



# **Air Operator Certification and Surveillance Handbook**

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***States should review and adapt this handbook based on national regulations, procedures and requirements prior to use.***

**International Civil Aviation Organization**

**AIR OPERATOR CERTIFICATION AND  
SURVEILLANCE HANDBOOK**

**[STATE]**

**MAY 2014**



## **FOREWORD**

This handbook outlines [State CAA's] policies and procedures for the certification, surveillance and resolution of safety issues, associated with commercial air transport operations by [State] air operators.

Adherence to these procedures by [State CAA] staff will ensure that prior to issuing an air operator certificate (AOC), the air operator has demonstrated adequate organization, method of control and supervision of flight operations, training programme and maintenance arrangements consistent with the nature and extent of the operation specified. The continued safety oversight (surveillance) of air operators will ensure that the air operator maintains the requirements noted above.

This handbook is intended to provide detailed instructions for [State CAA] staff to conduct air operator certification, surveillance and resolution of safety issues. It is divided into three volumes: Volume I outlines the policy and procedures to be followed by [State CAA] and operators for the initial issuance of an AOC; Volume II outlines the policies and procedures related to operational demonstrations, inspections, approvals and surveillance; while Volume III contains policies and procedures for airworthiness inspections, approvals and surveillance. Many of the inspections required for the initial certification of an air operator will subsequently be repeated during the implementation of [State CAA] surveillance programme.

Because of the wide scope of operations involved and the many variables that can be encountered, it is impossible to anticipate all situations; therefore, [State CAA's] personnel must exercise common sense and good judgement in the application of these policies and procedures.

[Director General of Civil Aviation]  
[State CAA]

**[INSTRUCTIONS TO STATES]**

1. This sample Air Operator Certification and Surveillance Handbook has been developed as sample guidance material to enable States to effectively certify and subsequently conduct surveillance on State air operators. States who presently have a handbook or manual that provides guidance to inspectors on the certification and surveillance of air operators may wish to use some of the material from this handbook to update their procedures if required. Other States who do not presently have such guidance material may wish to adapt the handbook for use in their State. Reviews and amendments of the handbook material are required to ensure it accurately reflects the requirements of your particular State. It should also be noted that when adapting the handbook, States will need to confirm that the handbook does not conflict with and is supported by State regulations. Where there is a conflict with State regulations then the handbook material or the State regulations should be amended as appropriate.
2. When adapting this handbook material, as a minimum, States will need to replace all wording within [ ] with wording appropriate to their organization and regulatory framework. As an example, [State Civil Aviation Authority (CAA)] in the case of Canada would be replaced by Transport Canada. [State regulations] would be replaced by Canadian Aviation Regulations (CARs).
3. To assist CAAs in adapting the handbook, notes have been added e.g. [*Note.— if your State requires ..... then revise as follows ....*]. These notes are to be reviewed and the text amended depending on the particular requirements in your State, then the [*Note.— ....*] is to be deleted.
4. The guidance material in this handbook once adapted will provide policy and procedures for the initial certification of air operators. However, there are authorizations which may subsequently be requested by air operators once they have commenced operations. While these authorizations will be briefly mentioned in the handbook, the details required for the approval of these operations will need to be developed by your State.
5. The handbook will often make reference to [State civil aviation regulations]. States should replace State civil aviation regulation with the specific part/regulation number as applicable. If there is no regulation in place as a basis to authorize a particular operation, then States should review current regulations to ensure that they are aligned with the most recent amendments to ICAO Standards and Recommended Practices (SARPs).
6. The handbook is not applicable for validation or inspection of foreign air operators (FAO) as the processes are different. States conduct a validation of FAOs as opposed to the detailed certification required for State air operators. While there is some similarity between ramp inspections conducted on State air operators and FAOs, the important difference is that for State air operators the inspection is conducted against the more detailed State regulations, as opposed to the broader ICAO SARPs.



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**LIST OF ACRONYMS**

ACAS	Airborne collision avoidance system
ADs	Airworthiness directives
AFM	Aircraft flight manual
AMM	Aircraft maintenance manual
AMO	Approved maintenance organization
AOC	Air operator certificate
APU	Auxiliary power-unit
ATC	Air traffic control
ATS	Air traffic services
AWI	Airworthiness inspector
CAA	Civil aviation authority
CDL	Configuration deviation list
DGCA	Director General of Civil Aviation
EDTO	Extended diversion time operations
ELT	Emergency locator transmitter
EVS	Enhanced vision systems
FOI	Flight operations inspector
FRMS	Fatigue risk management system
GPWS	Ground proximity warning system
HUD	Head-up-displays
IFR	Instrument flight rules
IMC	Instrument meteorological conditions
MCM	Maintenance control manual
MEL	Minimum equipment list
MET	Meteorological
MMEL	Master minimum equipment list
NOTAM	Notice to airmen
PBN	Performance -based navigation
PIC	Pilot-in-command
PM	Project Manager
POPS	Prospective operator's pre-assessment statement
RVSM	Reduced vertical separation minima
SAAQ	State aviation activity questionnaire
SARPs	Standards and Recommended Practices
SCUBA	Self-contained underwater breathing apparatus
SMS	Safety management system
SOA	Safety oversight audit
SOP	Standard operating procedure
STC	Supplemental type certificate
TC	Type certificate
TCH	Threshold crossing height
USOAP	Universal Safety Oversight Audit Programme
VFR	Visual flight rules

**VOLUME I — AIR OPERATOR CERTIFICATION**



## **Chapter 1**

### **RESPONSIBILITIES OF THE STATE**

#### **1.1 NATURE OF THE RESPONSIBILITIES OF THE STATE**

1.1.1 As a signatory to the ICAO Convention on International Civil Aviation, [State] has an obligation to promulgate regulations and standards in accordance with the ICAO Standards and Recommended Practices (SARPs) as outlined in the ICAO Annexes. In this regard, [State civil aviation act] authorized the [Director General of Civil Aviation (DGCA)] to issue and amend regulations, orders and procedures in the interest of safety. The [DGCA] may also authorize the performance by any officer, employee or administrative unit under the Director's jurisdiction of any function under the [State Civil Aviation Act].

#### **1.2 DISCHARGE OF STATE RESPONSIBILITIES**

1.2.1 In order to discharge its responsibility, [State] has enacted the [aviation law] that provides for the development and promulgation of [State regulations] consistent with ICAO Annexes. The State regulatory system enables [State] to maintain continuing regulation and oversight of the activities of air operators without unduly inhibiting the operator's effective direction and control of the organization. While ICAO Annex 6 — *Operation of Aircraft* requirements are applicable to international commercial air transport, in the interest of consistency and to ensure an equivalent level of safety for all air transport operations, the [State civil aviation regulations] and these policies and procedures are applicable as well for domestic commercial air transport operations.

1.2.2 An essential element in the regulatory system is the certification of air operators. The requirement that an operator shall be in possession of an AOC issued by [State CAA] in order to engage in commercial air transport operations is contained in [insert applicable State regulations which implement the provisions of Annex 6]. The system for both the initial inspection and certification and the continued safety oversight of air operators is outlined in this *Air Operator Certification and Surveillance Handbook*.

1.2.3 In order to assess the competence of an air operator to provide a safe and regular service, [State CAA] will investigate the proposed operation, covering at least the organization, staffing, equipment, proposed routes, level and type of service and finances. The issuance of an AOC by [State CAA] will be dependent upon the operator demonstrating an adequate organization, method of control and supervision of flight operations, training programme, as well as ground handling, maintenance management and maintenance arrangements, consistent with the nature and extent of the operations specified. If the operator is found competent, an AOC will be issued, together with operations specifications, detailing the commercial air transport operations authorized. Subsequent to the issuance of an AOC, [State CAA] will continue to monitor the operation through a systematic programme of safety oversight inspections.

1.2.4 Through the issuance of an AOC, the associated operations specifications and the subsequent continuing safety oversight, [State CAA] will be able to ensure the protection of public interest and will be able to exercise indirect influence and control without encroaching upon the direct responsibility of the operator for the safety of the operation. The granting of an AOC by [State CAA] establishes that the operator has met the criteria for an acceptable operation and that the operator is capable of providing a safe commercial air transport service.

## **Chapter 2**

### **AIR OPERATOR CERTIFICATE (AOC)**

#### **2.1 GENERAL**

2.1.1 The AOC provides the basis for [State] to regulate the activities of operators and the means for [State CAA] to authorize an air operator to commence operations and to exercise the continued safety oversight of the operator.

2.1.2 The AOC and the associated operations specifications are briefly introduced in this chapter. Detailed requirements and guidance for the AOC and the operations specifications can be found in subsequent chapters.

