or a DCA inspector;
- Flight crew member not familiar with aircraft, systems, procedures or performance;
- Cabin crew member not properly trained or not familiar with location or use of emergency equipment or emergency evacuation procedures;
- Numerous aircraft deficiencies and/or systems malfunctions;
- Inadequate mass and balance or load control;
- Unsatisfactory operational control, e.g. improper flight planning and flight release procedures;
- Unacceptable maintenance procedures or practices; and
- Improper aircraft servicing and ground handling procedures.

f. Within 24 hours after the entire series of proving flights is completed, the operator will be provided with a detailed de-briefing and will be informed whether or not his overall performance was satisfactory or unsatisfactory. This will be followed with a letter detailing the same information.

3.5 EVALUATION AND REPORTING. The routine portion of the applicant's operational performance during the series of proving test flights will be evaluated using the Cockpit Enroute Inspection Checklist/Report form and the criteria contained in Volume 3 Chapter 9 of this manual, the Cabin Enroute Checklist/Report along with criteria contained in Volume 3 Chapter 10, and the Station Facility Inspection Checklist/Report along with the criteria contained in Volume 3, Chapter 11 (if applicable). These will be attached to the Proving Flight Checklist/Report form which is shown in Figure 2-3-1 at the end of this chapter. Emergency and abnormal scenarios which were conducted during the proving flights will be listed in item 4 of figure 2-3-1.

Figure 2-3-1. SAMPLE AIR OPERATOR PROVING FLIGHT REPORT

Department of Civil Aviation Malaysia

AIR OPERATOR PROVING FLIGHT REPORT

- 1. Airline.
- 2. Aircraft Type.

3. Flight Information

Dates	Route Segments (List 3-letter identifiers of origin and destination airports)	Flight Time	
		Day	Night

- 4. Emergency/Abnormal Scenarios. (attach list)
- 5. Results: " Satisfactory " Unsatisfactory
- 6. Remarks: (Continue on back if necessary)

Note:

Attach en route cockpit and cabin report forms and station facility inspection report forms if applicable, along with copy of letter to company advising whether flights were found to be satisfactory or unsatisfactory.

Inspector's Signature:

Name:

Date:

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Chapter 4. Emergency Evacuation Demonstrations

4.1 CATEGORIES OF EMERGENCY EVACUATION DEMONSTRATIONS.

There are two categories of emergency evacuation demonstrations: full-scale evacuation and partial evacuation.

4.1.1 *Full-scale Evacuation Demonstration.* The primary purpose of a full-scale evacuation demonstration is to ensure that the airplane design and seating configuration will permit the safe and complete evacuation of all passengers through 50 per cent of the installed emergency exits within a specified time frame. Adequacy of the crewmember complement and operational procedures and training is also evaluated.

4.1.2 A full-scale evacuation demonstration requires the use of an aircraft, parked on apron or in a hanger, with a complete complement of crew members (flight deck and cabin) and each passenger seat occupied by a "passenger" participant. The crewmembers are required to simulate an aborted takeoff followed by a situation which requires the immediate evacuation of the aircraft in 90 seconds or less.

4.1.3 Full scale demonstrations are usually conducted by the manufacturer for the State of manufacture during the type certification process. Subsequent full-scale evacuations are only required when an airline uses a seating capacity which is greater than what has previously been demonstrated. It is unlikely that the DCA will ever have to require an operator to perform a full-scale evacuation. Because a full-scale evacuation demonstration is a complex undertaking with an inherent risk of minor injury to the participants, in the event that a full-scale demonstration is required of a Malaysian operator, the DCA will obtain assistance from another State which is highly experienced in conducting such demonstrations.

4.1.4 *Partial Evacuation Demonstration.* For issuance of an AOC or variation to an AOC, the adequacy of an operator's training and procedures along with the proper functioning of emergency exits can be determined through a partial evacuation demonstration. In this demonstration, a full complement of crew members are required to carry out the procedures for an emergency evacuation, including opening 50 per cent of the emergency exits and successfully deploying the escape slides at those exits within a specified time frame. No passenger seats are occupied and no person is required to actually exit the airplane by means of an escape slide.

4.2 **PROCEDURES FOR PARTIAL EVACUATION DEMONSTRATION.** The following procedures will be followed in conducting a partial emergency evacuation demonstration:

- a. A planning meeting will be held with the operator well in advance of the demonstration in order to discuss the exact procedures to be followed and the criteria for a successful demonstration.

- b. The operator will provide for the demonstration an aircraft of the type, model, and cabin configuration for which approval is sought, along with a qualified and current cockpit crew and two complete compliments of cabin crew members. The purpose of requiring two complete compliments of cabin attendants is so that the DCA may select, immediately prior to the demonstration, the flight attendants who will actually participate in the demonstration. This is to lessen the possibility that the operator will provide extra training to those flight attendants which it knows in advance will participate in the demonstration, so that their performance will not be representative of the level of proficiency of all of the operator's cabin attendants.
- c. The demonstration will be conducted in darkness, either on an apron at night or in a hangar with the lights extinguished.
- d. During the steps leading to the commencement of the timing of the demonstration, the airplane's electrical system will be fully powered by either an external power unit or the APU.
- e. Crewmembers will simulate complete preparation for takeoff, including the execution of all checklists up to and including the takeoff checklist. Engine operation will be simulated. Cabin attendants will be seated at their normal stations for takeoff.
- f. The cockpit crew will simulate the commencement of the takeoff roll followed by a high-speed, aborted takeoff due to an engine fire or other appropriate simulated malfunction.
- g. The evacuation of the airplane will be signalled through the failure normal electrical power (by disconnecting the external power unit or APU). Interruption of normal power will be a clear signal to all involved that the timing of the demonstration has commenced. Outside, the aircraft's external lights (taxi lights, anti-collision lights, position and logo lights) will extinguish. Inside, normal cabin lighting will extinguish and all emergency exit lights and floor-level lighting (if installed) will illuminate if functioning properly.
- h. Immediately upon failure of the normal electrical system the flight attendants will be required to unbuckle their safety harnesses, leave their jump seats, ascertain which exits are usable, open the usable exits, and deploy the escape slides. In order for the demonstration to be successful, the total time which elapses from the interruption of electrical power until full deployment of all activated slides must not exceed 15 seconds. Slides are not considered fully deployed until they reach the ground and are inflated to a firmness which would safely support the egress of passengers.
- i. To monitor, time, and evaluate the demonstration, DCA personnel will be positioned in the cockpit and at each exit inside of the airplane and outside the airplane at each exit. The DCA inspector who is responsible for the timing of the demonstration will be positioned outside of the airplane with a stop watch. He will commence timing when the external lights of the aircraft are extinguished. After

precisely 15 seconds, he will call "time" to all participants and the demonstration will be considered complete. He will then confer with the DCA team members who were stationed at the exits both inside and outside of the airplane to confirm whether or not procedures were properly followed and that the slides were adequately deployed by the time 15 seconds elapsed.

j. Only 50 per cent of the exits will be used. The operator's personnel inside the airplane should not know in advance which exits will be used and which will be rendered unusable. One method for indicating to the cabin attendants immediately after the commencement of the demonstration which exits are unusable is to station DCA personnel with bright flashlights outside of those exits. When the exterior lights of the airplane are extinguished and the timing begins, those DCA personnel will shine their flashlights directly on the windows of the emergency exits which are to be considered inoperable, thus simulating a fire on that side of the airplane. In accordance with their procedures, cabin attendants must look through the window of an emergency exit to make sure that it is usable before opening it and deploying the escape slide for use by passengers. In this case, if the cabin attendant approaches an exit and observes a light shining on the window, he or she will consider it inoperative and choose an alternative exit to be opened.

4.3 **EVALUATION OF THE PARTIAL EVACUATION DEMONSTRATION.**

4.3.1 Specific points to be noted during the evacuation demonstration are:

- Adherence by flight and cabin crew members to the execution of assigned duties and responsibilities both in the aircraft and on the ground;
- Effectiveness of the pilot-in-command in the exercise of command responsibilities;
- Succession to command in event of casualties;
- Effectiveness of crew members in performing their assigned evacuation duties; and
- Shortcomings, deficiencies or delays encountered.

4.3.2 If the applicant cannot satisfactorily demonstrate emergency evacuation for each particular type, model and configuration of aircraft within 15 seconds, the applicant will be required to take steps to correct the deficiency which could include the following:

- Revising evacuation procedures;
- Improving crew training;
- Modifying or changing the equipment used;
- Changing the passenger compartment arrangement; and

- Reducing total passenger seating capacity.

4.4 **EMERGENCY EVACUATION DEMONSTRATION REPORT.** Figure 2-4-1, which follows, contains a sample of the report form which is to be used for documenting the demonstration.

Figure 2-4-1. SAMPLE EVACUATION DEMONSTRATION REPORT

Department of Civil Aviation Malaysia

AIR OPERATOR PARTIAL EMERGENCY EVACUATION

DEMONSTRATION REPORT

1. Name of operator:
2. Date/time of demonstration:
3. Aircraft type/model:
4. Number of installed seats:
5. Crewmember names: (List name and crew position of each participant)
6. Results: Satisfactory / Unsatisfactory
7. Remarks: (Include description of which exits were used and whether or not slides were deployed within 15 seconds of commencement of drill - continue on back if necessary.

Inspector's Signature:

Name:

Date:

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Chapter 5. Ditching Demonstrations

5.1 GENERAL.

5.1.1 A ditching demonstration is required during the operational inspection phase of the certification process for each aircraft type, model and configuration which will be operated on extended flights over water routes (on any route which passes more than 50 nautical miles from land). The purpose of the demonstration is to evaluate the operator's ability to safely prepare passengers, airplane, and ditching equipment for a planned water landing. Prior to conducting this demonstration the DCA should determine whether the aircraft has an airworthiness certification covering ditching. If the aircraft is not certificated for ditching, extended flights over water should not be authorised. During the demonstration, the following four areas are evaluated:

- Emergency training programme
- Ditching procedures
- Crewmember competency
- Equipment adequacy and reliability

5.1.2 Similar to the emergency evacuation, there are two types of ditching demonstrations which may be required: full-scale and partial. Since full-scale ditching demonstrations have been conducted by the manufacturer during the type certification process for most airplane types, it is likely that the DCA will only require a partial demonstration by an applicant for an AOC.

5.2 PARTIAL DITCHING DEMONSTRATION. The following procedures will be followed in conducting a partial ditching demonstration:

- a. The demonstration must be conducted during daylight hours or in a lighted hanger if conducted at night.
- b. All required crewmembers must be available and used.
- c. Passenger participants (company personnel other than crewmembers who are acting as "passengers") will be used only when the operator's procedures require passengers to assist in the removing and launching of life rafts. If used, passengers will not receive any instructions before the demonstration except what is contained in the operator's manual.
- d. To commence the demonstration, the crewmembers will simulate, in a parked airplane, a normal takeoff and climb to cruise flight. Engine start will be simulated and all checklists will be accomplished. Upon the DCA team leader's signal, the captain will order the crew to prepare for ditching. At that time, the team leader will commence timing for 6 minutes in order to give the crew time to prepare for a simulated water landing. After the simulated water landing, all life rafts must

be removed from storage. This action is not specifically timed; however, the crewmembers must demonstrate competency in removing the rafts from storage and the raft must be capable of being removed from the airplane for deployment in a reasonable period of time.

e. When the ditching signal is given, each evacuee must put on a life preserver in accordance with the operator's manual and the flight attendants' briefing.

f. Each liferaft must be removed from stowage for inspection.

g. One liferaft, selected by the DCA, will be inflated and launched and the evacuees assigned to that raft will get in it. The crewmembers assigned to the raft will locate and describe the use of each item of emergency equipment contained in the raft.

Note: For the purpose of the demonstration, "launching" a life raft means to remove it from stowage, manipulate it out of the airplane by means of stands or ramps, and position it on the ground before inflation. Launching a slide raft means to inflate it in the normal manner then lower it to the ground.

5.3 EVALUATION OF THE DITCHING DEMONSTRATION.

5.3.1 The following are specific points to be noted and evaluated during the ditching demonstration:

- A sufficient number of items of emergency equipment, i.e. life rafts, inflatable slides, life jackets, medical kits, first aid kits, emergency locator transmitter, etc., are carried on board;
- Emergency equipment is properly stowed and can be readily removed or ejected from the aircraft in the time specified;
- Means are provided and utilised to prevent emergency equipment from drifting away from survivors;
- Slides, life jackets and life rafts inflate fully within acceptable time limits and other emergency equipment functions properly, including proper deployment of inflatable slides;
- Selection of emergency exits to be utilised and that such exits can be opened readily;
- Emergency procedures and related checklists are adequate and are properly used by the crew members;
- The crew is properly trained;
- Crew members are familiar with and adhere to the timely execution of their assigned duties and responsibilities;

- Crew members, using available emergency equipment and following the procedures outlined in the operations manual, can facilitate the evacuation of the aircraft under those critical conditions expected during the short period of time the aircraft would remain afloat; and
- Adequate safety precautions are followed by the crew members to prevent possible injury to evacuees or themselves.

5.3.2 In assessing the effectiveness of the ditching demonstration the DCA inspector should record the following:

- Time from start of ditching until each exit door or emergency exit to be utilized is open;
- Time when each life raft is launched;
- Time required to inflate each life raft; and,
- Time when all life rafts are boarded.

5.3.3 Any deficiencies noted during the ditching demonstration regarding the evacuation procedures or related emergency equipment such as inflatable slides, emergency exits, life rafts, etc., must be rectified by the applicant. This may require additional demonstrations before these emergency procedures can be considered acceptable by the DCA.

5.4 **REPORTING PROCEDURES.** The form shown in figure 2-5-1 at the end of this chapter will be used for reporting ditching demonstrations.

Figure 2-5-1. SAMPLE DITCHING DEMONSTRATION REPORT

Department of Civil Aviation Malaysia

AIR OPERATOR PARTIAL DITCHING DEMONSTRATION REPORT

1. Name of operator:
2. Date/time of demonstration:
3. Aircraft type/model:
4. Crewmember names: (Attach list of name and crew position of each participant).
5. Times.
 - a. From start of demonstration until each exit door or emergency exit to be utilised is opened:
 - b. Time when raft is launched:
 - c. Time required to inflate raft:
6. Results: Satisfactory / Unsatisfactory
7. Remarks: (Continue on back if necessary)

Inspector's Signature:

Name:

Date:

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Chapter 6. Lease and Interchange Agreements between States

6.1 BACKGROUND.

6.1.1 ICAO specifies that the fundamental responsibility for the operation of an aircraft lies with the State of Registry. However, special conditions may arise as a result of aircraft leasing or interchange agreements between a Malaysian Operator and an operator or leasing company in another State. Unless suitable arrangements are made, complex legal, safety, and enforcement problems may be created for both the State of Registry and State of the Operator. It is therefore essential that agreement is reached on two key issues:

- a. Which State's regulations are to be applied and which State is responsible for the safe operation and airworthiness of the aircraft.
- b. Which operator (lessor or lessee) is responsible for the day to day operational control of the leased aircraft.