2.1.3 The AOC and the associated operations specifications issued to an air operator by [State CAA] are also intended to provide a basis for another State to authorize operations in its territory by that air operator, as the requirements under which the certificate is issued will be at least equal to the applicable Standards specified in Annex 6, Part I — *International Commercial Air Transport — Aeroplanes* and Part III — *International Operations — Helicopters*, Section II. The policy and procedures for the validation and surveillance of operators from other States (foreign operators) is not part of this handbook.

#### **2.2 THE AOC**

2.2.1 Aircrafts engaged in commercial operations are required by [insert applicable regulation] to carry a certified true copy of the AOC (note 2.4 below) and a copy of the associated operations specifications relevant to the aircraft type. The AOC certifies that the operator is authorized to perform commercial air transport operations, as defined in the associated operations specifications, in accordance with the operations manual and the [State civil aviation regulations] of [State].

2.2.2 The information on the AOC shows [State] as the State of the Operator, the identity of the responsible office of [State CAA] and the certificate number with its expiration date. It also shows the name of the operator and any other trading name relevant to the particular certificate, with the address of the operator's principal place of business. In addition, the certificate indicates the location in the operator's documentation containing the contact details of the operator's operational management. Finally, it shows the date of issuance of the certificate and the name and signature of the [State CAA] official responsible for its issuance.

2.2.3 The contact details where operational management can be contacted without undue delay for issues related to flight operations, airworthiness, flight and cabin crew competency, dangerous goods and other matters, as appropriate, are required to be provided on board the aircraft and shall include names, telephone and fax numbers, with country codes and e-mail addresses.

2.2.4 The period of validity of an AOC in [State] is [x] years. *[Note to State.— If your State does not apply a period of validity to AOCs, amend the text as appropriate and add the following text: “the fact that the certificate does not expire is indicated on the certificate”].*

## 2.3 OPERATIONS SPECIFICATIONS

2.3.1 The operations specifications associated with an AOC are an integral part of the authorization under which an operator conducts operations.

2.3.2 The specifications identify [State CAA] office involved, the number of the associated AOC, the name of the operator, the date of issuance and the signature of [State CAA] official responsible for its issuance and show the make, model and series (or master series) of the aircraft, the type of operation and the geographical areas in which operations are authorized.

2.3.3 The specifications cover all aspects of the operation and include special limitations, conditions and authorizations with criteria as appropriate. Detailed conditions applicable to operations specifications may also be approved by [State CAA] in the operations manual.

## 2.4 CERTIFIED TRUE COPY OF THE AOC

2.4.1 Each aircraft must have on board a certified true copy of the AOC. The certification statement shall attest that the copy is a true copy of the original and shall be signed by the official entitled to certify a true copy and display an official stamp of that official. The certification statement shall be permanently affixed to the copy by placing it on the first page of the document itself. The certification statement is as follows:

### **CERTIFICATION**

*[Note to State.— Amend as applicable to your State]*

I hereby certify that the attached is a true copy of the *[title of the AOC]*, issued at *[place]* on *[date]* by *[State CAA]* *[State]*.

Signed at *[place]* on *[date]*.

*[Signed by the appropriate certifying authority]*

*[Official stamp]*

## **Chapter 3**

### **CERTIFICATION PROCEDURES - GENERAL**

#### **3.1 INTRODUCTION**

3.1.1 The purpose of an AOC is to certify that specified commercial air transport operations are authorized by [State CAA] and are in conformance with applicable regulations. The procedures contained in this handbook will be utilized by [State CAA] inspectors for the issuance of an AOC and for the continuing safety oversight and inspection by [State CAA] of the operations conducted in accordance with the AOC and the related operations specifications.

3.1.2 During the certification process, [State CAA] is to be satisfied that the applicant, who will have the ultimate responsibility for the safety of the operation, is eligible for the issuance of an AOC and has the ability and competence both to conduct safe and efficient operations and to comply with applicable regulations. [State CAA], in addition to assessing the ability and competence of the applicant, will also endeavour to guide the applicant in organizational and procedural matters which will result in a safe operation. Thus, if the objectives of both the [State] and the applicant are achieved in the certification process, they will have commenced their shared responsibility for safety, regularity and efficiency of operations, which will in turn enhance the public confidence in the operations conducted by the applicant as an operator and holder of an AOC.

3.1.3 To be eligible for an AOC an applicant must be certified for operating at least one aircraft that is not wet-leased. Applicants that plan to operate only wet-leased aircraft cannot satisfy the certification procedures of [State CAA]. [State CAA] shall revoke or suspend the AOC of an organization that operates only wet-leased aircraft during a period longer than [X] months [Note to State. – the period of [X] months depends on national interests but must not exceed 6 months. It is aimed at the case of operators of a single aircraft which needs repairs, modifications or a long maintenance check]

3.1.3 At the commencement of the certification process, a CAA inspector will be appointed as the project manager (PM) and a certification team will be established consisting of qualified and experienced inspectors of the necessary specializations, such as operations, airworthiness, cabin safety and dangerous goods. The applicant will be informed that the PM will be responsible for coordinating all aspects of the certification process and will be the focal point for dealing with all matters between the applicant and [State CAA]. The safety oversight workload of the PM and team members may need to be adjusted in order that enough time is provided for the certification of a new air operator.

3.1.4 The certification process shall be documented with all documents and checklists used to be completed, signed and dated and appropriately filed. All findings or discrepancies noted during the inspections and evaluations must be notified to the applicant in writing. The applicant should address all findings and discrepancies to the satisfaction of [State CAA] before the issue of the AOC.

3.1.5 Since each operation may differ significantly in complexity and scope, the PM and the certification team have considerable latitude in taking decisions and making recommendations during the certification process. The ultimate recommendation by the PM and decision by [State CAA] regarding certification and awarding of an AOC are to be based on the determination of whether or not the applicant meets [State's] requirements and is adequately equipped and capable of conducting the proposed operation in a safe and efficient manner.

## **3.2 CERTIFICATION PROCEDURE**

3.2.1 The procedure for the application and granting of an AOC by [State CAA] will be organized in phases and will take the following sequence:

- a) pre-application phase;
- b) formal application phase;
- c) document evaluation phase;
- d) demonstration and inspection phase; and
- e) certification phase.

3.2.2 Each of these phases is briefly introduced below and each will be dealt with in greater detail in the succeeding chapters of this handbook.

## **3.3 PRE-APPLICATION PHASE**

3.3.1 A prospective operator who intends to apply for an AOC shall enter into preliminary discussions with [State CAA] and will be provided with complete information concerning the type of operations which may be authorized, the data to be provided by the applicant and the procedures which will be followed in the processing of the application. It is essential that the applicant has, in this pre-application phase, a clear understanding of the form, content and documents required for the formal application. A standard information package has been developed to provide information to applicants and is available for download from [State CAA] website [insert website address]. The applicant shall also be informed of the means to obtain [State] regulations and related guidance material.

3.3.2 [State CAA] will advise the prospective operator on the approximate period of time that will be required to conduct the certification process, subsequent to the receipt of a complete and properly executed application. This advice is of particular importance in the case of new operators so that such applicants may avoid undue financial outlays during the certification period.

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

3.3.4 The importance of a thorough and careful preliminary assessment of the application cannot be overemphasized. The more thoroughly the applicant's competence is established at this stage, the less likelihood there will be of having serious problems in the document evaluation and the demonstration and inspection phases preceding certification or during the course of subsequent operations. Analysis of the application will indicate either that it is acceptable on a preliminary basis or that it is unacceptable.

3.3.5 If the application is acceptable to [State CAA] on the basis of the preliminary assessment, the applicant should be encouraged to proceed with preparations for the commencement of operations on the basis that an AOC will be issued subject to satisfactory completion of the remainder of the certification procedure.

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

3.3.7 [State CAA] does not have qualified personnel or staff to carry out the financial, economic and legal assessment of the applicant and the proposed operation. [Insert appropriate State agency] has been assigned responsibility to provide an assessment related to economic aspects of the proposed operation. [*Note to States.— Amend as applicable in your State*].

### **3.4 FORMAL APPLICATION PHASE**

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

3.4.2 The formal application for an AOC, accompanied by the required documentation, shall be submitted in the manner prescribed in Chapter 5 of this handbook.

3.4.3 The submission of a formal application is interpreted by [State CAA] to mean that the applicant is aware of the regulations applicable to the proposed operation, is prepared to show the method of compliance and is prepared for an in depth evaluation, demonstration and inspection related to the required manuals, training programmes, operational and maintenance facilities, aircraft, support equipment, record keeping, dangerous goods programme, security programme, flight crew and key management personnel, including the functioning of the administrative and operational organization.

### **3.5 DOCUMENT EVALUATION PHASE**

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

3.5.2 In order to facilitate this phase of the certification process, the applicant shall coordinate all aspects of the development of the required documentation with [State CAA] certification team, prior to submission of the formal application.

### **3.6 DEMONSTRATION AND INSPECTION PHASE**

3.6.1 Inspections in this phase will involve base and station facility inspections, inspection of the operational control and supervision facilities and inspection of training programmes and training facilities.

3.6.2 Demonstrations will involve demonstration of the operational control system and may involve demonstration flights.

### **3.7 CERTIFICATION PHASE**

3.7.1 The certification phase is the conclusion of the certification process when [State CAA] PM has determined that all certification requirements, both operational and economic, have been completed in a satisfactory manner and that the operator will comply with the applicable regulations and is fully capable of fulfilling its responsibilities and conducting a safe operation.

3.7.2 The culmination of this phase is the issuance of the AOC and its associated operations specifications authorizing the conduct of the specified operations.

3.7.3 Subsequent to the issuance of an AOC, [State CAA] staff will be responsible for continued surveillance and for conducting periodic inspections as contained in Volumes II and III of this handbook, to ensure the operator's continued compliance with [State CAA] regulations, authorizations, limitations and provisions of its AOC and operations specifications. These periodic inspections are components of a continuing safety oversight programme.

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## **Chapter 4**

### **PRE-APPLICATION PHASE**

#### **4.1 INITIAL INQUIRY AND [STATE CAA] RESPONSE**

4.1.1 The pre-application phase commences with the applicant making an initial inquiry by letter, telephone call or personal visit to [State CAA].

4.1.2 [State CAA] staff shall advise the applicant to thoroughly review [State CAA] regulations, directives and advisory materials and provide guidance concerning personnel, facilities, equipment and technical data requirements and an explanation of the certification process, in the standard information package for applicants for an AOC.

4.1.3 The standard information package includes a form for the prospective operator's pre-assessment statement (POPS) to be completed by the applicant and an advisory pamphlet containing: a description of the application process for obtaining an AOC; an introduction to the specific [State CAA] regulations; guidance on the evaluation of an applicant for certification; guidance on the issuance of an AOC and associated operations specifications; and, instructions for completing the POPS form. Any other [State CAA] directive or advisory material necessary for the certification process will also be provided.

4.1.4 The purpose of the POPS is to establish the intent of the applicant to continue with the process for certification and to thus enable [State CAA] to commit resources and plan the certification process.

4.1.5 The POPS form and instructions for its completion are provided in Attachments A and B to this volume.

#### **4.2 [STATE CAA] ACTIONS ON RECEIPT OF A COMPLETED POPS**

4.2.1 Once a completed POPS is received, a CAA inspector will be appointed as the project manager (PM) and a certification team will be established consisting of qualified and experienced inspectors of the necessary specializations, such as operations, airworthiness, cabin safety, and dangerous goods.

4.2.2 The PM shall have completed an appropriate training course on air operator certification and surveillance, including on-the-job training, and should have previous experience in the certification of an air operator. It is desirable that a person with extensive inspector experience be designated as the PM.

4.2.3 The PM shall serve as the primary spokesperson for [State CAA] throughout the certification process. Consequently, the PM must thoroughly co-ordinate all certification matters with all other specialists assigned to the certification project. The PM shall be responsible for ensuring that all certification job functions are completed. All correspondence, both to and from the applicant, shall be coordinated with the PM. The PM shall ensure that [State CAA] and the air operator staff involved with the certification project are kept fully informed of the current status of the certification. The Pre-Application Job Aid at the end of this chapter will be used as a guide for the conduct of these status meetings. The PM must notify [State CAA] management of any information that may significantly affect or delay the certification project.



4.2.4 [State CAA] certification team will conduct a review of the POPS and if the information provided is considered acceptable, the PM will schedule a pre-application meeting with the applicant.

### 4.3 PRE-APPLICATION MEETING

4.3.1 The purpose of the pre-application meeting is to confirm the information provided in the POPS to determine whether or not the applicant has sufficient knowledge of the appropriate [State CAA] regulations and requirements and to confirm, for the applicant, the expectations of [State CAA].

4.3.2 The pre-application meeting will be attended by the [State CAA] PM and certification team and the key management personnel of the applicant. The applicant should be prepared to discuss, in general terms, all aspects of the proposed operations.

4.3.3 The applicant will be provided with an overview of the certification process and made aware of the [insert appropriate State agency] responsible for financial, economic and legal matters, and for the necessary assessment of the applicant's financial resources and ability to support the proposed operations. It is essential that the financial, economic and legal assessments are commenced early since an AOC shall not be granted without a satisfactory assessment of these aspects from the appropriate department.

4.3.4 The PM and the certification team shall prepare an application package for delivery at the pre-application meeting. This package should be more detailed than the standard information package described in 4.1.3 above and designed to assist the applicant in the preparation of a formal application for certification. This application package shall contain: the advisory pamphlet described in 4.1.3; a list of the documents that shall be provided with the formal application; a schedule of events in the certification process; an example of the type of operations specifications associated with an AOC; and, any other information that may be helpful. The required documents shall be discussed in detail at the pre-application meeting to provide the applicant with as much assistance as possible.

4.3.5 Subsequent to the pre-application meeting, the certification team will evaluate the results of the meeting. Should the certification team consider that the applicant is not ready to make a formal application, advice shall be given on further preparation and another pre-application meeting shall be scheduled or, alternatively, the applicant may be advised to withdraw the intent to apply for certification.

4.3.6 Should the certification team establish that the information provided in the pre-application statement is satisfactory and that the applicant has a clear understanding of the certification process, the applicant shall then be invited to prepare and proceed with a formal application, as outlined in Chapter 5 of this volume.

4.3.7 The Pre-Application Phase – Job Aid AOC-001 that follows shall be completed prior to proceeding with the formal application phase.

Attachment to Chapter 4

<b>AIR OPERATOR CERTIFICATION</b>																					
<b>PRE-APPLICATION PHASE — JOB AID AOC-001</b>																					
NAME OF APPLICANT:		PROJECTED CERTIFICATION PERIOD:																			
ADDRESS:		BASE:																			
SUBJECT	DATE RECEIVED	REFERENCE DOCUMENTS	SIGNATURE PM																		
<b>A. Prospective operators pre-assessment statement (POPS)</b>																					
<b>B. Certification team designation</b> <b>Certification team designated (at least one operations/airworthiness inspector)</b>  <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 35%;">NAME</th> <th style="width: 30%;">SPECIALTY</th> </tr> </thead> <tbody> <tr> <td>PM</td> <td>_____</td> <td>_____</td> </tr> <tr> <td></td> <td>_____</td> <td>_____</td> </tr> <tr> <td></td> <td>_____</td> <td>_____</td> </tr> <tr> <td></td> <td>_____</td> <td>_____</td> </tr> <tr> <td></td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>		NAME	SPECIALTY	PM	_____	_____		_____	_____		_____	_____		_____	_____		_____	_____			
	NAME	SPECIALTY																			
PM	_____	_____																			
	_____	_____																			
	_____	_____																			
	_____	_____																			
	_____	_____																			
<b>C. Conduct pre-application meeting</b>																					
1. Verify POPS information																					
2. Overview of certification process																					
3. Provide application package:																					
a) Certification job aids																					
b) Schedule of events																					
c) Example of operations specifications																					
d) Applicable publications & documents																					
4. Explain formal application submissions																					
5. Financial information																					
6. [State licence for traffic rights]																					
<b>D. [State CAA] debriefing in preparation for formal application phase</b>																					

Remarks:

**Acknowledgement/Signature** (as applicable)

\_\_\_\_\_

Project Manager (PM)

\_\_\_\_\_

Flight Operations Inspector (FOI)

\_\_\_\_\_

Airworthiness Inspector (AWI)

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## **Chapter 5**

### **FORMAL APPLICATION PHASE**

#### **5.1 FORMAL APPLICATION PACKAGE**

5.1.1 The formal application for certification will be an application letter with attachments containing the information required by [State CAA], comprising a formal application package. The development of the application letter and its attached documents should have been coordinated with the [State CAA] certification team subsequent to the pre-application meeting. Such coordination, between the personnel of the applicant and the [State CAA] certification team, will improve the quality of the application package and facilitate the later document evaluation process. The fee established for the certification of an air operator shall be submitted when the operator submits the formal application package. [*Note to State.— Insert the policy for your State as applicable.*]

5.1.2 The application letter shall be signed by the applicant's accountable executive and shall contain at least the following information:

- a) a statement that the application serves as a formal application for an AOC;
- b) the name and address of the applicant;
- c) the location and address of the applicant's principal place of business and the main base of operations;
- d) a description of the applicant's business organization and corporate structure, names and addresses of those entities and individuals having a major financial interest;
- e) the name and address of the applicant's legal representative;
- f) the identity of key management personnel: chief executive officer; operations manager; chief pilot; fleet manager(s) (if applicable); cabin crew manager; safety manager; training manager; maintenance manager; ground services manager; security manager; and quality manager; [*Note to State.— This paragraph would need to be modified to reflect the requirements for qualifications and approval of management positions as outlined in your regulations.*]
- g) the nature of the proposed operations: passenger/cargo, day or night, visual flight rules (VFR) or instrument flight rules (IFR), whether or not dangerous goods are to be transported; and
- h) the desired date for the operation to commence.