6.1.2 The two above issues are closely related because responsibility for the safe operation and airworthiness of an aircraft may be viewed from two directions: Responsibilities of the State of Registry under certain specific articles to the Chicago Convention; and the responsibilities (contained in Annex 6 Part 1) of the State who oversees the AOC of the operator which has operational control. In this regard, the following ICAO articles are especially relevant:

- **Article 12 - Rules of the Air.** Article 12 makes States responsible for ensuring that every aircraft carrying its nationality mark, wherever such aircraft may be, shall comply with the State's rules and regulations relating to the flight and manoeuvre of aircraft.
- **Articles 17, 18, 19 and 20 - Nationality of Aircraft.** These articles provide that aircraft have the nationality of the State in which they are registered; that an aircraft cannot be registered in more than one State, but its registration may be changed from one State to another; and that every aircraft engaged in international air navigation shall bear its appropriate nationality and registration marks.
- **Article 30 - Aircraft Radio Equipment.** Aircraft radios must be licensed by the State of Registry if they are to be carried in or over the territory of other Contracting States. The use of radio apparatus must be in accordance with the regulations of the State flown over. Radios can only be used by members of the flight crew licensed for that purpose by the State of Registry.

- **Article 31 - Certificates of Airworthiness.** Every aircraft engaged in international navigation must be provided with a certificate of airworthiness issued or rendered valid by the State of Registry.
- **Article 32 - Licences of Personnel.** The pilot and crew of aircraft engaged in international navigation must be provided with certificates of competency issued or rendered valid by the State of Registry. States can refuse to recognise, for the purpose of flight above their territory, certificates of competency and licences granted to any of its nationals by another Contracting State.

6.1.3 In addition to responsibilities which go with the nationality of an airplane, as enumerated in the preceding articles, States are required to approve and oversee all facets of their AOC holders' maintenance and flight operations in accordance with paragraph 4.2 of Part 1 to Annex 6. Depending upon the exact nature of a lease agreement, these responsibilities may mix and overlap between two States.

6.1.4 Article 83 of the Chicago convention, which will come into full force upon ratification by 98 contracting States, provides that in the case of lease, charter, or interchange operations, the State of Registry may enter into an agreement with the state to which the aircraft is leased to transfer all or part of its responsibilities under articles 12, 30, 31, and 32. Many developed countries have already ratified this article and are entering into such agreements as a means of resolving many regulatory oversight problems associated with lease agreements.

6.2 **DEFINITIONS.** For purpose of this section, the following definitions apply:

- 6.2.1 **Wet Lease:** The lease of aircraft with a full or partial flight crew.
- 6.2.2 **Dry Lease:** The lease of an aircraft without crew.

6.3 **SPECIFIC PROCEDURES REGARDING LEASES.**

6.3.1 When an applicant or holder of a Malaysian AOC wishes to use leased aircraft in the operation, the operator should provide the DCA with the following information:

- a. The aircraft type and serial number;
- b. The name and address of the registered owner;
- c. State of Registry and registration marks;
- d. Certificate of airworthiness and statement from the registered owner that the aircraft fully complies with the airworthiness requirements of the State of Registry;
- e. Name, address and signature of lessee or person responsible for operational control of the aircraft under the lease agreement, including a statement that such individual and the parties to the lease agreement fully understand their respective responsibilities under the application regulations;
- f. Copy of the lease agreement or description of lease provisions; and
- g. Duration of the lease.

6.3.2 After careful review and liaison as necessary with other competent authorities, the DCA will make the determination as to which party to the lease agreement is in fact responsible for conducting the operation. In making this determination the DCA must consider the responsibilities of the parties under the lease agreement for:

- a. Flight crew member certification and training;
- b. Crew member training;
- c. Airworthiness of the aircraft and performance of maintenance;
- d. Dispatch or flight following;
- e. Scheduling of flight crew and crew members; and
- f. Signing the maintenance release.

6.3.3 If the agreement is determined to be a wet lease, the lessor normally exercises operational control over the aircraft and the responsibility for the airworthiness and operational oversight of the airplane will remain with the State of Registry. If the agreement is in the nature of a dry lease, then responsibility for operational control will normally rest with the lessee, and it may be advantageous for the State of Registry to enter into agreement with the State of the operator to transfer or share various facets of operational and airworthiness oversight. However, leasing agreements are often very complex instruments wherein the line between wet and dry is blurred and arguments for which operator should exercise day to day operational control are not clear cut. For example, flight crews may be comprised of a mix of personnel from both the lessor and lessee.

6.3.4 Whatever the case, the DCA will firmly establish, through written agreements with the Civil Aviation Authority of the other State concerned with the transaction, which State will have responsibility for every facet of operational and airworthiness oversight of the leased aircraft. All responsibilities must be considered and assigned: those associated with the State of Registry, and those associated with the State which oversees the AOC of the airline which has operational control.

6.4 **DUE DILIGENCE AUDIT.** FOSIs assigned to conduct a due diligence audit shall refer to FOCN Notice No. 1 for guidance.

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Chapter 7. Required Manoeuvres and Performance Standards for Air Transport Pilot Certificate of Test

7.1 **GENERAL.** Flight crew proficiency check, henceforth identified as certificate of test (C of T), are required twice each year for an air transport pilot-in command and co-pilot/second-in command. This chapter describes the manoeuvres and procedures which must be performed by all pilots during C of T, along with performance standards for evaluating the performance of those manoeuvres and procedures. All manoeuvres and procedures must be performed in-flight in an airplane or in a DCA approved Level I or Level II flight simulator except as provided in 7.1.1. below.

Note: See ICAO Doc 9625 for definitions and qualifying criteria for Level I and Level II flight Simulators.

7.1.1 Certain manoeuvres and procedures may be performed in a DCA approved visual flight simulator other than Level I or Level II, in a non-visual simulator, or in a training device, if so indicated by one of the following symbols after the description of a manoeuvre or procedure in paragraph 7.2 below:

- (PV) Permitted in an approved visual simulator other than Level I or Level II
- (PN) Permitted in an approved non-visual simulator
- (PT) Permitted in an approved training device
- (RS) Required to be performed in simulated instrument conditions

7.1.2 Whenever a manoeuvre or procedure is authorised to be performed in a non visual simulator, it may also be performed in a visual simulator; when authorised in a training device, it may be performed in a visual or non visual simulator.

7.2 REQUIRED MANOEUVRES.

7.2.1 Throughout the manoeuvres prescribed in this paragraph, good judgement commensurate with a high level of safety must be demonstrated. In determining whether such judgement has been shown, the person conducting the check considers adherence to approved procedures, actions based on analysis of situations for which there is no prescribed procedure or recommended practice, and qualities of prudence and care in selecting a course of action.

7.2.2 The procedures and manoeuvres set forth in this chapter must be performed in a manner that satisfactorily demonstrates knowledge and skill with respect to:

- a. The airplane, its systems and components;
- b. Proper control of airspeed, configuration, direction, altitude, and attitude in accordance with procedures and limitations contained in the approved Airplane Flight Manual, the certificate holder's operations Manual, check lists, or other approved material appropriate to the airplane type; and,

- c. Compliance with approach, ATC, or other applicable procedures.

7.2.3 ***Pre-flight.***

a. Equipment examination (oral or written). As part of the practical test the equipment examination must be closely coordinated with, and related to, the flight manoeuvres portion but may not be given during the flight manoeuvres portion. The equipment examination must cover:

- Subjects requiring a practical knowledge of the airplane, its powerplants, systems, components, operational, and performance factors;
- Normal, abnormal, and emergency procedures, and the operations and limitations relating thereto; and,
- The appropriate provisions of the approved Airplane Flight Manual.

Note: The person conducting the check may accept, as equal to this equipment test, an equipment test given to the pilot in the certificate holder's ground school within the preceding 6 calendar months.

b. Pre-flight Inspection. The pilot must:

- Conduct an actual visual inspection of the exterior and interior of the airplane, locating each item and explaining briefly the purpose for inspecting it; and
- Demonstrate the use of the pre-start check list, appropriate control system checks, starting procedures, radio and electronic equipment checks, and the selection of proper navigation and communications radio facilities and frequencies prior to flight, (PT).

c. Taxiing. This manoeuvre includes taxiing (in the case of a second in command proficiency check to the extent practical from the second in command crew position), sailing, or docking procedures in compliance with instructions issued by the appropriate traffic control authority or by the person conducting the checks.

d. Powerplant checks. As appropriate to the airplane type. (PN).

7.2.4 ***Takeoff:***

a. Normal. One normal takeoff which, for the purpose of this manoeuvre, begins when the airplane is taxied into position on the runway to be used.

b. Instrument. One takeoff with instrument conditions simulated at or before reaching an altitude of 100 feet above the airport elevation. (RS) (PV).

c. Crosswind. One crosswind takeoff, if practicable, under the existing meteorological, airport, and traffic conditions.

Note: Requirements (a) and (c) may be combined, and requirements (a), (b), and (c) may be combined if (b) is performed inflight.

d. Powerplant failure. One takeoff with a simulated failure of the most critical powerplant. (PV):

- At a point after V1 and before V2 that in the judgement of the person conducting the check is appropriate to the airplane type under the prevailing conditions;
- At a point as close as possible after V1 when V1 and V2 or V2 and Vr are identical;

e. Rejected. A rejected takeoff may be performed in an airplane during a normal takeoff run after reaching a reasonable speed determined by giving due consideration to aircraft characteristics, runway length, surface conditions, wind direction and velocity, brake heat energy, and any other pertinent factors that may adversely affect safety or the airplane. (PV).

7.2.5 *Instrument Procedures.*

a. Area Departure and Area Arrival. During each of these manoeuvres the applicant must: (RS) (PN).

- Adhere to actual or simulated ATC clearances (including assigned radials); and
- Properly use available navigation facilities.

b. Holding. This manoeuvre includes entering, maintaining, and leaving holding patterns. It may be performed in connection with either area departure or area arrival. (RS) (PN).

c. ILS and other Instrument Approaches. There must be the following:

- At least one normal ILS approach. (RS) (PV).
- At least one manually controlled ILS approach with a simulated failure of one powerplant. The simulated failure should occur before initiating the final approach course and must continue to touchdown or through the missed approach procedure. (RS).

- At least one nonprecision approach procedure that is representative of the nonprecision approach procedures that the certificate holder is likely to use. (RS) (PV).
- Demonstration of at least one nonprecision approach procedure on a letdown aid other than the approach procedure performed immediately above that the certificate holder is approved to use. (RS) (PV).

Each instrument approach must be performed according to any procedures and limitations approved for the approach facility used. The instrument approach begins when the airplane is over the initial approach fix for the approach procedure being used (or turned over to the final approach controller in the case of CA approach) and ends when the airplane touches down on the runway or when transition to a missed approach configuration is completed. Instrument conditions need not be simulated below 100 feet above touchdown zone elevation.

d. Circling approaches. If the certificate holder is approved for circling minimums below 1000ft/3sm, at least one circling approach must be made under the following conditions: (PV).

- The portion of the approach to the authorised minimum circling approach altitude must be made under simulated instrument conditions. (RS).
- The approach must be made to the authorised minimum circling approach altitude followed by a change in heading and the necessary manoeuvring (by visual reference) to maintain a flight path that permits a normal landing on a runway at least 90 degrees from the final approach course of the simulated instrument portion of the approach.
- The circling approach must be performed without excessive manoeuvring, and without exceeding the normal operating limits of the airplane. The angle of bank should not exceed 30 degrees.

If local conditions beyond the control of the pilot prohibit the manoeuvre or prevent it from being performed as required, it may be waived. However, the manoeuvres may not be waived under this provision for two successive proficiency checks. The circling approach manoeuvres is not required for a second in command if the certificate holder's manual prohibits a second in command from performing a circling approach.

e. Missed approach.

- Each pilot must perform at least one missed approach from an ILS approach. (PV).

- Each pilot in command must perform at least one additional missed approach. (PV).

A complete approved missed approach procedure, to a holding fix or other point as required by ATC, must be accomplished at least once. At the discretion of the person conducting the check a simulated powerplant failure may be required during any of the missed approaches. These manoeuvres may be performed either independently or in conjunction with manoeuvres required under Sections III or V of this appendix. At least one missed approach must be performed in flight.

7.2.6 ***Inflight Manoeuvres.***

a. Steep turns. At least one steep turn in each direction must be performed. Each steep turn must involve a bank angle of 45 degrees with a heading change of at least 180 degrees but not more than 360 degrees. (RS) (PN).

b. Approaches to stalls. For the purpose of this manoeuvre the required approach to a stall is reached when there is a perceptible buffet or other response to the initial stall entry. Except as provided below there must be at least three approaches to stalls as follows: (RS) (PN).

- One must be in the takeoff configuration (except where the airplane uses only a zero flap takeoff configuration).
- One in a clean configuration.
- One in a landing configuration.

At the discretion of the person conducting the check, one approach to a stall must be performed in one of the above configurations while in a turn with the bank angle between 15 and 30 degrees.

If the certificate holder is authorised to dispatch or flight release the airplane with a stall warning device inoperative the device may not be used during this manoeuvre.

c. Specific flight characteristics. Recovery from specific flight characteristics that are peculiar to the airplane type. (PN).

d. Powerplant failures. In addition to specific requirements for manoeuvres with simulated powerplant failures, the person conducting the check may require a simulated powerplant failure at any time during the check. (PN).

7.2.7 ***Landings and Approaches to Landings.*** Notwithstanding the authorisations for combining manoeuvres, at least two actual landings (one to a full stop) must be accomplished. Landings and approaches to landings must include the following, but more than one type may be combined where appropriate:

- a. Normal landing. (RS).
- b. Landing in sequence from an ILS instrument approach. Except that if circumstances beyond the control of the pilot prevent an actual landing, the person conducting the check may accept an approach to a point where in his judgement a landing to a full stop could have been made. (RS).
- c. Crosswind landing. To conduct a crosswind landing, if practical under existing meteorological, airport, and traffic conditions. (RI).
- d. Maneuvering to a landing with simulated powerplant failure . This will be as follows:
 - In the case of 3 engine airplanes, manoeuvring to a landing with an approved procedure that approximates the loss of two powerplants (center and one outboard engine). (PV).
 - In the case of other multiengine airplanes, manoeuvring to a landing with a simulated failure of 50 percent of available powerplants, with the simulated loss of power on one side of the airplane. (PV).
- e. Landing from a circling approach. If the certificate holder is approved for circling minimums below 1000 - 3, a landing under simulated circling approach conditions. However, when performed in an airplane, if circumstances beyond the control of the pilot prevent a landing, the person conducting the check may accept an approach to a point where, in his judgement, a landing to a full stop could have been made. (PV).
- f. Rejected landing. A rejected landing, including a normal missed approach procedure, that is rejected approximately 50 feet over the runway and approximately over the runway threshold. This manoeuvre may be combined with instrument, circling, or missed approach procedures, but instrument conditions need not be simulated below 100 feet above the runway. (PV).

7.2.8 ***Normal and Abnormal Procedures.*** Each applicant must demonstrate the proper use of as many of the systems and devices listed below as the person conducting the check finds are necessary to determine that the person being checked has a practical knowledge of the use of the systems and devices appropriate to the airplane type:

- Anti-icing and deicing systems. (PN).
- Autopilot systems. (PN).
- Automatic or other approach aid systems. (PN).
- Stall warning devices, stall avoidance devices, and stability augmentation devices. (PN).
- Airborne radar devices. (PN).

- Any other systems, devices, or aids available. (PN).
- Hydraulic and electrical system failures and malfunctions. (PN).
- Landing gear and flap systems failure or malfunction. (PT).
- Failure of navigation or communications equipment. (PT).

7.2.9 ***Emergency Procedures.*** Each applicant must demonstrate the proper emergency procedures for as many of the emergency situations listed below as the person conducting the check finds are necessary to determine that the person being checked has an adequate knowledge of, and ability to perform, such procedure:

- Fire in flight. (PN).
- Smoke control. (PN).
- Rapid decompression. (PN).
- Emergency descent. (PN).
- Any other emergency procedures outlined in the appropriate approved Airplane Flight Manual. (PN).