5.1.3 The attachments that need to accompany the formal application letter are:

- a) the identification of the operation specifications sought with information on how associated conditions will be met, as described in 5.2.1 below;
- b) the schedule of events in the certification process with appropriate events addressed and target dates;

- c) an initial statement of compliance or detailed description of how the applicant intends to show compliance with each provision of the air navigation regulations;
- d) the management structure and key staff members including titles, names, backgrounds, qualifications and experience, with regulatory requirements satisfied;
- e) the details of the SMS;
- f) a list of designated destination and alternate aerodromes for scheduled services, areas of operation for non-scheduled services and bases for operations, as appropriate to the intended operations;
- g) a list of aircraft to be operated;
- h) documents of purchase, leases, contracts or letters of intent;
- i) arrangements for crew and ground personnel training and qualification, facilities and equipment required and available;
- j) the operations manual;
- k) the maintenance control manual (MCM);
- l) details of the method of control and supervision of operations to be used; and
- m) the status of the assessment of financial, economic and legal matters by the appropriate government department.

A more detailed description of some of these attachments is provided in 5.2.

## **5.2 ATTACHMENTS TO THE FORMAL APPLICATION**

**5.2.1** *Identification of desired operations specifications.* [State CAA] approves special authorizations that are enabled through [State regulations] by the issuance of operations specifications. The list of authorizations, conditions and limitations as outlined in Attachment D to this volume shall be utilized. The applicant shall identify the desired operations specifications appropriate to the intended operation for each aircraft model in the operator's fleet, identified by aircraft make, model and series. The issuance of each operation specification shall be subject to the applicant meeting [State] regulations and requirements. Each operations specification will also be subject to the air operator satisfying, on an ongoing basis, conditions that are established for their use. While some conditions for these approvals may be contained in the specific approvals and remarks portion of the operations specifications, detailed conditions will be contained in the operations manual. The conditions contained in the operations manual will include the training, qualifications, equipment requirements and procedures, as applicable, under which the special authorization can be utilized.

**5.2.2** *Schedule of events.* The schedule of events is a key document that lists items, activities, programmes, aircraft and facility acquisitions that will be made ready for inspection by [State CAA] before certification. The schedule shall include date(s):

- a) when crew members and maintenance personnel will commence training;
- b) when maintenance facilities will be ready for inspection;

- c) when each of the required manuals will be ready for evaluation;
- d) when the aircraft will be ready for inspection;
- e) when terminal facilities will be ready for inspection;
- f) when demonstration flights are planned; and
- g) of proposed assessments of training staff and other persons subject to [State CAA] approval.

The dates shall be logical in sequence and provide time for review, inspection and approval of each item.

The overall plan is to be kept under constant review and amendment to maintain control of the certification process.

5.2.3 *Initial statement of compliance.* [ Note to State: The State CAA should develop a statement of compliance form] The initial statement of compliance shall be a complete list of all [State] regulations applicable to the proposed operation. Each regulation or sub-part shall be accompanied by a brief description or a reference to a manual or other document. The description or reference shall describe the method of compliance in each case. The method of compliance may not be finalized at the time of the formal application, in which case a date shall be given by which the final information will be provided. The purpose of the statement of compliance is to ensure that the applicant has addressed all regulatory requirements. It aids the [State CAA] certification team to assess where the regulatory requirements have been addressed in the applicant's manuals, programmes and procedures.

5.2.4 *Management structure and key staff members.* [State CAA] regulations establish basic management positions and the qualifications for these positions, with some variation in the requirement dependent upon the complexity of the proposed operation. The requirements cover the following positions: operations manager, chief pilot, safety manager, training manager, maintenance manager and quality manager. The list shall include the management positions, the names of the individuals involved and their qualifications and relevant management experience and, where appropriate, their licences, ratings and aviation experience. [State CAA] may approve positions or number of positions, other than those listed, if the applicant is able to show that it can perform the operation with the highest degree of safety under the direction of fewer or different categories of management personnel. [Note to State.— *This paragraph would need to be modified to reflect the requirements for qualifications and approval of management positions as outlined in your regulations*].

5.2.5 *Safety Management Systems (SMS).* The details of the applicant's SMS include the safety policy, safety organization, safety assessments, occurrence reporting, hazard identification, risk assessment and risk management, event investigation and analysis, performance monitoring, safety promotion and safety assurance. The applicant shall identify the accountable executive who, irrespective of other functions, has ultimate responsibility and accountability, on behalf of the organization, for the implementation and maintenance of the SMS.

5.2.6 *Aerodromes and areas.* A list shall be provided with the destination and alternate aerodromes designated for proposed scheduled operations and areas of operation for non-scheduled operations.

5.2.7 *Aircraft to be operated.* A list of the aircraft to be operated shall be provided, with the make, model, series and the nationality and registration marks for each aircraft and details of the origin and source for each aircraft, if these details are known. It is possible that the details for individual aircraft may not yet be available, in which case, evidence shall be provided as described in 5.2.8 below.

5.2.8 *Documents of purchase, leases, contracts or letters of intent.* These documents shall provide evidence that the applicant is actively procuring aircraft, facilities and services appropriate to the operation proposed. If formal contracts are not completed, letters or other documents showing preliminary agreements or intent shall be provided. These documents may relate to aircraft, station facilities and services, weather reporting, communications facilities, maintenance, aeronautical charts and publications, aerodrome analysis and obstruction data, outsourced training and training facilities.

5.2.9 *Crew and ground personnel training and required facilities.* Details of the facilities required and available for training company personnel and of the training programme with dates for commencement and completion of the initial programme shall be provided. Training will include: human performance, threat and error management for flight crew, maintenance technicians and flight dispatchers, the transport of dangerous goods, and security. Specific attention should be paid, as applicable to the crew member position, to company procedures indoctrination; emergency equipment drills; aircraft ground training; flight simulators and other flight simulation training devices; and aircraft flight training. All these aspects shall cover both initial and recurrent training.

5.2.10 *Operations manual.* The operations manual, which may be provided in separate parts, shall set out the applicant's general policies, the duties and responsibilities of personnel, operational control policy and procedures, and the instructions and information necessary to permit flight and ground personnel to perform their duties with a high degree of safety. The size as well as the number of volumes of the operations manual will depend upon the size and complexity of the proposed operations.

5.2.11 *MCM.* The MCM shall describe the administrative arrangements between the applicant and the approved maintenance organization (AMO) and shall define the procedures to use, the duties and responsibilities of operations and maintenance personnel and the instructions and information to permit maintenance and operational personnel involved to perform their duties with a high degree of safety.

5.2.12 *Maintenance programme.* This programme, including a maintenance schedule, will detail the maintenance requirements for individual aircraft.

5.2.13 *Method of control and supervision of operations.* This shall set out the applicant's proposals for control and supervision of operations including dispatch, flight watch or flight following and communication procedures.

5.2.14 *Assessment of financial, economic and legal matters.* The status of the assessment of financial, economic and legal matters shall be clearly identified in the formal application package since a successful outcome of this assessment is essential to the issuance of an AOC.

### **5.3 CURSORY REVIEW OF THE FORMAL APPLICATION PACKAGE**

5.3.1 [State CAA] certification team will make a cursory review of the formal application package to check that the required attachments have been presented, that these attachments address the required information and that the documentation is of an appropriate quality.

5.3.2 However, the cursory review of the required operations manual and MCM, as well as other safety-related manuals of the applicant, shall be extended to the procedures for the distribution, amendment and use of the documents. Are the manuals easy to revise? Does the system allow personnel to determine the revision status of the manual? Is the date of the last revision on each page? Does the manual reference appropriate [State CAA] regulations?

5.3.3 In the case of the operations manual, the cursory review shall also extend to the need to address the required subjects as outlined in [State CARs, Part ....] including at least:

- operations administration and supervision;
- safety management;
- policy and procedures regarding flight operations and fuel quantities;
- minimum flight altitudes;
- aerodrome operating minima;
- rules to limit flight time and flight duty periods and for the provision of adequate rest periods for flight and cabin crew members;
- aircraft performance;
- aircraft operating information and procedures;
- route guide;
- procedures for search and rescue;
- instructions for the carriage of dangerous goods and emergency response action in the event of a dangerous goods incident;
- navigation instructions;
- communications instructions;
- initial and recurrent training programmes; and
- security procedures and instructions.

5.3.4 In the case of the MCM, where leased aircraft not registered in [State] are proposed to be used the cursory review shall extend to the required contents noting that the manual is required to be acceptable to [State CAA] and to the State of Registry of the aircraft.

5.3.5 During the cursory review, the PM may identify the need for additional expertise on the certification team, e.g. to deal with a specific aircraft type or a particular navigation system.

#### **5.4 ACCEPTABILITY OF THE FORMAL APPLICATION**

5.4.1 If the formal application package is incomplete or otherwise unacceptable, the PM shall inform the applicant in writing, providing details of the deficiencies and advice on the resubmission of the formal application.

5.4.2 If the information in the formal application package is considered acceptable by the certification team, the PM will schedule a formal application meeting with the applicant.



5.4.3 Formal Application Job Aid AOC-002 at the end of this chapter shall be utilized and completed to confirm the acceptability of the formal package.

## **5.5 FORMAL APPLICATION MEETING**

5.5.1 A formal application meeting shall be conducted between the PM, the certification team and all the key management personnel of the applicant, with the objective of resolving any questions on the part of either [State CAA], or the applicant, to establish a common understanding on the future procedure for the application process.

5.5.2 In particular, the formal application meeting shall confirm that the management background information satisfies regulatory requirements; it shall address any errors or omissions in the application package, resolve any scheduling date conflicts and agree on a process for revising event dates, reinforce the communication and working relationships between the [State CAA] certification team and applicant personnel and, finally, determine the acceptability of the formal application package. It shall be understood that acceptance of the formal application package by the PM does not constitute acceptance or approval of any of the attachments which will be subjected to later in-depth review. The identification of significant discrepancies during the in-depth review may require further meetings between appropriate members of the [State CAA] certification team and the applicant personnel.

5.5.3 Subsequent to the formal application meeting and subject to successful acceptance of the application package, the PM shall provide the applicant with a letter acknowledging receipt and acceptance of the formal application.

Attachment to Chapter 5

<b>FORMAL APPLICATION PHASE — JOB AID AOC-002</b>			
SUBJECT	PM/FOI/AWI SIGNATURE	DATE COMPLETED	REFERENCE DOCUMENT
<b>A. Review operator’s submissions</b>			
<b>1. Formal application letter</b>			
a) Full and official name			
b) Mailing address			
c) Primary operating location (base)			
d) Key management personnel names			
<b>2. Formal application documents</b>			
a) Schedule of events			
b) Resumes of accountable manager and required key management personnel			
c) Operations manual			
d) Maintenance control manual			
e) SMS manual (if not part of the operations manual)			
f) Statement of compliance			
g) List of aircraft			
h) Arrangements for training, qualification, facilities			
i) Area of operations, aerodromes, operations specification			
j) Financial statement			
k) Maintenance programme			
l) Contracts and leases			
<b>B. Evaluate [State CAA] resource capability based on schedule of events</b>			
<b>C. Formal application meeting</b>			
1. Schedule acceptance/rejection meeting  Date:			
2. Attendance at the acceptance/rejection meeting			
3. Discussion points			

4. Review certification process			
5. Review impact if schedule of events not met			
<b>D. Issue letter accepting/rejecting application</b>			
<b>E. [State CAA] debriefing in preparation for document evaluation phase</b>			
Remarks:			
Acknowledgement/Signature (as applicable)			
Project Manager (PM)	Flight Operations Inspector (FOI)	Airworthiness Inspector (AWI)	

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## **Chapter 6**

### **DOCUMENT EVALUATION PHASE**

#### **6.1 GENERAL**

6.1.1 After the formal application has been accepted, the [State CAA] certification team will commence a thorough evaluation of all the documents and manuals that are required by the regulations to be submitted to them. [State CAA] should endeavour to complete these evaluations in accordance with the schedule of events prepared by the applicant and agreed at the formal application meeting. If a document or manual is incomplete or deficient, or if non-compliance with regulations or safe operating practices is detected, the document or manual shall be returned to the applicant for corrective action with a detailed list of deficiencies..

6.1.2 Documents or manuals that are satisfactory will be approved or accepted, as required by the regulations. Approval shall be indicated by a signed document. Acceptance of material that does not require formal approval may be confirmed by letter.

6.1.3 The complexity of the information that needs to be addressed in the applicant's documents and manuals depends upon the complexity of the proposed operation.

#### **6.2 DOCUMENTS AND MANUALS TO BE EVALUATED**

6.2.1 The following documents and manuals shall be provided by the applicant: [*Note to State.— Review and amend as appropriate to your State requirements.*]

- Draft operations specifications
- Statement of compliance
- Management personnel resumes providing qualifications and aviation experience
- Aircraft flight manuals
- Operations manual (individual manuals and items listed below form part of the operations manual.):
  - aircraft operating manual
  - minimum equipment list (MEL)
  - configuration deviation list (CDL)
  - aircraft performance manual
  - mass and balance control manual
  - aircraft loading and handling manual or ground handling manual
  - training manuals for flight crew, cabin crew, operations personnel and ground personnel
  - route guide
  - dangerous goods manual
  - passenger briefing cards
  - aircraft search procedure checklist
  - operational control procedures, dispatch, flight following, etc.
- SMS manual, including a description of the flight safety document system
- Security programme manual
- MCM
- Maintenance programme for each aircraft type
- 
- Plan for demonstration flights as applicable

6.2.2 All manuals are to be provided with procedures for the development, control and distribution of each manual, the means to keep the manual up-to-date and the means for the publication and distribution of amendments.

6.2.3 Manuals will require appropriate revision and amendment when new requirements, operations or equipment are introduced.

### 6.3 EVALUATION OF THE DOCUMENTS

[*Note to State.— Amend as specific to requirements in State regulations.* ]

6.3.1 *Draft operations specifications.* Operations specifications form part of the AOC. [State CAA] standard operations specifications will have been given to the applicant at the pre-application meeting and a list of desired operations specifications identified by the applicant to form the draft operations specifications. This draft will have been edited by the applicant and [State CAA] certification team to add necessary authorizations, conditions and limitations to produce operations specifications appropriate to the applicant's intended operation. Information and detailed conditions (such as training, qualifications, equipment requirements and procedures under which each special authorization may be utilized) shall be available in the operations manual. Subsequent amendments to the specifications can be initiated later by the operator or [State CAA] as required by changing circumstances.

6.3.2 *Statement of compliance.* The certification team will evaluate the statement of compliance, the purpose of which is to ensure that the applicant has met all regulatory requirements applicable to the proposed operation. The statement also indicates to the certification team where the regulatory requirements have been addressed in the applicant's manuals, programmes and procedures. The final statement of compliance needs to be completed by the air operator and accepted by [State CAA] prior to the commencement of the flight operations inspections.

6.3.3 *Management personnel resumes providing qualifications and aviation experience.* The list shall include the management positions, the names of the individuals involved and their qualifications and relevant management experience and their licences, ratings and aviation experience.

6.3.4 *Aircraft flight manuals.* Flight manuals are required to be provided specific to individual aircraft and are subject to the control of the State of Registry. Arrangements for the administration control and amendment of copies of the flight manuals shall be examined together with the means for providing aircraft performance and limitations information to the flight crew. The flight manual shall contain at least the information required by [State regulations].

6.3.5 *Operations manual.* The operations manual is the means by which the applicant intends to control all aspects of the intended operation. Its structure consists of four parts: a general section; aircraft operating information; areas, routes and aerodromes; and training. The arrangements for the administration and control of the operations manual shall have already been evaluated during the cursory review in the formal application phase of the certification process. Detailed procedures for the review and approval of the operations manual are contained in Volume II, Chapter 1 of this handbook.

6.3.6 Manuals or other items which may be included in the operations manual and which require evaluation are given in 6.3.6.1 to 6.3.6.14. While references below are made to a separate manual, air operators may at their discretion include the information in the Operations Manual if practicable. Detailed procedures for conducting the operations manual review are contained in Volume II of this handbook, as noted below.