7.3 **SPECIFIC GUIDANCE FOR THE CONDUCT OF PROFICIENCY CHECKS.** The information presented in this paragraph is intended to provide additional, detailed guidance for the manner in which proficiency checks must be conducted. To that end, specific techniques are discussed and the manoeuvres listed in paragraph 7.2 above are further explained and clarified.

7.3.1 ***Preparation and Surface Operations.*** Pilots shall be observed performing interior, exterior, and emergency equipment inspections and performing engine start, taxi, and powerplant checks in accordance with the operator's aircraft operating manual.

a. **Exterior Inspection.** The exterior inspection is not an extension of the oral phase in which systems knowledge is examined but rather a demonstration of an applicant's ability to perform appropriate safety checks. Inspectors and examiners shall limit questions to only those necessary for determining if an applicant can recognise when a component is in an unsafe condition. The exterior inspection may be conducted before or after the flight test at the inspector's or examiner's discretion.

b. **Cabin Inspection.** Pilots shall be evaluated on the ability to perform a cabin inspection when this inspection is specified as a pilot responsibility by the operator's aircraft operating manual. Inspectors and examiners should occasionally sample an pilot's knowledge of the location and use of emergency equipment in the cabin, and the operation of cabin doors, even when the cabin inspection is not designated as a flight crewmember responsibility.

c. **Cockpit Preflight Inspection.** A pilot shall be required to complete the cockpit preflight checks using the procedures specified in the operator's aircraft operating manual and using the appropriate checklists. The proper challenges and responses to the checklist must be used. When the flight test is conducted in a flight simulator, it is appropriate for the inspectors or examiners to present minor malfunctions to determine if the pilot is accurately performing the specified checks.

d. Engine Start Procedures. A pilot shall be required to perform an engine start using the correct procedures. When the flight test is conducted in a flight simulator, it is appropriate for inspectors and examiners to present an abnormal condition such as a hot-start or malfunctioning air or start valve. The abnormal condition should be carried through to the expected conclusion in line operations, for the purpose of evaluating crew coordination and the pilot's proficiency.

e. Taxiing or Sailing. Inspectors and examiners shall evaluate the pilot's ability to safely maneuver the airplane on the surface and to manage outside vigilance while accomplishing cockpit procedures. The pilot must ensure the taxi path is clear of obstructions, comply with local taxi rules and control tower instructions, make proper use of checklists, and maintain control of the crew and airplane.

f. Powerplant Checks. Powerplant checks must be accomplished in accordance with the appropriate checklist and procedures before takeoff. In a flight simulator, inspectors and examiners should present appropriate instrument or system malfunctions to determine if the pilot is accurately performing these checks.

7.3.2 ***Takeoff Events.*** A pilot shall be required to accomplish each of the following takeoff events. These events may be combined when convenient and practical.

a. Normal Takeoff. A normal takeoff is defined as a takeoff beginning from a standing or rolling start (not from a touch and go) with all engines operating normally during the takeoff and initial climb phase.

b. Instrument Takeoff. An instrument takeoff is defined as one in which instrument conditions are encountered or simulated at or before reaching an altitude of 100 feet above airport elevation. In a flight simulator, the visibility value should be set to the minimum authorized by the operator's operations specifications or for the runway in use. A pilot shall be evaluated on the ability to control the airplane, including making the transition to instruments as visual cues deteriorate. A pilot must also be evaluated on the planning of the transition to an instrument navigation environment. This event may be conveniently combined with an area departure.

c. Engine Failure On Takeoff (For Multiengine Airplanes). A pilot must demonstrate the ability to maintain control of the airplane and to continue a takeoff with the failure of the most critical powerplant. When the flight test is conducted in an airplane, the failure shall be simulated. The takeoff configuration, airspeeds, and operational procedures must be in accordance with the operator's aircraft operating

manual. When the flight test is conducted in two segments (simulator and airplane), this event shall be conducted in the simulator segment of the flight test. This event should not be repeated in the airplane portion of the flight test unless an unusual situation occurs. The engine failure shall be introduced at a speed after V1 and before V2, and appropriate to the airplane and the prevailing conditions. When either V1 and V2 or V1 and VR are identical, the failure shall be introduced as soon as possible after V1 is passed.

d. Rejected Takeoff. A rejected takeoff is a potentially hazardous situation that flightcrews must be trained to handle correctly. As a testing event it must be presented in a realistic and meaningful manner. The event is a test of a pilot's ability to correctly respond to a critical situation and to correctly manage the actions necessary for safeguarding the airplane and passengers once the airplane is brought to a stop.

- When a flight test is conducted in a flight simulator, performance parameters should be adjusted to make the takeoff critical. For example, the temperature and airplane weight can be adjusted so that takeoff performance is runway-limited. Another technique is to lower the visibility and make the runway wet, presenting the pilot with a tracking problem. Inspectors and examiners should take care in selecting the malfunction used to induce the reject response. The malfunction should be one that clearly and unequivocally requires rejection of the takeoff. The malfunction should be introduced at a speed which is as close to V1 as possible yet still allowing the pilot enough time to perceive and respond to the problem before reaching V1. It is appropriate for inspectors and examiners to occasionally introduce a problem in a way that leads to an evacuation of the aircraft. This event shall not be waived in a flight simulator.
- When a flight test is conducted in an airplane, a rejected takeoff at approximately V1 can be unsafe and can cause damage to the airplane. Inspectors and examiners are expected to use caution when inducing a rejected takeoff in an airplane for flight test purposes. For this event to be meaningful, it should be introduced at a speed close to V1. Therefore, inspectors and examiners are authorised to waive this event and should do so when the airplane weight, ambient temperature, and tire limits preclude the event from being conducted in a realistic manner.
- A pilot must be able to recognise the need to initiate a rejected takeoff, perform the correct procedures in a timely manner, and to bring the airplane to stop on the runway. Once the airplane or flight simulator is brought to a stop, appropriate procedures must be initiated. Consideration must be given to the possibility of overheated brakes and fire.

e. Crosswind Takeoffs. A crosswind takeoff from a standing or rolling start (not a touch and go) must be evaluated to the extent practical. When appropriate, a crosswind takeoff may be evaluated simultaneously with other types of takeoffs.

- When the flight test is conducted in an airplane, inspectors and examiners will usually have very little control over existing meteorological, airport, and traffic conditions. Inspectors and examiners are expected to make a reasonable attempt to evaluate a takeoff on a runway not favourably aligned with the prevailing

wind. It will frequently be necessary, however, to evaluate this event with the crosswind component that exists on the active runway.

- Flight simulators are capable of realistically duplicating crosswinds. Crosswind takeoffs shall be evaluated on all flight tests conducted in a flight simulator. The crosswind component entered in the simulator computer shall be between 10 and 15 knots. Occasionally, however, the crosswind components should be in excess of 15 knots, but must not exceed the crosswind component allowed by the operator's aircraft operating manual (or the maximum demonstrated value given in the AFM). The purpose of testing at such higher crosswind components is to determine whether pilots are being trained throughout the range of the flight envelope.

7.3.3 *Climb, Enroute, and Descent.*

a. Area Departures and Arrivals. The area departure and arrival events should include intercepting radials, tracking, and climbs or descents with restrictions. Whenever practical, a standard instrument departure or standard arrival should be used. Many of the standard procedures, however, are not suitable for the purpose of testing a pilot's abilities. For example, common radar departures are essentially initial climb instructions for a radar hand-off and provide little opportunity to test a pilot's ability to set up and use the navigation equipment normally used on an area departure. If a suitable published procedure is not available and circumstances allow, the inspector or examiner should give a clearance that presents the desired tests. Inspectors and examiners should allow pilots to use all installed equipment. The autopilot may or may not be used at the inspector's or examiner's discretion. The pilot's use of navigation equipment, and other crewmembers, and the pilot's ability to adhere to ATC clearances and restrictions shall be evaluated.

b. Holding. Inspectors and examiners should give holding clearances with adequate time available for the pilot to identify the holding fix, select the appropriate speed, and plan the entry. Pilots should be allowed the use of all aids normally available in the cockpit (such as wind drift readouts). At least the initial entry and one complete turn in the holding pattern should be completed before another clearance is issued. The pilot's performance shall be evaluated on the basis of compliance with the holding procedures outlined in the operator's aircraft operating manual, compliance with instructions issued by ATC, and the published holding pattern criteria. Holding airspeed must be as specified by the operator's aircraft

operating manual, however it must not be allowed to exceed the regulatory limit. If the operator's manual requires a speed higher than that allowed by regulation, the pilot must resolve the conflict by requesting an amended ATC clearance or by selecting an aircraft configuration in which it is safe to comply with the regulatory speed.

c. Steep Turns. This event consists of a level turn in each direction with a bank of 45 degrees, continuing for at least 180 degrees, but not more than 360 degrees. Airspeed, altitude, and bank angle must be controlled within the tolerances specified in paragraph 7.4 of this chapter. Inspectors and examiners shall direct special attention to a pilot's smoothness, coordination, and orientation.

d. Approaches to Stalls. Inspectors and examiners shall evaluate the pilot's ability to recognise and recover from an approach to a stall in three separate airplane configurations. The three configurations are the clean configuration, the takeoff configuration, and the landing configuration. When the airplane uses only a zero-flap takeoff configuration, the takeoff configuration and the clean configuration stall are combined and only two stalls are required. At least one stall must be performed while in a turn with a bank angle between 15 and 30 degrees.

- Approaches to stalls should be entered by increasing the angle of attack smoothly, so that the airspeed decreases at a uniform rate. The use of power during approach to and recovery from stalls should be as specified in the operator's aircraft operating manual.
- When stalls are performed in an airplane, the operator's minimum entry and recovery altitudes must be observed. When stalls are performed in a flight simulator or training device, the operator's minimum entry and recovery altitudes need not be observed and an altitude that is realistic from a performance standpoint and convenient (in terms of the sequence of events) may be used.
- When the flight test is conducted in a flight simulator or training device, inspectors and examiners shall occasionally require a pilot to recover from a high altitude stall. Evaluation of stalls in various flight regimes should be accomplished to determine whether the operator's training program has adequately prepared pilots for flight in those regimes.
- A pilot must recognise the first indication of the approaching stall and immediately initiate recovery with a minimal loss of altitude. An actual stall should not be allowed to develop. Procedures used must be in accordance with the operator's aircraft operating manual.

e. Specific Flight Characteristics. This event consists of recovery from flight characteristics specific to the airplane type, such as dutch-roll or a high rate of descent. Inspectors and examiners shall evaluate a pilot on recognition and

recovery from these specific flight characteristics, when applicable. The procedures used for recovery must be those specified in the operator's aircraft operating manual.

7.3.4 **Approaches.** The approaches described in this paragraph are required on all proficiency checks. They may be combined when appropriate.

a. ILS or MLS Approaches. Inspectors and examiners shall require pilots to fly a minimum of one normal (all engines operative) ILS or MLS. In addition, when multiengine airplanes are used, one manually- controlled ILS or MLS with a powerplant failure is also required. When the flight test is conducted as a two-segment flight test, a manually-controlled, normal ILS or MLS must be flown in the airplane segment of the flight test.

(1) When the operator's aircraft operating manual prohibits raw data approaches, the flight directors must be used during the manually-controlled ILS or MLS approaches. In this case, a raw data approach is not required to complete the flight test.

(2) If the operator's aircraft operating manual permits raw data ILS approaches to be conducted, the operator must provide training in the use of raw data for controlling an aircraft during ILS approaches. If the operator's aircraft are equipped with a flight director system, the flight director must be used on at least one manually-controlled ILS approach. While raw data approach is not required to complete a flight test, inspectors and examiners should occasionally require a raw data approach to determine whether the operator's training program is adequately preparing pilots.

(3) The pilot must be able to track the localizer and glideslope smoothly and without significant excursion during the final approach segment. For all raw data and flight director ILS or MLS approaches flown in a flight simulator or training device, inspectors and examiners shall require pilots to use a DH of 200 feet above the touchdown zone. The localizer and glideslope indication shall not exceed 1/4 scale deflection at DH. When the ILS indicator is calibrated with the first dot at the 1/2 scale deflection point and a second dot at the full-scale point, the deflection at DH must not exceed half the distance to the first dot. When raw data is used on ILS or MLS approaches in an airplane, inspectors and examiners shall require pilots to use a DH of 200 feet above the touchdown zone. When the flight director is used on ILS or MLS approaches in an airplane, inspectors and examiners shall require pilots to use a DH of 100 feet above the touchdown zone. However, if the pilot has accomplished an ILS using a 200 foot HAT in the simulator segment of the flight test, the published DH shall be used in the airplane portion of the test. The DH shall be determined by barometric altimeter. The localizer shall not exceed 1/4 scale deviation (1/2 dot) at decision height. The glideslope shall not exceed 1/2 scale deviation (one dot) at decision height. Inspectors and examiners shall inform pilots that this DH is for flight test purposes only and does not correlate to any minimums used in actual operations. If the flight test is being conducted in actual weather conditions, the DH shall be the published decision height.

(4) When the operator's airplanes are equipped with autopilot couplers, at least one coupled autopilot ILS or MLS approach must be flown. If the autopilot has the capability and the operator is authorised by operations

specifications to conduct automatic landings, the coupled approach shall terminate in either an autoland or a coupled missed approach. When an autoland is conducted, it shall not be credited as one of the three required manually-controlled landings. When the flight test is conducted entirely in an aircraft or entirely in a flight simulator, the autopilot coupled approach may be combined with the normal ILS (all-engines operative) approach. This combination is permitted because the pilot's ability to manually control an ILS approach is evaluated on the ILS with an engine out.

(5) Qualification check requirements for CAT II and CAT III operations, including the required number and types of approaches are established by the operator's approved training program. If a pilot is simultaneously qualifying for these authorisations during the proficiency check, the approaches discussed in subparagraphs (1),(2), and (3) may be credited toward these requirements when the approach requirements are compatible.

(6) Inspectors and examiners shall use a crosswind component of 8 to 10 knots (not to exceed 10 knots) on at least one of the ILS or MLS approaches conducted in a flight simulator. The use of this crosswind is to evaluate the pilot's ability to track the localizer and not his ability to accomplish a crosswind landing.

(7) When the flight test is conducted in a flight simulator or flight training device, the runway visual range should be set to the minimum value specified for the approach. If the inspector or examiner plans for the pilot to acquire the runway and to continue below DH, the ceiling should be set to a value not more than 50 feet above HAT (the exact value depending on the characteristics of the specific simulator). When the flight test is conducted in an airplane, the vision restriction device must remain in use until just before the airplane arrives at the DH used for the flight test.

(8) Flightcrew procedures, airplane configuration, and airspeeds must be as specified in the operator's aircraft operating manual. During each phase of the approach, the airspeed must not deviate from the target speed by more than the tolerances specified in paragraph 7.4 of this chapter. Turbojet airplanes must be stabilized before descending below 1,000 feet above the touchdown zone.

b. Nonprecision Approaches. Inspectors and examiners shall require pilots to demonstrate two nonprecision instrument approaches that are authorised in the operator's operations specifications. The second approach must be based on a different type of NAVAID than the first approach.

(1) Inspectors and examiners shall allow the pilot to use any aid normally available in the cockpit, such as the flight director and drift and ground speed readouts. Many operators train their pilots to perform nonprecision

approaches using the autopilot. While this training should be encouraged, at least one nonprecision approach must be manually flown on the flight test.

(2) When nonprecision approaches are conducted in a flight simulator, a crosswind component of 10 to 15 knots shall be used on at least one of the nonprecision approaches. The purpose of the crosswind component is to test a pilot's ability to track the approach course, not to evaluate crosswind landings. Crosswind landings, however, may be combined with a nonprecision approach.

(3) In an airplane, the vision restriction device shall remain in use until the airplane arrives at MDA and a distance from the runway approximating the required visibility for the approach. In a flight simulator or flight training device, inspectors and examiners shall enter a ceiling of not more than 50 feet higher than the published MDA. A visibility value of not more than 1/4 mile greater than the published minimums value shall be used, depending on the characteristics of the particular flight simulator or training device.

(4) Pilots must remain within 5 degrees of the approach course. The reason for this tolerance is terrain clearance. When tracking is accomplished by means of a bearing pointer only, the tolerance is + 5 degrees of the final approach course. When tracking a localizer signal, the tolerance is less than a full-scale deviation on the course deviation indicator. When tracking a VOR signal, the tolerance is a 1/2 scale deviation of the course deviation indicator. Also, at the visual descent point or its equivalent, the aircraft must be in a position that it can be aligned with the runway without excessive manoeuvring. Turbojet airplanes must be stabilised before descending below the MDA or 500 feet, whichever is lower.

c. Circling Approach Manoeuvres. Operators are not required to train flight crewmembers in circling approach manoeuvres, if the operator's manual prohibits such manoeuvres with a ceiling below 1000 feet and a visibility of less than 3 miles. Inspectors and examiners shall waive this event if the operator does not train flight crewmembers for the manoeuvre.

(1) For the purpose of flight testing, the visual manoeuvring portion of a circling manoeuvre begins at the circling MDA of a nonprecision approach and requires a change in heading from the final approach course to the runway heading of at least 90 degrees. The inspector or examiner, however, may use his authority to modify this event. For example, when traffic conditions preclude a circling approach, if tower approval is attained, the visual portion of the event can be entered from a modified VFR traffic pattern at a point downwind and abeam the touchdown point.

(2) The angle of bank for a circling manoeuvre should not exceed 30 degrees. Altitude and airspeed must not exceed the tolerances specified in

paragraph 7.4. The airplane must not descend below MDA until the runway environment is clearly visible to the pilot, and the airplane is in a position for a normal descent to the touchdown point. Turbojet airplanes must be stabilised in the landing configuration before descending below the MDA or 500 feet above touchdown zone elevation, whichever is lower.

d. Manoeuvre To a Landing With 50% of Powerplants Inoperative. Inspectors and examiners shall require a pilot to demonstrate an approach and landing with 50% of powerplants inoperative.

(1) Inspectors and examiners should introduce this event in a realistic manner. Consideration should be given to the airplane weight, atmospheric conditions, and airplane position. The airplane position, when the engine failure is introduced (second engine in a three- or four-engine airplane) should provide enough room for the pilot to manoeuvre the aircraft. In the simulator, the weight should be adjusted to simulate realistic conditions but still allow the pilot enough time to exercise judgement. In a three-engine airplane, this event must be performed with the center and an outboard engine failed. In a four-engine airplane, both powerplant failures must be on the same side.

(2) In two-engine airplanes, the engine-out ILS or MLS may be credited simultaneously with this event. In three- and four-engine aircraft, this event should be conducted in visual conditions. A visual pattern should be used rather than a vector to the final approach, so that the pilot's judgment with respect to manoeuvring the airplane can be evaluated. When this event is conducted in a flight simulator, the electronic glideslope or VASI shall not be made available for the pilot's use. In the airplane, it may not be possible to have the VASI's turned off. In daylight conditions, however, inspectors and examiners should request that the VASI be turned off. In an airplane at night, an electronic glideslope or VASI must be available and used.

Note: *An approach with a simulated failure of the most critical powerplant must always be performed in the airplane segment of a two-segment flight test. That event is required in the airplane segment, even when a manoeuvre and landing with 50% of powerplants inoperative has already been previously accomplished in a flight simulator.*

e. No-Flap or Partial-Flap Approach. Inspectors and examiners shall require a pilot to perform a no- flap approach in all airplanes except those airplanes which have alternate flap extension procedures and for which it has been determined that no-flap approaches are not required. If a no-flap approach is not required, a partial-flap approach will be accomplished. In this case, inspectors and examiners are only required to evaluate a pilot's demonstration of a partial-flap approach. However, inspectors and examiners may evaluate pilots conducting partial flap or no-flap approaches anytime procedures for such approaches are published in the operator's aircraft operating manual.

(1) For either a partial or no-flap approach, the limitations specified for the use of VASI and electronic glideslope guidance in the 50% engine failure manoeuvre (subparagraph D.(2)) apply. The approach shall be flown from a visual pattern from at least a downwind position, so that the pilot may be evaluated on planning for the approach. The approach should be presented in a realistic manner. In a flight simulator, inspectors and examiners shall adjust the landing weight to require a pilot to exercise judgment in matters such as approach speed and runway limitations.

(2) A touchdown from a no-flap or partial-flap approach is not required and shall not be attempted in an airplane. The approach must be flown to the point that the inspector or examiner can determine whether the landing would or would not occur in the touchdown zone. In a flight simulator, the landing must be completed to a full stop so that the pilot's ability to control the airplane and to use correct procedures may be evaluated.

Note: *The events required in subparagraphs D and E should be conducted in a flight simulator whenever practical. These events should not be repeated in the airplane segment of the flight test, unless an unusual situation occurs.*

f. Acceptable Performance for Approach Events. The airspeed and altitude on downwind and base leg, or on an intercept to final approach must be controlled within the tolerances specified in paragraph 7.4. The airspeed on final approach must be adjusted for wind and gusts in accordance with the operator's aircraft flight manual. The airspeed must be controlled at the adjusted value. The approach angle must be controlled and be appropriate to the airplane and approach being flown. If a windshear or a ground proximity warning should occur, a pilot must respond in a prompt and positive manner. For turbojets, the approach must be stabilised, the airplane in the landing configuration, with a sink rate of less than 1,000 FPM, not later than the following heights:

- For all straight-in instrument approaches, the approach must be stabilised before descending below 1,000 feet above the airport or touchdown zone.
- For visual approaches and landings, the approach shall be stabilised before descending below 500 feet above the airport elevation.
- For the final segment of a circling approach manoeuvre, the approach must be stabilised 500 feet above the airport elevation or, at the MDA, whichever is lower.

Note: *Use of the stabilised concept is mandatory for all turbojet aircraft operations. It is recommended for all propeller-driven aircraft and rotorcraft when conducting operations in IFR weather conditions.*

7.3.5 **Landing Events.** A total of three manually-controlled landings must be accomplished on all proficiency checks. When a two-segment, flight simulator and airplane

flight test is conducted, a minimum of three manually-controlled landings must be performed in the airplane. If the flight test is conducted in an amphibious airplane, one landing must be on water. The required events are as follows:

a. Normal Landings. A normal landing is defined as a manually-controlled landing in the normal landing configuration (as specified in the operator's aircraft operating manual), with normal power available, and without reference to an electronic glideslope. A normal landing can be accomplished from either a visual pattern or from a nonprecision approach.

b. Crosswind Landings. A manually-controlled landing with a crosswind must be accomplished on all flight tests. The crosswind landing may be combined with any other landing event.

(1) When the flight test is conducted in an airplane, inspectors and examiners usually have little control over existing meteorological, airport, and traffic conditions. As such, an inspector or examiner is expected to make a reasonable attempt to evaluate a landing on a runway not favourably aligned with the prevailing wind. It will frequently be necessary, however, to evaluate this event with the crosswind component currently existing on the active runway.

(2) Flight simulators are capable of realistically duplicating a crosswind for landing. Crosswind landings must be evaluated on all flight tests conducted in flight simulators. The crosswind component entered in the simulator computer shall be between 10 to 15 knots. Occasionally, however, the crosswind components should be in excess of 15 knots, but must not exceed the crosswind component allowed by the operator's aircraft operating manual (or the maximum demonstrated value given in the AFM). The purpose of testing at such higher crosswind components is to determine whether pilots are being trained throughout the range of the flight envelope. Crosswind landings should normally be performed from a VFR traffic pattern, but may be accomplished from a nonprecision approach.

c. Landing in Sequence from an ILS or MLS Approach. On the landing from an ILS or MLS approach, the runway environment should become

visible to the pilot as close as possible to the DH being used for the flight test. The pilot must complete the landing without excessive manoeuvring and within the touchdown zone. The approach angle must not be erratic, excessively steep, or shallow in the visual segment.

d. Rejected Landing. The rejected landing shall be initiated from a point approximately 50 feet above the runway. This event may be combined with an instrument missed approach.

e. Engine-Out Landing. One landing with the most critical powerplant inoperative must be evaluated. When a two-segment flight test is conducted,

this event must be performed in the airplane. When conducted in an airplane, the engine failure shall be simulated.

f. Landing with 50% of Powerplants Inoperative. A landing with 50% of powerplants inoperative must be evaluated. In a three-engine airplane, the event must be performed with the center and one outboard engine inoperative. In a four-engine airplane both powerplant failures must be on the same side. When this event is conducted in an airplane, the engine failures shall be simulated.

g. No-Flap or Partial-Flap Landings. No-flap or partial-flap landings are not required to complete the check. When the proficiency check is accomplished in an airplane in actual flight, a touchdown from a no-flap or partial-flap approach is not required and shall not be attempted. The approach must be flown to the point that the inspector or examiner can determine whether the landing would or would not occur in the touchdown zone. In a flight simulator, the landing should be completed to a full stop so that the pilot's abilities to control the aircraft and use correct procedures under abnormal circumstances may be evaluated. For example, the aircraft might have a pitch-up tendency with spoiler extension in the no-flap or partial-flap landing configuration.

h. Acceptable Performance for Landing Events. Landings must be in the touchdown zone, at the correct speed for the airplane, without excessive float, and on runway center line. The rate of descent at touchdown must be controlled to an acceptable rate for the airplane involved. Side load on the landing gear must not be excessive, and positive directional control must be maintained through the rollout. Management of spoilers and thrust reversers must be in accordance with the operator's aircraft operating manual.

7.3.6 Missed Approach Events. Missed approaches from two separate instrument approaches are required to complete the flight test. At least one missed approach must be flown through the entire missed approach procedure, unless traffic or ATC restrictions prevent completing the entire procedure. One missed approach is required from an ILS or MLS. When the flight test is conducted in a multiengine airplane that has a single-engine climb capability, one missed approach should be accomplished with the most critical powerplant inoperative. The engine-out and ILS or MLS missed approaches may be combined, however to complete the flight test, at least two missed approaches are required. When the flight test is a two-segment flight test, the engine-out missed approach should be accomplished in the simulator segment.

(1) A missed approach from an approach with 50% of powerplants inoperative is not required to complete the flight test for three- and four-engine airplanes. However, when procedures for 50% of powerplant-inoperative missed approaches are published in the operator's aircraft operating manual, inspectors and examiners may evaluate the event to determine if pilots are being trained to proficiency in the event. When this

event is conducted in a three-engine airplane, the center and one outboard engine must be inoperative. When this event is conducted in a four-engine airplane, two engines on the same side must be inoperative. When the missed approach event is conducted in an airplane, the engine failures shall be simulated.

(2) When a flight test is conducted in a flight simulator or flight training device, inspectors and examiners should make use of the "trouble buttons," as well as weather, to induce the missed approach decision. For example, many flight simulators have provisions to off-set the localizer so that the airplane is not in a position to continue the approach below DH.

(3) Pilots must promptly execute the missed approach procedure if the runway environment is not acquired at DH on an ILS or MLS approach. If the runway environment is not in sight on a nonprecision approach, or if the aircraft is not in a position to land at the missed approach point, the pilot must initiate a missed approach. Should conditions prevent continuation of any type of approach at any point, the pilot must initiate a missed approach. For example, a missed approach above DH might be required when an instrument failure flag appears. A missed approach is required if the aircraft is below DH or MDA and cannot be properly aligned with the runway or if the pilot loses sight of the runway environment. A pilot must adhere to the published missed approach or the instructions given by ATC and observe the procedures and limitations in the operator's aircraft operating manual. A pilot must properly use the available aids and other crewmembers when making the transition back to the instrument navigation environment.

7.3.7 Normal and Abnormal Procedures. Inspectors and examiners shall require a pilot to demonstrate the proper use of as many of the airplanes systems and devices as necessary to determine if the pilot has a practical knowledge of the use of these systems. Evaluation of normal and abnormal procedures can usually be accomplished in conjunction with other events and does not normally require a specific event to test the pilot's use of the airplane's systems and devices. A pilot's performance must be evaluated on the maintenance of aircraft control, the ability to recognize and analyze abnormal indications, and the ability to apply corrective procedures in a timely manner. Systems to be evaluated include, but are not limited to, the following:

- Anti-icing and deicing systems
- Autopilot systems
- Automatic or other approach system aids
- Stall warning devices, stall avoidance devices, and stability augmentation devices
- Airborne radar devices

- Any other available systems, devices, or aids (such as flight management systems)

7.3.8 ***Emergency Procedure Events.*** A pilot must be able to competently operate all installed emergency equipment and to correctly apply the procedures specified in the operator's aircraft operating manual.

a. Powerplant Failures. Inspectors and examiners may introduce malfunctions requiring an engine shutdown at any time during the flight test. This provision is not intended as authority to require an unrealistic number of failures, but to permit such failures at times when they are most appropriate. Powerplant failures should be limited to those necessary for determining a pilot's proficiency. A pilot must promptly identify the inoperative engine and initiate correct action while manoeuvring the airplane safely. If the airplane is not capable of maintaining altitude with an engine inoperative, the pilot is expected to maintain the best engine-out climb speed while descending. Smooth application of flight controls and proper trim are required.

b. Other Emergency Procedures. Inspectors and examiners should sample as many of the following events as necessary for determining whether a pilot is proficient in identifying and responding to emergency situations:

- Fire in flight
- Smoke control
- Rapid decompression
- Emergency descent (with and without structural damage)
- Hydraulic and electrical system failure or malfunctions (if safe and appropriate)
- Landing gear and flap systems failure or malfunctions
- Navigation or communications equipment failure
- Any other emergency procedures outlined in the operator's aircraft operating manual or training program

7.4 **STANDARDS OF ACCEPTABLE PERFORMANCE.** An air transport pilot must possess the highest degree of piloting skills, and must be the master of the airplane, the crew, and the situation throughout the aircraft's operational envelope.

Inspectors and examiners shall sample a pilot's ability to safely and practically operate the aircraft throughout the range of the approved operational envelope. The determination of whether a pilot's performance is acceptable or not is derived from the experience and judgement of the inspector or examiner. It is imperative that inspectors and examiners be fair and consistent when making these determinations. The airspeed, altitude, and heading standards which are listed below will be used in making their determinations. These standards must be applied with consideration for the prevailing conditions. Weather, aircraft responsiveness, traffic, and other factors beyond a pilot's control may cause the pilot to briefly deviate from a standard. For example, the airspeed tolerances for a final approach should be read as the tolerance allowed solely for control manipulation errors. In smooth air the pilot should be able to remain within these tolerances once stabilised on the approach. If atmospheric conditions are causing airspeed fluctuations, it may be physically impossible for the speed to be controlled within the tolerances specified. The pilot is expected to adhere to the procedures for adjusting the target speed as specified in the operator's aircraft operating manual. In such situations, a pilot who makes determined efforts, and is generally successful in remaining within prescribed standards, and who does not deviate to the extent safety is compromised, should be considered to have met the standards. The pilot's ability to remain within the prescribed standard limits, however, is not the only criteria for acceptable performance. The pilot's performance must be such that the inspector or examiner is never seriously in doubt of the successful outcome of each event of the flight test.