6.3.6.1 *SMS manual.* An SMS manual is required and documents all aspects of the SMS, including: the statement of safety policy and objectives, which clearly describes the safety accountabilities and emergency response planning; the safety risk management, which includes hazard identification processes and risk assessment and mitigation processes; the safety assurance, including safety performance monitoring with an investigation capability; and safety promotion and training. Detailed procedures for the conducting of the SMS manual review are contained in Volume II, Chapter 2 of this handbook.

6.3.6.2 *Aircraft operating information/manual (AOM).* Aircraft operating manuals for each type of aircraft to be operated are required by [State civil aviation regulations Part ....., Section .....]. These manuals are required to contain normal, abnormal and emergency procedures, details of the aircraft systems and the checklists to be used. Detailed procedures for the review and approval of an AOM are contained in Volume II, Chapter 1 of this handbook.

6.3.6.3 *MEL.* A MEL is required for each type and model of aircraft to be operated, which provides for the operation of the aircraft, subject to specified conditions, with particular equipment inoperative. This list prepared by the applicant in conformity with, or more restrictive than, the master minimum equipment list (MMEL) approved by the State of Design for the aircraft type, is tailored to the applicant's aircraft and installed equipment. Detailed procedures for the review and approval of a MEL are contained in Volume II, Chapter 3 of this handbook.

6.3.6.4 *CDL.* A CDL for each aircraft type and model may be established by the organization responsible for the type design and approved by the State of Design to provide for the commencement of a flight without specified external parts. Detailed procedures for the review and approval of a CDL are contained in Volume II, Chapter 3 of this handbook.

6.3.6.5 *Aircraft performance manual.* These manuals are required for each type and model of aircraft to be operated. Detailed procedures for the review and approval of an aircraft performance manual are contained in Volume II, Chapter 1 of this handbook.

6.3.6.6 *Mass and balance control manual.* The manual provides for a system to obtain, maintain and distribute to operational personnel information on the mass and balance of each aircraft operated and the means to keep this information up to date. Detailed procedures for the review and approval of a mass and balance control manual are contained in Volume II, Chapter 1 of this handbook.

6.3.6.7 *Ground handling manual.* This manual contains procedures and limitations for servicing, fueling, loading and unloading, pre-flight preparation and post-flight securing, applicable to the aircraft type and model. Detailed procedures for the review and approval of a ground handling manual/information are contained in Volume II, Chapter 1 of this handbook.

6.3.6.8 *Training manuals for flight crew, cabin crew, operations personnel, ground personnel and maintenance personnel.* Training manuals are required for all operational, maintenance and ground personnel. These shall cover all aspects of initial and recurrent training and conversion and upgrading training. Detailed procedures for the review and approval of training information/manuals are contained in Volume II, Chapter 4 of this handbook.

6.3.6.9 *Route guide.* This is required to ensure that the flight crew and personnel responsible for operational control have the necessary information for communications, navigation aids, aerodromes/heliports, instrument procedures for departure, en route and arrival during the conduct of the particular operation. Detailed procedures for the review and approval of a route guide are contained in Volume II, Chapter 1 of this handbook.

6.3.6.10 *Dangerous goods manual.* All applicants will require information/manual containing procedures for the handling of dangerous goods, emergency response to dangerous goods incidents and the training of personnel. The details required will depend upon the intended status of the applicant with respect to the transport of dangerous goods. If a declaration has been made that dangerous goods will be carried as cargo, the applicant will require comprehensive material on the control, loading and carriage of dangerous goods and on response to dangerous goods incidents and emergencies. If it is not intended to transport dangerous goods as cargo, the applicant will still need to cover dangerous items that form part of the normal aircraft equipment, dangerous items that are permitted to be carried by passengers and dangerous items that may be carried in the form of company material. Detailed procedures for the review and approval of the dangerous goods manual are contained in Volume II, Chapter 19 of this handbook.

6.3.6.11 *Passenger briefing cards.* Passenger briefing cards need to be provided to supplement oral briefings and be particular to the type and model of aircraft and the specific emergency equipment in use. The passenger briefing card shall be reviewed to ensure it meets the requirements of [State regulation Part XX].

6.3.6.12 *Aircraft search procedure checklist.* The checklist needs to be carried on board and describes the procedures to be followed in searching for a bomb in case of suspected sabotage and for inspecting aircraft for concealed weapons, explosives or other dangerous devices when a well-founded suspicion exists that the aircraft may be the object of an act of unlawful interference. The checklist shall be supported by guidance on the appropriate course of action to be taken should a bomb or suspicious object be found and information on the least-risk bomb location specific to the aircraft. The aircraft search procedures checklist shall be reviewed to ensure it meets the requirements of [State regulation Part XX].

6.3.6.13 *Operational control procedures, dispatch, flight following, etc.* The operations manual is required to contain the details of the applicant's operational control procedures and procedures for dispatch and flight following. It shall cover procedures for use in emergency situations and all communication procedures. Detailed procedures for the review and approval of operational control procedures are contained in Volume II, Chapter 1 of this handbook.

6.3.6.14 The operations manual shall contain procedures for limiting the flight time and flight duty periods and providing adequate rest periods for flight and cabin crew members. These procedures are included in the operations manual and will be in accordance with the [State] regulations. Detailed procedures for the review and approval of the limitations governing flight time, flight duty periods and rest periods are contained in Volume II, Chapter 1 of this handbook.

6.3.7 *Security programme manual.* This manual shall describe the operator security programme, which shall meet the requirements of the national civil aviation security programme of [State]. The manual shall include the security procedures applicable to the type of operations. Procedures for the review of the security manual are not contained in this Handbook as this review will be completed by the [Note to State.— insert name of appropriate authority designated for aviation security by the State] in consultation with [State CAA].

6.3.8 *MCM.* This manual sets out the applicant's intentions and procedures with regard to maintaining the airworthiness of the aircraft used, during their operational life. This applies whether or not the applicant for an AOC also intends to apply for approval as an AMO or intends to contract out maintenance to an AMO. Detailed procedures for the review of MCM are contained in Volume III, Chapter (Airworthiness) of this handbook.

6.3.9 *Maintenance programme, including maintenance schedule.* A maintenance programme is required for individual aircraft, taking into account the requirements of the type design authority. Detailed procedures for the review of maintenance programmes are contained in Volume III, Chapter (Air) of this

handbook. [*Note to State.— The maintenance programme will require the approval of the State of Registry, if the aircraft is not registered in [State]*]. The maintenance programme of each individual aircraft is approved by [State CAA] if [State] is the State of Registry or accepted by [State CAA] when the aircraft is registered in another State.

6.3.10 *Plan for demonstration flights.* Where demonstration flights are required, a plan for these demonstration flights shall be prepared so that the applicant can demonstrate the ability to operate and maintain aircraft and conduct the type of operation specified. The determination as to whether or not demonstration flights will be required, and if such flights are required, their number and type, will depend on the [State CAA's] assessment of the capabilities of the operational systems established by the applicant. The following factors will be considered when determining the demonstration flight requirement:

- a) to what extent is the new aircraft substantially different from an aircraft previously flown by the applicant's flight crew (such as changing from turboprop to turbojet, unpressurized to pressurized, or narrow body to wide body);
- b) to what extent is the applicant's route structure affected by the request (for example, inauguration of international routes and use of special areas of operation);
- c) what is the experience level of personnel involved in the operation (for example, flight and cabin crewmembers' previous experience in the operation of this type of aircraft);
- d) how does the applicant propose to conduct the proving flights (for example, a few long-range versus several short-range flights); and
- e) what level of management experience exists in the company with this type or similar type or make of aircraft.

6.3.11 Documentation Evaluation Job Aid AOC-003 at the end of this chapter shall be utilized to confirm the acceptability of the documents provided by the applicant. Many of the items contained in this job aid are to be completed utilizing the more detailed job aids as contained in Volume II and III.