7.4.1 *Heading, Altitude, and Airspeed parameters other than during Approaches*
While manoeuvring in all flight regimes other than during approach and landing, the following standards will be observed:

- a. Heading: Within 10 degrees of assigned or intended heading.
- b. Altitude: Within 100 feet of assigned or intended altitude.
- c. Airspeed: Within 10 knots of assigned or intended airspeed.

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Chapter 8. Addition of a New Aircraft Type to a Certificated Operator's Fleet

8.1 **GENERAL.** The addition of a new aircraft type to a certificated operator's fleet requires many of the same inspections, reviews, demonstrations, authorisations, and approvals by the DCA as were required for the original issuance of an AOC. The operator may not commence revenue operations with the new aircraft type until all of the provisions of paragraphs 8.2 through 8.5 below are followed.

8.2 **DOCUMENT REVIEW.** At least 6 weeks prior to the proposed introduction of the new aircraft type to revenue operations, the operator must submit the following documents or their equivalents for review and approval as required:

- A revised or updated Flight Operations Manual (FOM) or Basic Operations Manual (BOM) which incorporates general information, guidance, and instructions pertaining to the new aircraft type, and reflects the current operating environment of the airline.
- An Aircraft Operating Manual (AOM/AFM) for the new aircraft type either developed specifically by the airline or adopted directly from the manufacturer, which contains information on aircraft systems, limitations, performance, and normal and abnormal operating procedures for the airplane.
- A Minimum Equipment List (MEL) for the new aircraft type which reflects the Master Minimum Equipment List approved by the state of manufacture, and is tailored to the specific airplane model and operating environment of the airline. This document requires signature approval by the DCA.
- A Configuration Deviation List for the new aircraft type which contains information regarding flight with missing aircraft components.
- All normal, abnormal, and emergency checklists for the new aircraft type, including abbreviated checklists for use in the cockpit. These checklists must be approved by DCA signature.
- Passenger briefing cards in English and other appropriate languages.
- A revised Flight Attendant Manual or other suitable reference for flight attendants concerning the configuration of the new aircraft type, location and operation of installed cabin equipment, and duties and responsibilities during normal and abnormal operations.
- Weight and balance information and procedures

- Airport Analysis charts or equivalent reference material for use by aircrew for determining maximum gross takeoff and landing weights for specific airports and runways; taking into account obstacle clearance, runway length and slope, aircraft configuration, and current meteorological conditions.
- Written training programs for cockpit and cabin crewmembers and flight dispatchers/flight operations officers.

8.3 **DEMONSTRATIONS.** The following demonstrations must be successfully completed by the operator for the new aircraft type:

- Emergency evacuation and ditching drills should be conducted to demonstrate the ability of the cabin crew to safely evacuate passengers and utilise aircraft emergency equipment.
- Prior to the first revenue flight, proving flights should be conducted which demonstrate the ability of the airline to safely operate the new aircraft type on a day to day basis. The airline should submit a proposed proving flight plan which contains the number of flights, dates, crew composition, and destinations.

8.4 **INSPECTIONS.** In addition to the manual inspections and approvals outlined in paragraph 8.2 above, the DCA must conduct the following inspections to ensure that the operator is fully prepared to operate the new aircraft type:

- Inspections of each transit or line station must be conducted to ensure that ground personnel are adequately trained to support the new aircraft type and that support equipment and facilities are adequate for the operation. Transit stations may be inspected during proving flights or as separate events prior to the first revenue flight.
- The Dispatch/Operational Control center should be inspected to ensure adequacy of flight planning, briefing, and record-keeping associated with the new aircraft type.

8.5 **OTHER.** All crewmembers must receive the full range of technical training before operations commence. All crewmembers should receive training on duties during emergencies and on operation of emergency equipment installed on the aircraft. Flight attendants should receive hands-on training in door operation and deployment of escape slides, if applicable. Training records for all crew members should be verified.

The maintenance programme for the new aircraft type must be submitted to and approved by the Airworthiness Division.

8.6 **REVISED OPERATIONS SPECIFICATIONS.** Applicable parts of the Operations Specifications must be amended as required to reflect the addition of the new aircraft type. Issuance of the revised Operations Specifications to the operator represents formal approval for the operator to commence revenue operations with the new aircraft type.

**FLIGHT OPERATIONS CHECKLIST FOR THE AOC APPROVAL ON INDUCTION
OF NEW AIRCRAFT** (AL No. 3 dated 20 Sep 2002)

Reference: FOSI Handbook Volume 2 Chapters 8.

Note: . The addition of a new aircraft type to a certificated operator's fleet requires many of the same inspections, reviews, demonstrations, authorisations, and approvals by the DCA as were required for the original issuance of an AOC. **The operator may not commence revenue operations with the new aircraft type until all of the provisions of the checklist below are followed.**

S/N	SUBJECT	REFERENCE AND SUMMARY OF REPORT
	<p>APPLICATION BY OPERATOR.</p> <p>Letter is sent to the Director General, who will in turn advise Transport, Airworthiness and Flight Operations.</p> <p>Coordination meeting between DCA and Operator is required.</p>	
1	<p>DOCUMENT REVIEW.</p> <p>At least 6 weeks prior to the proposed introduction of the new aircraft type to revenue operations, the operator must submit the following documents or their equivalents for review and approval as required:</p>	
	<p>a. A revised or updated Flight Operations Manual (FOM) or Basic Operations Manual (BOM) which incorporates general information, guidance, and instructions pertaining to the new aircraft type, and reflects the current operating environment of the airline.</p>	
	<p>b. An Aircraft Operating Manual (AOM/AFM) for the new aircraft type either developed specifically by the airline or adopted directly from the manufacturer, which contains information on aircraft systems, limitations, performance, and normal and abnormal operating procedures for the airplane.</p>	
	<p>c. A Minimum Equipment List (MEL) for the new aircraft type which reflects the Master Minimum Equipment List approved by the state of manufacture, and is tailored to the specific airplane model and operating environment of the airline. This document requires signature approval by the DCA. (AW)</p>	
	<p>d. A Configuration Deviation List for the new aircraft type which contains information regarding flight with missing aircraft components. (AW)</p>	

	e. All normal, abnormal, and emergency checklists for the new aircraft type , including abbreviated checklists for use in the cockpit.	
	f. Passenger briefing cards in English and other appropriate languages.	
	g. A revised Flight Attendant Manual or other suitable reference for flight attendants concerning the configuration of the new aircraft type, location and operation of installed cabin equipment, and duties and responsibilities during normal and abnormal operations.	
	h. Weight and balance information and procedures. (AW)	
	i. Airport Analysis charts or equivalent reference material for use by aircrew for determining maximum gross takeoff and landing weights for specific airports and runways; taking into account obstacle clearance, runway length and slope, aircraft configuration, and current meteorological conditions.	
	j. Written training programs for cockpit and cabin crewmembers and flight dispatchers/flight operations officers.	
2	DEMONSTRATIONS. The following demonstrations must be successfully completed by the operator for the new aircraft type:	
	a. Emergency evacuation and ditching drills should be conducted to demonstrate the ability of the cabin crew to safely evacuate passengers and utilise aircraft emergency equipment.	
	b. Prior to the first revenue flight, proving flights should be conducted which demonstrate the ability of the airline to safely operate the new aircraft type on a day to day basis. The airline should submit a proposed proving flight plan which contains the number of flights, dates, crew composition, and destinations.	
3	INSPECTIONS. In addition to the manual inspections and approvals outlined in paragraph 1 above, the DCA must conduct the following inspections to ensure that the operator is fully prepared to operate the new aircraft type:	
	a. Inspections of each transit or line station must be conducted to ensure that ground personnel are adequately trained to support the new aircraft type and that support equipment and facilities are adequate for the operation. Transit stations may be inspected during proving flights or as separate events prior to the first revenue flight.	

	b. The Dispatch/Operational Control center should be inspected to ensure adequacy of flight planning, briefing, and record-keeping associated with the new aircraft type.	
4	TRAINING.	
	a. All crewmembers must receive the full range of technical training before operations commence.	
	b. All crewmembers should receive training on duties during emergencies and on operation of emergency equipment installed on the aircraft.	
	c. Flight attendants should receive hands-on training in door operation and deployment of escape slides, if applicable.	
	d. Training records for all crew members should be verified.	
	e. Dangerous Goods Manuals and Training verified.	
	f. Security Manuals and Training verified.	
5	MAINTENANCE. The maintenance program for the new aircraft type must be submitted to and approved by the Airworthiness Division.	
6	SIMULATOR TRAINING.	
	a. Simulator is to be validated by DCA prior to training. Simulator specifications and existing approvals are to be submitted to DCA prior to evaluation visit. The evaluation, conducted in accordance with MCAR sub paragraph 41 (3) and AIC 3/2000, shall cover: QTG Inspection and Subjective and Functional Evaluation	
	b. Technical specifications and drawings showing differences between simulator and the actual aircraft to be submitted to DCA.	
	c. Simulator training curriculum to be reviewed by DCA.	
	d. Approval Certificate to be issued by DCA.	
7	GROUND TRG INSTRUCTORS, TRAINING CAPTAINS AND APPROVED EXAMINERS	
	a. List of names to be submitted.	
	b. Resumes to be submitted	
	c. Verification by local authority on the appointment, experience and qualifications.	
	d. Security vetting approval.	
	d. Head to submit to DCA at least 2 sets of technical questions and answers.	

	e. AE to be validated by DCA, if required	
8.	TYPE ENDORSEMENT FLIGHT TEST.	
	a. Additional airborne exercises to be conducted, after simulator training, need to be identified.	
	b. Draft Type Endorsement Flight Test Form to be submitted to DCA for approval.	
9	LICENCE VALIDATION FOR FOREIGN CREW.	
	a. Validation for ferry flight.	
	b. Validation for ops flights (C of T and IRT)	
	c. Security vetting of aircrews not covered under para 7.	
10	REVISED OPERATIONS SPECIFICATIONS. Applicable parts of the Operations Specifications must be amended as required to reflect the addition of the new aircraft type. Issuance of the revised Operations Specifications to the operator represents formal approval for the operator to commence revenue operations with the new aircraft type.	

Report Made By:

Signature:

Date:

Remarks by Director Flight Operations:

.....

Signature:

Date:

VOLUME 2. AIR OPERATOR ADMINISTRATION

Chapter 9. Approval of Crew Member and Dispatcher (Flight Operations Officer) Training Programs

9.1. BACKGROUND AND OBJECTIVES.

9.1.1 This chapter contains direction and guidance to be used by DCA personnel responsible for the evaluation, approval, and surveillance of commercial operator crewmember training programs.

9.1.2 An applicant for an Air Operator Certificate (AOC) is required to develop a training program for crewmembers and dispatchers. An existing operator may need to revise its training program when purchasing new equipment, operating in a new environment, obtaining new authorisations, or when new DCA requirements are specified. Each operator must obtain DCA approval of curriculum used for training crewmembers, instructors, check airmen, and aircraft dispatchers. The operator is responsible for ensuring that its training program is complete, current, and in compliance with DCA guidance. (Unless otherwise specified in this chapter, the term "operator" applies equally to an applicant for a certificate and an existing certificate holder).

9.1.3 A "modular" approach to training is emphasised in this chapter, and categories of training are defined which are based upon the circumstances for which training is required. Operators should be encouraged to modify existing training programs to conform to this modular approach and to submit new programs in conformance with this format. However, it is the policy of the DCA to encourage operators to be innovative and creative when developing training curriculum, methods and techniques. Other formats may be acceptable as long as all training requirements are met. Operations inspectors are responsible for ensuring that regulatory requirements are met and that the operator's crewmembers and dispatchers can competently perform their assigned duties before they are authorised to enter revenue service.

9.2 **DEFINITIONS.** The following terms are used throughout this chapter and are defined as follows:

- ***Training Program:*** A system of instruction which includes curriculum, facilities instructors, check airmen and examiners, courseware, instructional delivery methods, and testing and checking procedures. This system must satisfy the training program requirements of the DCA and ensure that each crewmember and dispatcher remains adequately trained for each aircraft, duty position, and kind of operation in which the person serves.
- ***Modular Training:*** The concept of program development in which logical subdivisions of training programs are developed, reviewed, approved, and

modified as individual units. Curriculum segments and modules may be used in multiple curriculum. The modular approach allows great flexibility in program development and reduces the administrative workload on both operators and instructors in the development and approval of these programs.

- ***Categories of Training:*** The classification of instructional programs by the requirement the training fulfills. Categories of training consist of one or more curriculum. The categories of training are initial new-hire, initial equipment, transition, upgrade, recurrent (periodic), and requalification.
- ***Curriculum:*** A complete training agenda specific to an aircraft type, a crewmember or dispatcher duty position, and a category of training. An example is an "initial new-hire, Boeing 737 first officer curriculum." Each curriculum consists of several curriculum segments.
- ***Curriculum Segment:*** The largest subdivision of a curriculum containing broadly related training subjects and activities based on regulatory requirements. Curriculum segments are logical subdivisions of a curriculum which can be separately evaluated and individually approved. Examples are a "ground training" segment and a "flight training" segment. Each curriculum segment consists of one or more training modules.
- ***Training Module:*** A subpart of a curriculum segment which constitutes a logical, self-contained unit. A module contains elements or events which relate to a specific subject. For example, a ground training curriculum segment could logically be divided into modules pertaining to aircraft systems (such as hydraulic, pneumatic, and electrical). As another example, a flight training curriculum segment is normally divided into flight periods, each of which is a separate module. A training module includes the outline, appropriate courseware, and the instructional delivery methods. It is usually, but not necessarily, completed in a single training session.
- ***Element:*** An integral part of a training, checking, or qualification module that is not task-oriented but subject-oriented. For example, an "electrical power" ground training module may include such elements as a DC power system, an AC power system, and circuit protection.
- ***Event:*** An integral part of a training, checking, or qualification module which is task-oriented and requires the use of a specific procedure or procedures. A training event provides a student an opportunity for instruction, demonstration, and/or practice using specific procedures. A checking or qualification event provides an

evaluator the opportunity to evaluate a student's ability to correctly accomplish a specific task without instruction or supervision.

- ***Checking and Qualification Module:*** An integral part of a qualification curriculum segment which contains checking and qualification requirements. For example, a qualification curriculum segment may, contain a proficiency check module, a LOFT module and an operating experience (qualification) module.
- ***Courseware:*** Instructional material developed for each curriculum. This is information in lesson plans, instructor guides, computer software programs, audio visual programs workbooks, aircraft operating manuals, and handouts. Courseware must accurately reflect curriculum requirements, be effectively organised, and properly integrate with instructional delivery methods.
- ***Instructional Delivery Methods:*** Methodology for conveying information to a student. For example, this may include lectures, demonstrations, audio visual presentations, programmed and directed self study workshops, and drills. Training devices, simulators, aircraft, and computer work stations are also considered instructional delivery methods.
- ***Testing and Checking:*** Methods for evaluating students as they demonstrate a required level of knowledge in a subject, and when appropriate apply the knowledge and skills learned in instructional situations to practical situations.
- ***Training Hours:*** The total amount of time necessary to complete the training required by a curriculum segment. This must provide an opportunity for instruction, demonstration, practice, and testing, as appropriate. This time must be specified in hours on the curriculum segment outline. A training hour includes time for normal breaks, usually 10 minutes each hour. Lunch breaks are not included.
- ***Programmed Hours:*** The hours specified for certain categories of training (initial new-hire, initial equipment, and recurrent). Programmed hours are specified in curriculum segment outlines in terms of training hours.
- ***Duty Position:*** The functional or operating position of a crewmember or aircraft dispatcher. Common duty positions are pilot-in-command (PIC), second-in-command (SIC), flight engineer (FE), flight attendant (FA), and aircraft dispatcher (AD).
- ***Training/Checking Month (Base Month):*** The calendar month during which a crewmember or aircraft dispatcher is due to receive required recurrent training, a required flight check, a required competency check, or required operating

familiarisation. Calendar month means the first day through the last day of a particular month.

- **Eligibility Period:** Three calendar months (the calendar month before the "training/checking month," the "training/checking month," and the calendar month after the "training/checking" month). During this period a crewmember or aircraft dispatcher must receive recurrent training, a flight check, or a competency check to remain in a qualified status. Training or checking completed during the eligibility period is considered to be completed during the "training/checking month" and is due in the "training/checking month" in the following year.
- **Initial Approval:** A DCA letter which conditionally authorises an operator to begin instruction to qualify personnel under a specific curriculum or curriculum segment pending an evaluation of training effectiveness. An initial approval letter must specify an expiration date for the conditional authorisation.
- **Final Approval:** A DCA letter, without an expiration date, which authorises an operator to continue training in accordance with a specific curriculum or curriculum segment.

9.3 TRAINING PROGRAMS:

9.3.1 Elements of a training program shall show the relationship between the total training program and the categories of training, curriculum, curriculum segments, and training modules. The applicant, if possible, shall illustrate the framework for the modular development of a training program. By using this "modular approach," the inspector has various strategies available for the evaluation of training effectiveness and for the planning of long-term surveillance.

9.3.2 The illustration by the applicant shall include several parts as follows:

- a. Part A depicts representative components which, when combined, constitute an operator's overall training program. These components differ in that some must be specifically approved by the DCA (for example, courseware and check airmen), while others are accepted as essential supporting elements (for example, facilities and equipment).
- b. Part B illustrates the six categories of training that are recognised by the DCA.
- c. Part C shows the curriculum which is a complete agenda of training specific to an aircraft type and crewmember.
- d. Part D shows a specific training module eg. simulator lesson number 4.

9.4 CATEGORIES OF TRAINING. There are six basic categories of training applicable to commercial operators. The primary factors which determine the appropriate category of training are the student's previous experience with the operator and previous duty position. Each category of training consists of one or more curriculum, each one of which is specific to an aircraft type and a duty position (for example: B-747 FE, B-747 SIC, and B-747 PIC). Training should be identified with and organised according to specific categories of training. When discussing training requirements, DOA inspectors should be specific regarding the category of training being discussed and use the nomenclature described in this manual. Inspectors should encourage operators to use this nomenclature when developing new training curriculum or revising existing training curriculum. Use of this common nomenclature improves standardisation and mutual understanding. The six categories of training are briefly discussed in the following subparagraphs:

9.4.1 *Initial New-Hire Training.* This training category is for personnel *who have not had previous experience* with the operator (newly-hired personnel). It also applies, however, to personnel employed by the operator who have not previously held a crewmember or dispatcher duty position with the operator. Initial new-hire training includes basic indoctrination training and training for a specific duty position and aircraft type. Except for a basic indoctrination curriculum segment, the regulatory requirements for "initial new-hire" and "initial equipment" training are the same. Since initial new-hire training is usually the employee's first exposure to specific company methods, systems, and procedures, it must be the most comprehensive of the six categories of training. For this reason, initial new-hire training is a distinct separate category of training and should not be confused with initial equipment training. As defined by this manual, initial equipment training is a separate category of training.

9.4.2 *Initial Equipment Training.* This category of training is for personnel who have been previously trained and qualified for a duty position by the operator (not new-hires) and who are:

- a. Being reassigned to any duty position on an airplane of a different group. As defined by this manual, Group I refers to reciprocating and turbo propeller powered aircraft and Group II refers to turbojet powered.
- b. Being reassigned to a different duty position on a different airplane type when the flight crewmember has not been previously trained and qualified by the operator for that duty position and airplane type.

9.4.3 *Transition Training.* This category of training is for an employee who has been previously trained and qualified for a specific duty position by the operator and who is being assigned to the same duty position on a different aircraft type. The different type aircraft must be in the same group. If it is not in the same group, initial equipment training is the applicable category of training.

9.4.4 **Upgrade Training.** This category of training is for an employee who has been previously trained and qualified as either SIC or FE by the operator and is being assigned as either PIC or SIC, respectively, to the same aircraft type for which the employee was previously trained and qualified.

9.4.5 **Recurrent Training.** This category of training is for an employee who has been trained and qualified by the operator, who will continue to serve in the same duty position and aircraft type, and who must receive recurring training and/or checking within an appropriate eligibility period to maintain currency.

9.4.6 **Requalification Training.** This category of training is for an employee who has been trained and qualified by the operator, but has become unqualified to serve in a particular duty position and/or aircraft due to not having received recurrent training and/or a required flight or competency check within the appropriate eligibility period. Requalification training is also applicable in the following situations:

- a. PIC's who are being reassigned as SIC's on the same aircraft type when seat-dependent training is required.
- b. PIC's and SIC's who are being reassigned as FE's on the same aircraft type, provided they were previously qualified as FE's on that aircraft type.

9.4.7 **Summary of Categories of Training.** The categories of training are summarised in general terms as follows:

- a. All personnel not previously employed by the operator must complete *initial new-hire training*.
- b. All personnel must complete *recurrent training* for the duty position and aircraft type for which they are currently assigned within the appropriate eligibility period.
- c. All personnel who have become unqualified for a duty position on an aircraft type with the operator must complete *requalification training* to reestablish qualification for that duty position and aircraft type.
- d. All personnel who are being assigned by the operator to a different duty position and/or aircraft type must complete either *initial equipment, transition, upgrade, or requalification training*, depending on the aircraft type and duty position for which they were previously qualified.

9.5 DESCRIPTION OF CURRICULUM SEGMENTS

9.5.1 **Basic Indoctrination.** The objective of basic indoctrination is to introduce the new-hire flight crewmember to the operator and its manner of conducting operations in air transformation. It acquaints the student with the operator's general policies and practices that relate to his or her specific position, but not to a specific aircraft type or configuration. General subject areas during basic indoctrination training may be divided into "operator specific" and "job function specific" training. Examples of *Operator Specific* training modules include duties and responsibilities of flight crewmembers (or cabin attendants ,etc.), appropriate provisions of the MCAR, contents of the operators operating specifications, company history, scope of operations, administrative procedures, rules of conduct, benefits, and contracts. Examples of *Job Specific* general knowledge training modules for flight crewmembers and dispatchers would include basic aircraft systems overview, weight and balance, aircraft performance, meteorology, navigation, airspace and ATC procedures. Job Specific training modules for Flight Attendants would include basic aircraft systems and functions, duties of flight attendants, overview of emergency equipment, etc.

9.5.2 **Aircraft Ground Training.** The primary objective of aircraft ground training is to provide crewmembers and dispatchers with the necessary knowledge for understanding the functions of aircraft systems specific to an aircraft type or configuration, the use of individual system components, the integration of aircraft systems, and operational procedures. Aircraft ground training may be conducted using many methods including classroom instruction, computer based instruction, flight training devices, flight simulators and static aircraft.

9.5.3 **Aircraft Flight Training.** Flight training means the conduct of training events in an aircraft, flight simulator, or flight training device. The primary objective of aircraft flight training is to provide flight crewmembers with the skill and knowledge necessary to perform to a desired standard. This skill and knowledge is acquired through demonstration, instruction, and practice of manoeuvres and procedures pertinent to a particular aircraft and crewmember duty position.

9.5.4 **Emergency Training.** Emergency training means the conduct of training events which impart knowledge and skill in reacting properly to emergency situations.

9.5.5 **Differences Training.** Differences training refers to training which is provided to acquaint crewmembers and dispatchers with differences in configuration, equipment, systems, and procedures between different versions aircraft of the same basic type of aircraft. For example, flight crewmembers and dispatchers may require training in different avionics installations, and cabin crew members may require training in different cabin configurations and installed emergency equipment.

9.6 TRAINING APPROVAL PROCESS.

9.6.1 Requests For Initial Approval.

a. The approval process begins when the operator submits its training proposal in writing, for initial approval, to the DCA. The operator is required to submit to the DCA an outline of each curriculum or curriculum segment and any additional relevant supporting information requested by the DCA. These outlines, any additional supporting information, and a letter must be submitted to the DCA. This letter should request DCA approval of the training curriculum. Two copies of each curriculum or curriculum segment outline should be forwarded along with the letter of request to the DCA.

b. Each operator must submit its own specific curriculum segment outlines appropriate for its type of aircraft and kinds of operations. These outlines may differ from one operator to another and from one category of training to another in terms of format, detail, and presentation. Each curriculum should be easy to revise and should contain a method for controlling revisions, such as a revision numbering system. Curriculum for different duty positions may be combined in one document, provided the positions are specifically identified and any differences in instruction are specified for each duty position. Each curriculum and curriculum segment outline must include the following information:

- Operator's name
- Type of aircraft
- Duty position
- Title of curriculum and/or curriculum segment including the category of training
- Consecutive page numbers
- Page revision control dates and revision numbers

c. Each curriculum and curriculum segment must also include the following items, as appropriate:

- Prerequisites prescribed by the MCAR or required by the operator for enrolment in the curriculum.
- Statements of objectives of the entire curriculum and a statement of the objective of each curriculum segment.

- A list of each training device, mock up, system trainer, procedures trainer, simulator, and other training aids which require DCA approval. The curriculum may contain references to other documents in which the approved devices, simulators, and aids, are listed.
- Descriptions or pictorial displays of normal, abnormal, and emergency manoeuvres and procedures which are intended for use in the curriculum, when appropriate. These descriptions or pictorial displays, when grouped together, are commonly referred to as the flight manoeuvres and procedures document. The operator may choose to present detailed descriptions and pictorial displays of flight manoeuvres and procedures in other manuals. For example, the flight manoeuvres and procedures document may be described in an aircraft operating manual. However, as a required part of the training curriculum, it must either be submitted as part of the curriculum or be appropriately referenced in the curriculum.)
- An outline of each training module within each curriculum segment. Each module should contain sufficient detail to ensure that the main features of the principal elements or events will be addressed during instruction.
- Training hours which will be applied to each curriculum segment and to the total curriculum.
- The checking and qualification modules of the qualification curriculum segment used to determine successful course completion.

9.6.2 Initial Review Of Requests For Approval. The assigned inspector must review the submitted training curriculum and supporting information for completeness, general content, and overall quality. A detailed examination of the documents is not required at this time. If after initial review, the submission appears to be complete and of acceptable quality, or if the deficiencies are immediately brought to the operator's attention and can be quickly resolved, the inspector may begin the in-depth review. If the submission is determined to be incomplete or obviously unacceptable, the approval process is terminated and the inspector must immediately return the documents with an explanation of the deficiencies. The documents must be immediately returned, so the operator will not erroneously assume the DCA is continuing the process to the next phase. The approval process can be resumed when the revised training curriculum or curriculum segment is resubmitted.

9.6.3 Training Curriculum Submitted With Air Operator Certificate Applications. An applicant for a certificate in the early stages of certification, may be unable to provide all information required for its training program. For example, the applicant may not yet know what training facilities or devices it intends to use. The lack of such information in the formal application does not necessarily mean that the training curriculum attachment must be returned.

There should be an understanding between the applicant and the inspector that such portions

are missing. The inspector may initiate the in-depth review without this type of information. Initial approval, however, of a curriculum segment must be withheld until all portions pertinent to the curriculum segment have been examined. For example, it may be appropriate to initially approve a ground training curriculum segment even though the simulator has not yet been evaluated and approved for flight training.

9.6.4 **In-Depth Review Of Submitted Curriculum.**

a. This phase is initiated when the DCA begins a detailed analysis and evaluation of a training curriculum or curriculum segment. The purpose of this phase is to determine the acceptability of training curriculum for initial approval. This phase ends either with the initial approval or with the rejection of all or part of the training curriculum.

b. Before granting initial approval for a specific curriculum or curriculum segment, the Inspector must ensure that the following evaluations are accomplished:

(1) A side-by-side examination of the curriculum outline with the appropriate regulations and with the direction provided in this manual must be performed. This examination is to ensure that training will be given in at least the required subjects and in-flight training manoeuvres. It should also ensure that appropriate training will be given on safe operating practices.

(2) An examination of the courseware developed or being developed by the operator must be performed. This review should include a sampling of available courseware such as lesson plans, audio visual programs, flight manoeuvres and procedures documents, and student handouts. The courseware must be consistent with each curriculum and curriculum segment outline. From this review, the inspector should be able to determine whether the operator is capable of developing and producing effective training courseware.

(3) An inspection of training facilities, training devices, and instructional aids (which will be used to support the training) must be performed if the Inspector is not familiar with the operator's training program capabilities.

(4) The training hours specified in each curriculum segment outline must be evaluated. An inspector should not attempt to measure the quality or sufficiency of training by the number of training hours alone. This can only be determined by direct observation of training and testing (or checking) in progress, or by examination of surveillance and investigation reports. The specified training hours must be realistic, however, in terms of the amount of time it will take to accomplish the training outlined in the curriculum segment so as to achieve the stated training objectives. During the examination of courseware, an inspector should note the times allotted by the operator

for each training module. These times should be realistic in terms of the complexity of the individual training modules. The number of training hours for any particular curriculum segment depends upon many factors. Some of the primary factors are as follows:

- The aircraft family in which the specific aircraft belongs
- Complexity of the specific aircraft
- Complexity of the type of operation
- Amount of detail that needs to be covered
- The experience and knowledge level of the students
- Efficiency and sophistication of the operator's entire training program (including items such as instructor proficiency, training aids, facilities, course ware, and the operator's experience with the aircraft)

c. If after completing these evaluations, the inspector determines that the curriculum or curriculum segment is satisfactory and adequately supported, and that the training hours are realistic, initial approval should be granted. Sometimes a portion of the submittal may appear to be satisfactory. However, if that portion is dependent upon another undeveloped portion or another unsatisfactory portion, initial approval must be withheld. For example, a PIC B-737400 initial equipment, flight training curriculum segment is satisfactory but related training modules within the initial equipment ground training curriculum segment are unsatisfactory. In such a case, it may be inappropriate to grant initial approval to the initial equipment slight training curriculum segment until the ground training curriculum segment is determined to be satisfactory.

9.6.5 Expiration Dates For Initial Approvals. When the Inspector determines that a training curriculum or curriculum segment should be initially approved, the Inspector must also determine an appropriate expiration date for the initial approval. The expiration date provides an incentive to the operator for refining all aspects of the program to assure that this regulatory requirement is met. The expiration date also provides the DCA with a time frame with which to plan evaluation activities for determining the effectiveness of the training. The expiration date assigned to an initially approved training curriculum must not exceed 24 months from the date of initial approval. The expiration date of initial approval may be reduced by the DCA if it is apparent that a 24-month time frame will unnecessarily delay final approval. The inspector should be aware that shortening the initial approval expiration date will commit him to completing the final approval phase within the shorter time period. The inspector may grant final approval any time before the expiration date. Except when unforeseen circumstances preclude an adequate evaluation of training effectiveness, an extension to the initial approval expiration date should not be permitted. A new expiration date, however, may be established for a curriculum segment when there are significant revisions to an initially-approved curriculum segment.