[*Note to State.— Detailed job aids and procedures for the demonstrations and inspections subjects that follow are contained in Volume II and Volume III of this handbook.*]



Attachment to Chapter 6

<b>DOCUMENT EVALUATION — JOB AID AOC-003</b>					
<b>SUBJECT</b>	<b>PM/FOI/AWI SIGNATURE (AS APPLICABLE)</b>	<b>DATE RETURNED</b>	<b>DATE RE-SUBMITTED</b>	<b>DATE APPROVED/ACCEPTED</b>	<b>REFERENCE DOCUMENT</b>
<b>A. Evaluate applicable training manuals</b>					
1. Crew member training					
a) Basic company indoctrination					
b) Emergency equipment training					
c) Ground training					
d) Flight training					
e) Recurrent training					
f) Transition/ upgrade training					
g) Differences training					
h) Security training					
i) Dangerous goods					
j) Instructor qualifications					
k) Human performance training					
<b>2. Dispatcher training</b>					
a) Initial training					
b) Recurrent training					
c) Instructor qualifications					
d) Human performance training					
<b>3. Cabin crew training</b>					
a) Initial training					
b) Recurrent training					
c) Differences training					
d) Human performance training					
<b>4. MCM - Maintenance personnel training programme</b>					
a) Maintenance training					
b) Inspection personnel training					

c) Instructor qualifications					
<b>5. Other ground personnel training</b>					
a) Ground handling/ servicing personnel training					
b) Station personnel training					
c) Instructor qualifications					
Remarks:					
<b>B. Evaluate management qualifications</b>					
1. Accountable manager					
2. Director of operations					
3. Director of maintenance					
4. Director of safety					
5. Chief pilot					
6. Quality manager for maintenance					
7. Head of training					
8. Request for deviation letter (if applicable)					
Remarks:					
<b>C. Evaluate applicable company manuals/operation procedures</b>					
1. Completed flight operations manual (Parts A, C and D)					
2. Approved aircraft flight manual					
3. Company aircraft operations manual (OM Part B)					
<b>4. Aircraft checklist</b>					
a) Normal					
b) Abnormal					
c) Emergency					
5.. Dangerous goods manual					
7. Security manual					

8. Passenger briefing card					
9. MCM					
10. Ground handling manual					
11. Mass and balance control manual					
12. Reliability programme					
13. Maintenance programme manual					
13.1. Reliability programme					
14. Airport data and en-route manual (chart and plates) (OM Part C)					
16. Minimum equipment list					
17. Configuration deviation list					
Remarks:					
<b>Other evaluations</b>					
1. Aircraft lease					
2. SMS manual					
2.1. Emergency response plan					
3. Maintenance contracts/agreements					
4. Ground handling contracts/agreements					
5. Training contracts (if applicable)					
6. Aircraft demonstration test plan					
7. Final compliance statement					
8. Financial assessment					
9. [State CAA] debriefing in preparation for demonstration and inspection phase					

Remarks:

**Acknowledgement/Signature** (as applicable)

\_\_\_\_\_

Project Manager (PM)

\_\_\_\_\_

Flight Operations Inspector (FOI)

\_\_\_\_\_

Airworthiness Inspector (AWI)

*[Note to State.— Detailed job aids and procedures for the demonstrations and inspections noted above are contained in Volumes II or III of this handbook.]*

## **Chapter 7**

### **OPERATIONAL DEMONSTRATION AND INSPECTION PHASE**

#### **7.1 GENERAL**

7.1.1 [State] regulations require an applicant to demonstrate the ability to comply with regulations and safe operating practices before beginning revenue operations. These demonstrations will include actual performance of activities and/or operations while being observed by inspectors of the certification team. This will also involve on-site evaluations of aircraft maintenance equipment and support facilities. During these demonstrations and inspections, [State CAA] evaluates the effectiveness of the policies, methods, procedures and instructions as described in the manuals and other documents developed by the applicant. During this phase, emphasis should be placed on the applicant's management effectiveness. Deficiencies shall be brought to the attention of the applicant in writing, and corrective action shall be taken before an AOC can be issued.

7.1.2 The preliminary assessment of the application, as described in Chapters 5 and 6, should provide [State CAA] with a general appreciation of the scope of the proposed operation and the potential ability of the applicant to conduct it safely. However, before authorizing the issuance of the AOC, [State CAA] will need to thoroughly investigate the operating ability of the applicant. This important and more detailed phase of the investigation and assessment will require the applicant to demonstrate thorough, day-to-day administrative and operational capabilities, including, in some cases, proving flights over proposed routes, the adequacy of facilities, equipment, operating procedures and practices, and the competence of administrative, flight and ground personnel. Demonstration flights may include any aspect to be covered by a special authorization in the operations specifications which will be associated with the AOC when issued. Training or positioning flights observed by a CAA inspector may be credited towards meeting demonstration flight requirements.

7.1.3 The operational aspects demonstration and inspection phase shall encompass all aspects of the proposed operation. However, such matters as the inspection of the passenger services organization, though necessary, is not covered in this handbook.

7.1.4 Precise details of inspections will be determined by many factors, such as the nature, scope and geographical areas of operations, the type of airborne and ground equipment to be used and the method of operational control and supervision. Many of the inspections required for initial certification or addition of a new aircraft type will subsequently be conducted as part of [State CAA] surveillance plan. For ease of reference the detailed procedures, including job aids/checklist are contained in Volume II (for operations) and Volume III (for airworthiness) of this handbook.

7.1.5 It will also be necessary to ascertain that facilities located in other States, which are to be utilized, are adequate. As [State CAA] licences are fully compliant with ICAO Annex 1 — *Personnel Licensing* requirements, they are acceptable to other States where operations will take place.

*[Note to State.— If the State-issued licence does not fully meet the ICAO Annex 1 requirements, then a determination must be made as to whether the State licence is acceptable to other States. Arrangements for this determination are a matter of agreement between the [State] and the other States concerned.]*

## **7.2 ORGANIZATION AND ADMINISTRATION**

7.2.1 During the operational demonstration and inspection phase, the applicant's organizational structure, managerial style, direction and philosophy will be evaluated to ensure that necessary and proper control can be exercised over the proposed operation. A sound and effective management structure is essential; it is particularly important that the operational management should have proper status in the applicant's organization and be in suitably experienced and competent hands. Through discussions with key management personnel and through observation, the [State CAA] certification team will evaluate the appropriateness of the management structure and determine whether or not clear lines of authority and specific duties and responsibilities of subordinate elements and individuals are established. These duties and responsibilities need to be clearly outlined in the applicant's operations and MCMs and other company documents. It should also be determined that acceptable processes are established for conveying company procedures and operating instructions to the personnel involved to keep them appropriately informed at all times. The authorities, tasks, responsibilities and relationships of each position need to be clearly understood and followed by the individuals occupying these positions.

7.2.2 At all levels, it is necessary that the applicant's personnel are thoroughly integrated into the operation and are 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.

7.2.3 The applicant's staffing level needs to be evaluated to determine whether an adequate number of personnel are employed at management and other levels to perform the necessary functions. The number and nature of personnel will vary with the size and complexity of the organization. Through a sampling questioning process, the [State CAA] certification team will determine whether or not management personnel are qualified, experienced and competent to perform their assigned duties.

7.2.4 Experience has shown that the quality of an operation is directly related to the standards maintained by its management. Competent management usually results in safe operations. An excess of managers can lead to fragmentation of responsibility and control and to as much difficulty and inefficiency as a shortage. Either case can result in a lowering of operational standards. Thus, the evaluation of an applicant's organization is a very significant phase of the certification inspection process. Once it has been determined that the applicant's organization is adequately staffed and managed, a detailed examination of the organization shall be initiated, and the suitability and use of the associated operations manual and MCM shall be assessed.

## **7.3 GROUND OPERATIONS INSPECTION**

### **7.3.1 General**

7.3.1.1 The purpose of this phase of the certification inspection is to ascertain, through on-site inspections, the adequacy and suitability of the applicant's staffing, training programme, ground equipment, facilities and procedures to conduct the operations specified in the application.

7.3.1.2 The inspection of maintenance facilities and procedures is part of the ground inspection and will be carried out separately by airworthiness inspectors who are part of the [State CAA] certification team. This aspect is covered in detail in Volume III of this handbook.

7.3.1.3 Detailed procedures for the conducting of ground operations inspection other than maintenance facilities are contained in Volume II of this handbook.

### **7.3.2 Flight crew qualifications, licensing and training**

The [State CAA] inspector shall determine that the applicant has established procedures and training programmes to ensure that flight crew qualifications meet the requirements of the [State civil aviation regulations] and that personnel are duly licensed and hold appropriate and valid ratings in accordance with [State civil aviation regulations, Part XX]. Detailed inspection procedures are outlined in Volume II, Chapter 11 of this handbook.

### **7.3.3 Cabin crew competency and training**

The [State CAA] inspector shall also determine that the applicant has established a training programme to ensure that cabin crew members are competent in executing those safety duties and functions to be performed in the event of an emergency including a situation requiring emergency evacuation. Detailed inspection procedures are outlined in Volume II, Chapter 4 of this handbook.