9.6.6 **Method of Granting Initial Approval.**

a. Initial approval is granted by letter. The initial approval letter must include at least the following information:

- Specific identification of the curriculum and/or curriculum segments initially approved, including page numbers and revision control dates.
- A statement that initial approval is granted, including the effective and expiration dates.
- Any specific conditions affecting the initial approval, if applicable.
- A request for advance notice of training schedules so that training may be evaluated.

b. An initial approval letter serves as the primary record of curriculum or curriculum segment pages that are currently approved and effective may agree to use the method to account for revisions to training documents. If this method is used, the stamp must clearly indicate initial approval and the expiration date. Other acceptable methods include a list of effective curriculum or curriculum segment pages, or pages with a pre printed signature and date blocks.

c. The original pages of the curriculum or curriculum segment shall be returned to the operator with the transmittal letter. These documents should be retained by the operator as an official record. A copy of the training curriculum or curriculum segment, with a copy of the transmittal letter granting initial approval attached, shall be maintained on file at the DCA, along with all additional, relevant supporting information.

9.6.7 Method Of Denying Initial Approval. If the Inspector determines that initial approval of a proposed training curriculum or curriculum segment must be denied, the operator shall be notified in writing of the reasons for denial. This letter must contain an identification of the deficient areas of the training curriculum and a statement that initial approval is denied. It is not necessary that each minor deficiency which resulted in the denial be identified, however the major deficiencies should be outlined in the letter. It is the operator's responsibility to redevelop or correct the deficient area before resubmission to the DCA. A copy of the denial letter and a copy of the proposed training curriculum or curriculum segment shall be kept on file in the DCA Flight Operations.

9.6.8 Evaluating Initially Approved Training Curriculum. A. The final portion of the approval process begins when the operator starts training under the initially approved curriculum. This phase should provide the operator with adequate time to test the program and

the flexibility to adjust the program during DCA evaluation. The inspector must require an operator to provide ongoing schedules of all training and checking to be accomplished under an initially-approved training curriculum. Whenever possible, the first session of training conducted under initial approval should be monitored by a qualified operations inspector. DCA inspector does not need to observe every training session. A sufficient sampling of the training sessions, however, should be observed as a basis for a realistic evaluation. Inspectors qualified in the type aircraft, and other individuals knowledgeable of the curriculum subject matter, should assist in evaluating the training. During training under initial approval, the operator is expected to evaluate and appropriately adjust training methods as needed. Often adjustments can be made by changing courseware and instructional delivery without (or with only minor) revisions to the initially-approved curriculum. Conversely, it may be necessary for the operator to substantially change the curriculum which may require another initial approval action by the DCA before the changes can be put into effect. Sometimes proposed revisions may be transmitted to the DCA just before the initial approval expiration date. If the change is significant, the DCA may need to establish a different expiration date for the curriculum segment, or for the revised portions, to allow adequate time for a proper evaluation.

9.6.9 Elements Available For Evaluating Training. The Inspector must develop a plan for systematically evaluating training given under the initially approved training curriculum. This plan should remain in effect throughout the initial approval period. There are five elements which can be evaluated when assessing the overall effectiveness of training programs. These five elements are: curriculum segment outlines, courseware, instructional delivery methods and training environment, testing and checking, and surveillance and investigation of operator activities. These elements are interrelated, however, each can be separately evaluated.

a. Before evaluating a training program, an inspector must become familiar with the contents of the curriculum or curriculum segments to be evaluated. This preparation is essential if an inspector is to determine whether an operator has developed an effective course of instruction from its initially approved training curriculum.

b. Direct examination of courseware includes reviewing materials such as lesson plans, workbooks, or flight instructor guides. The inspector must determine whether the courseware is consistent with the curriculum or curriculum segment and that it has been organised to facilitate effective instructional delivery. Courseware is usually the training program element which is most adaptable to revision or refinement. Inspectors must review at least sampling of the courseware.

c. Direct observation of instructional delivery includes surveillance of training methods, such as instructor lectures, computer-based instruction presentations, and in-flight instruction. Effective learning can only occur when an instructor is organised, prepared, and properly uses the courseware and various training aids. The inspector

must determine that the instructional delivery is consistent with the courseware. For example, the inspector should not whether the instructor teaches the topics specified in the lesson plan. Training aids and devices should function as intended during the instructional delivery. In addition, during training, the inspector should be sensitive to the type of questions being asked by students and should identify the reasons for any excessive repetition. These conditions may indicate ineffective instructional delivery or courseware. The inspector must also determine if the instructional environment is conducive to learning. Distractions which adversely affect instructional delivery, such as excessive temperatures, extraneous noises, poor lighting, cramped classrooms or work spaces, are deficiencies because they interfere with learning.

d. Direct observation of testing and checking is an effective method for determining whether learning has occurred. Examining the results of tests, such as oral or written tests or flight checks, provides a quantifiable method for measuring training effectiveness. The Inspector must examine and determine the causal factors of significant failure trends.

e. Direct observation of training and checking in progress is an effective method of evaluating training. Sometimes the opportunity for direct observation, however, will be limited. In such cases, the Inspector will have to rely more on his evaluation of other sources of information such as reports of surveillance and investigations. Results of inspection reports, incident or accident reports, enforcement actions, and other relevant information about the operator's performance should be reviewed by the Inspector for indications of training effectiveness. The Inspector must establish methods to evaluate these sources of information for trends which may develop while training is being conducted under initial approval. For example, repeated reports of deficiencies such as excessive taxi speed, navigation deviations, incomplete briefings, or incorrect use of the checklists, may be traceable to a lack of specific training or ineffective training. Such information may provide indications that revisions or refinements are needed for a curriculum segment and/or training modules.

9.6.10 Method For Granting Final Approval. This phase involves the granting of final approval of an operator's training curriculum. Based on the results of the evaluation, the DCA must determine whether to grant or deny final approval of a training curriculum. This determination must be made before the expiration date of the initial approval. If the DCA decides that final approval should be granted, the following procedures apply:

a. The original and a copy of each page of the training curriculum and/or curriculum segment shall be stamped for approval, dated, and signed by the Inspector.

b. The original stamped curriculum or curriculum segment must be transmitted to the operator with an approval letter signed by the DCA. This letter must specifically identify the curriculum or curriculum segment; contain a statement that final approval is granted; and provide the effective date of approval. This letter must also state that

final approval shall remain in effect until otherwise notified by the DCA that a revision is necessary provided the operator continues to train in accordance with the approved curriculum.

9.6.11 Revisions To Training Curriculum.

a. To incorporate significant revisions into a training curriculum with final approval usually requires the full training approval process. Revisions to initially approved training curriculum will normally be processed as described in paragraphs in the paragraphs 9.6.1 to 9.6.10. . Final approval, however, may be directly granted to a proposed revision, if the revision involves any of the following situations:

- Correction to administrative errors such as typographical or printing errors.
- A reorganisation of training, or any changes in the sequence of training that does not affect the quality or quantity of training.
- An improvement to the quality, or an increase in the quantity, of training.

b. Other proposed revisions, including any proposal to reduce the approved number of training hours, are subject to the training program approval process. Although each step in the process must be completed, the process may be abbreviated in proportion to the complexity and extent of the proposal. There are many factors that could require revisions to training curriculum. Such factors include the following:

- The effects and inter relationships of changes in the kind of operations.
- The size and complexity of an operation.
- The type of aircraft being used.
- Any special authorisations through operations specifications.
- A revised MEL
- Any exemptions or deviations

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Chapter 10

Pre & Post Surveillance Procedures

10.1 OBJECTIVE OF PRE & POST SURVEILLANCE PROCEDURES. This chapter provides guidance for FOSI to ensure smooth administrative arrangement on the conduct of any planned programme or random inspections

10.2 PRE-INSPECTION PROCEDURES.

10.2.1 All FOSIs assigned for an inspection abroad, are required to submit the following documents for approval at least 30 days prior to the inspection date:

- a. Lampiran A (Approval for going abroad to MOT)
- b. Memo requesting approval for all expenses incurred.
- c. Visa application to respective Embassy (if required).

Note: For Inspections to the United States, visa application shall be submitted at least 3 months prior to inspection dates. For Canada, notification for entry into this country requires at least 3 months notice.

This request is to be submitted through the Director of Flight Operations (DFO) for subsequent action by Administrative and Finance Division. FOSIs who are involved in domestic inspections are not required to adhere to these procedures (para 10.2.1, a,b,c) above.

Any changes to the inspection dates due to unforeseen circumstances shall be notified to the Head of Surveillance at least 14 days prior to the inspection date for DFO approval to facilitate arrangements for air passage and hotel accommodation.

10.2.1 Inspection folder and the notebook computer and digital camera (if required) can be collected from Head of Surveillance (HSU) and Head of AOC respectively, at least 7 days before an inspection commences. The inspection folder shall consist of the following:

- a. All relevant inspection checklists and computer diskette containing standard report format.
- b. FOSI Handbook's write up on the inspection involved.
- c. Summary of previous inspection reports.
- d. Administrative and finance approval.
- e. Memorandum – Instructions to FOSI inclusive of programme itinerary.

A FOSI may be accompanied by the designated inspectors from the Operator. These designated inspectors (technical and/or cabin) normally consist of those type rated on the aircraft for which the inspection is to be made. The FOSI is, nevertheless, the team leader and before leaving for an inspection, FOSI is required to brief his team members on inspection areas, all technical, administrative and finance matters.

10.3 POST INSPECTION PROCEDURES.

10.3.1 Upon completion of an inspection, the FOSI is required to carry out a verbal briefing of the audit findings, highlighting on observations, safety issues or any breach of regulation to the Station Head/Manager/Officers and the respective Head of Department being audited.

10.3.2 On returning to the DCA Flight Operations office, FOSI shall submit the inspection report/s to HSU using standard report format (printed form and diskette) for verification within **7 working days**. FOSI is also required to brief the respective desk officers and HSU on all safety issue/s raised in the inspection report/s.

10.3.3 Pertinent items raised in this report/s shall be submitted to the Operators/Airport Operators/Authorities concerned by HSU/desk Officer and copied to the respective Inspector/s. The Operators/Airport Operators/Authorities shall be given 7/14/30 days to reply to the Department on resolution/s or proposed action plan taken. The respective desk officer/s shall monitor and coordinate with HSU on the feedback progress from the Operators/Airport Operators/Authorities.

10.3.4 A notice of re-inspection will be issued by HSU subject to DFO approval if required to the operator through the respective desk officers.

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Chapter 11. DECISION TO TAKE ACTION TO ENFORCE REGULATIONS

11.1 General. This chapter provides interim guidance for the DCA specifying the methodology by which the Director General Civil Aviation Malaysia will issue the written Provisional Decision to Take Action To Enforce Regulations notification to an individual or organization that has contravened the Malaysian Civil Aviation Regulations.

11.2 Policy Statement. The Director General Civil Aviation Malaysia will issue a written Decision to Take Action and Enforce Regulations for each EIR report that recommends a monetary penalty, suspension or revocation action. All of these Decision shall be considered "provisional" and shall be subject to an appeal by the individual or organization.

11.3 Reference Documents.

- Malaysian Civil Aviation Regulations 1996 Regulations 185 and Regulation 187.
- The document templates provided in the computer file: shared/templates/R&E documents and forms [WORD].
- The EIR issued for this particular enforcement decision.
- Example decisions included as appendices to this chapter.

11.4 General Formatting of the Decision Document.

- The letter font/pitch will be Times New Roman and pitch unless otherwise noted here.
- The title "Provisional Decision" will be centered in the page, 2 line spaces below the letterhead. This title will be all caps in the Arial font, 18 pitch and bold.
- One line space immediately below the title will be the words "TO ENFORCE REGULATIONS" in all-caps, Arial font, 12 pitch and bold.
- The date will then be inserted two lines spaces down, left justified, Arial font, 10 pitch.
- The addressee and address will be inserted two lines spaces down from the address, left justified.
- The file reference will be inserted two lines spaces down from the address, left justified, bold and underlined.
- The next headings will be all-caps, bold, with one line space above and below separating it from other text.
- The paragraph text will be normal text.
- The signature block, 2 lines spaces below the last text, will contain the italicized opening phrase "Issued by the [Authority]."
- The name of the signing official will be 3 line spaces below the "issued by" phrase.
- The title of the signing official will appear 1 line space below type name.
- References to attachments will begin 2 line spaces below the type title of the official.

- Distribution information will begin 2 lines spaces below the last attachment references.
- Each page and the total number of pages will be inserted as a footer, left justified, Times Roman Font, 12 pitch.

11.5 File Reference Entry. The file reference will contain the word "File" followed by the assigned enforcement file protocol number, separated by a space, hyphen, space from the remainder of this entry. The remainder will be a summary phrase of the proposed action. If it is a suspension of a specific certificate or license, the number of that document will be the final entry.

11.6 Contents of the Decision. The provisional decision to enforce the regulations will be issued in a standardized format with the following headings:

- The Decision
- The Pertinent Facts
- The Safety Regulations Contravened
- The Determination of Monetary Penalties (for monetary decisions only)
- The [Authority] Analysis and Summary.
- Filing an appeal

11.7 Writing " The Decision " Paragraphs.

- Paragraph 1, sentence1 will state the decision of the Inspectorate:
 - If the decision is for suspension of certificate or license, the period of suspension will be stated in sentence 1.
 - If the decision proposed a monetary penalty less than the maximum that could be assessed to resolve the non-conformance, sentence 2 will state the maximum amount of penalty that could be assessed.
 - If the decision is emergency suspension, this paragraph will conform to the guidance of 14.5.
- Paragraph 2 should follow the standard format and wording provided in the TEMPLATE. The only required entry will be the insertion of the date, dates or period of time that the non-conformance as listed in Enforcement Investigation Report into sentence 1.
- Paragraph 3 should follow the standard format and wording. The only required entry will be the insertion of the date that the provisional decision will become effective.

11.8 Writing " The Pertinent Facts " Paragraphs.

- Paragraph 1, sentence 1 should follow the standard format of the template.
- Subsequent statements of fact will be taken directly from the EIR with little or no change.
- As much as possible, the facts should be listed as one-line sentences with 1 line space separation.
- It is not necessary to list all facts including in the EIR, just those that summarize the circumstances surrounding the basis for the decision.

- It is important to present the facts starting with the specifics of the certificates or licences held by the person or organization to which the decision is addressed.
- Then those facts that occurred on the date(s) pertinent to the non-conformance will be sequenced chronologically or in syllogism logic.

11.9 Writing " The Safety Regulations Contravened" Paragraphs.

- Paragraph 1, sentences 1 should follow the standard format of the template.
- The subsequent paragraphs should be numbered, with 1 line space between each paragraph.
- Each paragraph will cite a single, specific type of non-conformance. If the specific non-conformance happened on more than one flight, that fact should be included as a second sentence.
- Where a specific regulation may have multiple subjects, each subject of non-conformance will listed as a separate contravention paragraph.
- The beginning of each paragraph should cite the applicable civil aviation regulation and, where appropriate. Schedule paragraph reference by number and sub-paragraph numbers or letters exactly as they appear in the regulation, followed by the phrase "in that".
- The remainder of the sentences should paraphrase the regulation, inserting the first person reference, "you" (individual) or, in the case of an organization, the general name of the organization.

11.10 Writing " The Determination of Monetary Penalty " Paragraphs.

- Paragraph 1, sentence 1 should follow the standard format of the template, with the only exception being the insertion of the maximum total amount of monetary penalty that could be assessed.
- The paragraphs will be arranged in the numerical sequence by regulation and sub-paragraph or Schedule.
- Each contravened regulations will be listed as a separate paragraph, followed by a space/equal sign/space.
- The maximum possible penalty associated with that regulation and offense for one operation should be listed, followed by a summary phrase of the offense.
- If that offense occurred on more than one flight, maximum total penalty for that offense on each of those flights will be totaled and include in brackets with the total flights, e.g [\$6000 for 2 operations]

11.11 Writing the " Summary " Paragraphs.

This section will contain paragraphs with standard phraseology regarding the issuance of the enforcement penalty. The wording of the templates should be followed, inserting the regulation numbers, suspension periods or monetary penalty information.

11.12 Writing the "Filling An Appeal" Paragraph.

The wording of this paragraph will follow the recommended template verbatim.

11.13 Referencing of Copy Distribution

The distribution of the copies leaving the [Authority] offices will be noted on the decision by the letters "cc:" followed by the distribution. This document should not receive wide distribution. It is recommended that the addressee receive a single copy. If the addressee is an individual using their license in work with an operator, the accountable manager of that organization will be given a copy.

11.14 Inclusion and Referencing of Attachments.

There are two standard attachments to the decisions. These attachments were developed to allow the addressee to indicate the avenue of resolution or appeal that they had selected. There is one for monetary penalty resolution and one for all other resolutions. The specific attachment included with the decision will be cited by FSI form number as an attachment.

11.15 Delivery of the Decision.

The decision may be delivered by one of the following methods.

- Hand delivery by an employee of the Civil Aviation Department. In such cases, two copies will be taken. One for the addressee and an [Authority] copy for written notation of the date, location and person making the delivery. The [Authority] copy will be returned to the [assigned STATE representative]'s secretary.
- Registered Mail

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Chapter 12 Resolution on Safety Issues

12.1 GENERAL POLICIES ON RESOLUTION AND ENFORCEMENT. This chapter provides guidance for DCA Flight Operations specifying the methodology by which the DCA will address the safety issues identified during the conduct of inspections or investigations. Reference documents are found in the MCAR 1996, AICs, AIP Malaysia and relevant ICAO Annexes and Documents.

12.2 POLICY STATEMENT. It is the policy of the DCA Flight Operations to resolve identified safety and regulatory issues at the administrative or enforcement level appropriate to the situation and the individual or operator. The DCA Flight Operations will consider the mitigating circumstances in each situation. For example, an administrative approach will be the course of action in situation where routine safety issue resolution would achieve a lasting result. The level of action taken to resolve these situations will depend on whether the individual or organization can provide information that proves that:

- a. A contravention occurred without his consent or connivance;
- b. All due diligence was exercised to prevent contravention;
- c. An act or omission was not avoidable by the exercise of reasonable care;
- d. He or she neither knew, nor suspected the purpose of the flight was in contravention.

12.3 ADMINISTRATIVE RESOLUTION. The options for administrative resolution of regulatory or safety issues are:

- a. **On-the-spot resolution** - when an inspector finds and resolves an issue at the scene.
- b. **Safety issue resolution (SIR)** - a semi-formal exchange between the responsible inspector and the person to whom the SIR is issued.
- c. **Warning Notice** - written by the inspector at the time of the event and handed to the person.
- d. **Warning Letter** - from the DCA to the person.
- e. **Prevent Flying Order** - may be issued in situation where the inspector considers that there may be immediate safety of flight concerns.
- f. **Letter of Correction** - from the DCA to an AOC or AAC certificate holder.
- g. **Varying an Authorization or Approval** - an action by letter or re-issuance of an authorization or approval to rescind or reduce the authorization or approval.

12.4 On-the Spot Resolution.

12.4.1 An issue may be resolved by the inspector on-the-spot if it is clearly not a procedural, competency or wilful contravention. Examples that would meet these criteria would be individual misconceptions regarding regulations where the individual obviously was not aware of the specific requirements or aircraft mechanical conditions of a nature that could have easily occurred on a particular flight.

12.4.2 The inspector is still required to complete an inspection report and enter an SIR for the issue identified. The SIR will be closed out at the time of entry with a brief discussion of the resolution. This SIR will not be forwarded to the individual or operator involved.

12.5 Safety Issue Resolution (SIR).

12.5.1 As a DCA inspector identifies safety issues that cannot be corrected on-the-spot, these must be tracked to resolution. Unless otherwise instructed in DCA guidance, the inspector will discuss the issue with the individual, operator or AOC holder verbally at the time of finding. After further DCA consideration, the safety issues will be provided to the AOC holder in writing by the DCA Director of Flight Operations with the safety resolution forms attached for operator notification accompanied by a cover letter.

12.5.2 The individual, operator or AOC holder is expected to consider the inspector's debriefing and take practical corrective action. Upon receipt of the DCA safety issue notification, the person receiving the notification is expected to comply with the corrective timeline applicable to level assigned by the DCA to the safety issue. That person is responsible for advising the DCA in writing of the action taken.

12.5.3 The DCA may then schedule a follow-up review to determine that the correction action taken satisfactorily addresses the safety issue. The assigned inspector, when satisfied with the corrective action, will indicate in the DCA records the date and a description of the resolution of the safety issue.

12.6 Appeal of Safety Issue Assignment. The AOC holder may appeal to the DCA official notification of safety issue or proposed target date to the Director of Flight Operations. This appeal must include the AOC holder's rationale for not promptly correcting the safety issue. Such action will have the effect of putting the required corrective action on hold until the DCA Director issues his decision in writing.

12.7 Categorization of the Safety Issues. The level of the safety issue assigned to the safety issue by the DCA will indicate the priority and timing of corrective action required-

- a. Level 0 [Prevent Flying] The individual, operator, or AOC holder must make the necessary corrective action prior to operation of the aircraft.
- b. Level 1 [Correction within 1 to 3 days]: The inspector will recommend a corrective time between one and three days depending on the nature of the situation. The individual, operator or AOC holder must complete the correction within the allotted period and advise the DCA in writing of the correction made.

- c. Level 2 [Correction within 14 days to 3 months] The inspector will recommend a corrective time between 14 days and 3 months depending on the nature of the situation. The individual, operator or AOC holder must complete the correction within the allotted period and advise the DCA in writing of the correction made.
- d. Level 3 [Observation]: The individual, DCA, or AOC holder should consider this issue and advise the DCA in writing of its thoughts and intentions with respect to corrective action within 30 days.

12.8 Warning Notice.

12.8.1 'Reasonable excuse' is where a person's defence is that he "neither knew or suspected". In other words, a possible defence for not complying with regulations could be lack of knowledge about the requirement.

12.8.2 The "Warning Notice" form was developed to allow an inspector to take on-the-spot action, especially during the transitional to formally "notify" the individual, operator or AOC holder of the regulatory requirement. It is permissible for the inspector to issue the Warning Notice even in situations where the non-conformance is only suspected. This Warning Notice is one of the methods used by the Inspectorate to establish a record of notifications in prelude for possible future enforcement action.

12.9 Warning Letter. A "Warning Letter" is an administrative (but not on-the-spot) resolution action which will have the same effect and purpose as the "Warning Notice". A warning letter will normally be issued by the Inspectorate after an enforcement investigation shows that mitigating circumstances warrant a warning rather than a sanction.

12.10 Prevent Flying Order. There may come a time when a DCA inspector will find a safety issue or irregularity that will require immediate action to resolve a potentially unsafe situation. It is important that the inspector understand the necessity to handle this in a measured "identification of facts" approach. The "Prevent Flying Order" form was developed to allow administrative handling of these type of situations:

- a. **Inform the Appropriate Officials.** If the inspector identifies a "safety flight" issue, it is important that these concerns be conveyed to the flight crew or operator. A "safety-of-flight" issue is one that could result in an accident or incident on the next flight or flights of the aircraft.

Any "safety-of-flight" concern will immediately be brought to the attention of the flight crew and operator. If it is a commercial air transport operation, the AOC officials on-the-spot will be advised. Those persons include the pilot-in-command, station manager and operational control person on duty. (Remember to make a note of the date, time, and names.)

- b. **Prevent Flying Order.** After consideration of these persons input, advise them of your determination. If your determination is that the flight should not be operated due to "safety of flight" issues and the AOC holder's personnel still intend to operate the flight, it will be necessary to issue the "Prevent Flying Order". Present the document to the flight crew, owner or operators personnel and get their

signature for receipt on a duplicate copy. If they refuse to sign, print their name in the signature line and have a witness sign and date that entry.

c. Subsequent Actions. Place a phone call to the DCA Director of Flight Operations as soon as practical to advise him of the unfolding situation. (It will be the responsibility of the Director to coordinate with the AOC holder's management.)

The inspector is to stay at the location until the situation is resolved or you have been advised by the DCA Director of Flight Operations that the situation is now resolved with the AOC holder's management. (Continue to take notes of the time, contacts, and events until a resolution occurs.)

12.11 Letter of Correction. A letter of Correction is an administrative "warning" letter to an organization. This is the Inspectorate's method of making a record of the regulatory requirements that were not met and acknowledging the organization's corrective actions.

12.12 Varying an Approval, Permission, Exemption or Authorization. The ability under law to reverse any previous approval or authorization on an administrative basis is a key element of resolution, primarily with organizations. This allows for varying administrative approvals, permission, authorizations and designations to reflect the changing abilities of the organizations and needs of the Inspectorate. The Inspector (Desk Officer) should consider the use of this administrative tool before resorting to organizational certificate suspension.

12.13 Re-Examination for Resolution. Re-examination may be necessary in situations where the inspector determines that a flight crew no longer meets the minimum knowledge or competency required for the issuance of the certificate privileges in use.

A letter will be issued to the flight crew or aircraft operator outlining the re-examination request and the basis for it. This letter will specifically request, in the case of the flight crew competency, that the flight crew does not exercise the privileges in question until after a successful re-examination. In the case of aircraft airworthiness standards, the inspector will submit report to the DCA Director of Airworthiness. The letter will request that the aircraft not be operated under the privileges in question until a satisfactory re-examination has been conducted.

The re-examination may be conducted by the DCA staff or by a qualified person designated to act on behalf on the DCA. The location where the re-examination will take place will be at the option of the DCA.

12.14 Enforcement Resolution Options:

- a. Monetary Penalties – primarily serving as a visible punitive deterrent to repeated contravention.
- b. Certificate Suspension - the method for handling situations where a certificate holder is determined not to meet the minimum standards for original certification. It employed primarily in situations where the Inspectorate believes that stopping flight operations is necessary to allow for re-establishing the minimum requirements.

- c. Certificate Revocation - the method for handling situations where a certificate holder is grossly not meeting the minimum standards for original certifications and continues unsafe practices.

12.15 Enforcement Investigation Report (EIR). A formal investigation report will be made on each investigation that the DCA Flight Operations believes may ultimately result in an enforcement sanction. Even if the recommended resolution action later becomes an administrative action or "no-action", a formal completed EIR will be the result of each investigation where an LOI was sent to an individual or organization.

12.16 Letter of Investigation (LOI). The letter of investigation is a required initial correspondence when an enforcement investigation is initiated. It serves to advise the individual or organization that a situation is being investigated in which they were involved.

12.17 Decision to Take Action to Enforce Regulations (Decision) MCAR 1996 Reg. 187.

12.17.1 The Director General is empowered to take action on behalf of the Minister to notify the individual or organization of a "decision to take action to enforce the regulations." This is "provisional" in that the individual or organization will still have the right to appeal to the Minister, Ministry of Transport. The Legal Advisor will advise the Director General for a final legal action.

12.17.2 This provisional Decision has the effect contained in the document. If the Decision states that the certificate will be surrendered, the person receiving it, must within a reasonable time, surrender the certificate pending an appeal. If the Decision states that flight operations must cease, the flight operations must stop pending the appeal. The omission of restricting details in effect will allow them to continue.

12.17.3 A Decision becomes final if the individual or organization accept the Decision in writing or fails to appeal.

12.18 Monetary Penalties.

12.19.1 The options for resolution through enforcement are (Refer MCAR 1996 Reg. 185 and Reg. 188):

- a. MCAR 1996 Reg. 188 (5) - Monetary penalty (Fine) not exceeding RM1000.00 per offence and flight.
- b. MCAR 1996 Reg. 188 (6) - Monetary penalty (Fine) not exceeding RM1000.00 per offence and flight or to imprisonment for a term not exceeding 3 months or to both.
- c. MCAR 1996 Reg. 188 (7) - Monetary penalty (Fine) not exceeding RM2000.00 per offence and flight or to imprisonment for a term not exceeding 6 months or to both.

12.19.2 Monetary penalties are inherently punitive in nature. They are intended to be a punishment for a contravention. The replicating feature for repeated contravention is a significant deterrent to those persons who will continue repeated unsafe flights despite the knowledge that those flights are not in conformance with regulatory requirements.

12.20 Certificate Suspension MCAR 1996 Reg. 14, Reg. 87, Reg.180 and Reg. 200.

12.20.1 Certificate suspension is primarily used to stop flight operations where the certificate holder no longer meets the original safety certification basis. It may also be used as an alternative to monetary sanctions.

12.20.2 Suspension should be a consideration any time the DCA Flight Operations has made a factual determination that the certificate holder is not able to meet minimum requirements for that certificate.

12.20.3 There are number of situations that could result in the suspension of an AOC. The primary reason is a pattern of safety issues, which illustrate that the AOC holder is not ensuring that its operations are continuously conducted in accordance with the certification standards. A suspension will stop the questionable operations and provide both the DCA Flight Operations and the AOC holder with a dedicated period of time to re-establish the minimum requirements for certification.

12.21 Emergency Suspension.

12.21.1 There are times when it is necessary to public safety that an AOC holder or flight crew member be required to terminate operations immediately pending further review of the situation. This type of suspension could be oriented toward specific aircraft or personnel, such as an aircraft that is not in compliance with Airworthiness Directives or a pilot that is under the influence of drugs. It could also be directed at the entire scope of the AOC holder's operations, such as in situations where the DCA has basis to question the airworthiness of significant portion of the fleet or the proficiency checks of the pilots.

12.21.2 If the DCA Director of Flight Operations believes that there is a factual and immediate potential for adverse effect on public safety, he may include in the *Decision* notification the direction that the suspension takes effect upon receipt. In such a situation, the AOC holder is compelled to cease commercial air transport operations until the situation is resolved.

12.22 Revocation.

12.22.1 The evidence may be such that, after a period of suspension and review, the DCA find that the evidence and mitigating circumstances will require revocation of a certificate in the interest of public safety. In this situation, the DCA Director of Flight Operations will prepare a Decision notification for the revocation for the Director General.

12.22.2 Revocation of a certificate should generally be reviewed as the last resort. This is the action that is taken when the certificate holder is intransigent in meeting the minimum standards and continues to conduct flight operations. Repeated suspension could be the basis for a Decision for revocation.

12.23 Appeal to the Minister (MCAR 1996 Reg. 199). MCAR 1996 Regulation 199 provides for the individual or organization receiving a Decision to appeal that decision to the Minister. In these situations, the Minister will assign an Legal Advisor to handle the case. The Director of Flight Operations role will be to assist that Legal Advisor in the tasks necessary to a trial, including serving as an expert witness, development of witness lists, briefing the attorney on the technical logic for the case.

12.24 Post enforcement procedures. On completion of the enforcement procedures, the FOSI is required to ensure that all the punishment and reports arising from the enforcement to be inserted into the following file and folder.

- a. Operators' crewmembers individual file
- b. DCA crewmembers individual file.
- c. DCA Enforcement folder.