### **7.3.4 Training programmes**

The training programme shall be described in detail either in the operations manual or in a training manual which, whilst it will form part of the operations manual, will be issued as a separate manual. 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 application and updating. Depending on the scope and complexity of the proposed operation, the training programmes required by [State civil aviation regulations] 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 any event the [State CAA] certification team will need to carry out a thorough analysis and inspection of all phases of the applicant's ground and flight training programmes. This analysis and inspection should permit a determination as to whether the training methods, syllabi, training aids/devices, training standards, related facilities and record keeping are adequate. The qualifications of ground and flight instructor personnel shall be established and their effectiveness evaluated. Detailed inspection procedures are outlined in Volume II, Chapter 4 of this handbook.

### **7.3.5 Record keeping**

In accordance with [State civil aviation regulations, Part XX] operators are required to maintain certain records pertaining to the conduct of the operations for a specified period. The primary objective of the inspection of operations and flight records is to ensure that operators comply with established procedures and appropriate regulations. The procedures for record keeping need to be evaluated as part of the certification inspection process to indicate the manner in which records will be kept and whether or not such recording will be conducted in compliance with relevant regulations. Detailed inspection procedures are outlined in Volume II, Chapter 9 of this handbook.

### **7.3.6 Fuel computation procedures**

7.3.6.1 The objective of this inspection is to determine whether the applicant's aircraft will be dispatched with adequate fuel loads calculated in accordance with regulations and the policy set forth in the operations manual. To make this determination, the fuel computation policy and sample operational flight plans for flights to be dispatched from different bases on routes and route sectors calling for wide differences in fuel requirements and including sectors on which aircraft fuel capacity is critical, shall be examined and the fuel to be carried validated against expected aircraft performance, with appropriate corrections for wind conditions and flight levels en-route.

7.3.6.2 The fuel policy shall consider the additional fuel necessary to proceed to an adequate aerodrome in the event of failure of one engine or loss of pressurization, at the most critical point while en route, whichever is higher.

7.3.6.3 Detailed inspection procedures are outlined in Volume II, Chapter 9 of this handbook.

### 7.3.7 **Aircraft mass and balance procedures**

7.3.7.1 This part of the inspection is to ascertain that aircraft will be safely and correctly loaded and to investigate the applicant's method of exercising overall mass control. [State CAA] inspector shall examine the system and methods whereby aircraft mass is checked and maintained to ensure that mass fluctuations due to modifications and other causes are fully taken into account and that the mass statement is accurate. Detailed inspection procedures are outlined in Volume II, Chapter 8 of this handbook.

### 7.3.8 **Ground inspection deficiencies**

7.3.8.1 Unsatisfactory conditions noted by [State CAA] certification team during the ground inspection need to be brought to the attention of the applicant for corrective action. The opportunity shall be provided for the applicant to remedy any deficiencies affecting the safety of the operation before the commencement of any flight operations inspection. All discrepancies and items of non-compliance need to be corrected or resolved, with acceptable records of the corrective actions taken being kept, to the satisfaction of the [State CAA] certification team prior to the inauguration of commercial service.

### 7.3.9 **Evaluation of passenger evacuation and ditching capability**

7.3.1 [State regulations] require that before an aircraft type and model can be used in commercial air transport passenger-carrying operations an actual full capacity emergency evacuation demonstration has been conducted to check the suitability of the emergency equipment and to determine the maximum number of persons on board. All passengers must be evacuated from the aircraft within 90 seconds or less using 50% of the available doors. Subsequently, engineering analysis and historical data can be used to validate other passenger seating configurations. Prior to the import of an aircraft into [State] and issue of a Certificate of Airworthiness, the [Airworthiness Division] will conduct an interior inspection to ensure conformity to an approved interior configuration, emergency and safety equipment, and that there is documentation to confirm that the full capacity emergency evacuation has been completed satisfactorily. The Type Certification Data Sheet (TCDS) and Aircraft Flight Manual (AFM) will normally provide this information.

7.3.2 Emergency evacuation training and competency requirements for crew members are established in [State regulations]. As part of the document evaluation, [State CAA] inspectors shall determine that the applicant has established a training programme that ensures that crew members are competent in executing those safety duties and functions to be performed in the event of an emergency evacuation. Detailed inspection procedures related to training programme approval and monitoring are outlined in Volume II, Chapter 4 of this Handbook.

7.3.3 [State regulations] do not permit an operator to use an aircraft in extended flights overwater unless it has first demonstrated to the [State CAA] that the aircraft has the ability and equipment to carry out emergency ditching procedures. The [Airworthiness Division] will review the aircraft documentation to ensure that an aircraft intended to be used for extended flights overwater is certificated for ditching



7.3.4 Ditching training and competency requirements for crew members are established in [State regulations]. The [State CAA] inspectors shall determine that the applicant has established a training programme that ensures that crew members are competent in executing those safety duties and functions to be performed in the event of a situation requiring ditching. Detailed inspection procedures related to training programme approval and monitoring are outlined in Volume II, Chapter 4 of this Handbook.

## **7.4 FLIGHT OPERATIONS INSPECTION**

7.4.1 Following the ground operations phase of the inspection programme prior to certification, it may be necessary, particularly in the case of new operators, to carry out a series of inspections in the course of flight. Such inspection flights provide an opportunity for the applicant to demonstrate the ability to carry out the proposed operations in accordance with applicable regulations. Passengers shall not be carried during inspection flights prior to certification and observer personnel on-board the aircraft shall be kept to a minimum. However, it is generally desirable for the applicant to have on-board company personnel who can take decisions and make commitments on behalf of the applicant concerning action to correct deficiencies.

7.4.2 The determination by [State CAA] as to whether or not demonstration flights will be required, and if such flights are required, their number and type, will depend on the [State CAA's] assessment of the capabilities of the operational and maintenance systems established by the applicant. All demonstration flights are to be conducted using the methods and procedures proposed by the applicant in the formal application package (Volume I, Chapter 5).

7.4.3 Detailed demonstration flight procedures are outlined in Volume II, Chapter 5 of this handbook.

## **7.5 CONCLUSION**

Documentation Evaluation Job Aid AOC-004 at the end of this chapter shall be utilized and completed to confirm the acceptability of the operational aspects during the demonstration and inspection phase.

*[Note to State.— Detailed job aids and procedures for the demonstrations and inspections subjects noted below are contained in Volume II and III of this handbook.]*

Attachment to Chapter 7

<b>DEMONSTRATION AND INSPECTION PHASE — JOB AID AOC-004</b>			
<b>SUBJECT</b>	<b>PM/FOI/AWI SIGNATURE</b>	<b>DATE COMPLETED</b>	<b>REFERENCE DOCUMENT</b>
A. Inspect applicant conducting training			
B. Certification or qualifications of pilots, flight dispatchers, cabin crew			
C. Aircraft conformity inspection			
D. Main operations base			
E. Main maintenance base			
F. Station and ground handling inspection			
G. Demonstration flight			
Remarks:			

## **CHAPTER 8**

### **DEMONSTRATION AND INSPECTION PHASE MAINTENANCE CONTROL ASPECTS**

#### **8.1 GENERAL**

8.1.1 As part of the requirements described in 7.1.1 and 7.1.2, the applicant (operator) is required to demonstrate that an organization with the necessary qualified staff, equipment and facilities is set up and responsible for ensuring that the aircraft remain in an airworthy condition for the duration of their operational life. This is also referred to as managing the continuing airworthiness of the aircraft.

8.1.2 In the case of an applicant seeking authority to operate leased aircraft registered in a different State, suitable arrangements must be made between [State] and the State of Registry regarding responsibility for the continuing airworthiness of the aircraft. (See Volume I, Chapter 11 for details on the leasing of aircraft).

8.1.3 Further detailed guidance on the maintenance control aspects of air operator certification, as well as approval of the MCM, is contained in Volume III of this handbook.

#### **8.2 MAINTENANCE CONTROL ORGANIZATION**

The [State CAA] inspector shall determine that the structure of the applicant's maintenance control system is set forth, clearly delineating duties and responsibilities for all key personnel including the manager(s) for engineering and maintenance. The names of all incumbents shall be listed. The details of the organizational structure shall be included as a part of the MCM and, if necessary, also promulgated separately.

#### **8.3 MAINTENANCE CONTROL MANUAL (MCM)**

8.3.1 [State civil aviation regulations] require the applicant to prepare an acceptable MCM for the use and guidance of maintenance organization personnel. The operator needs to ensure that the MCM is revised as necessary to keep the information contained therein up-to-date. Copies of all revisions will be furnished promptly to all organizations or persons to whom the manual has been issued. Accordingly, one of the first steps in the maintenance inspection is a thorough analysis of the MCM, the correction of any discrepancies and the tentative acceptance by the [State CAA] inspector. During the course of the maintenance control inspection, the PM, assisted by qualified [State CAA] airworthiness inspectors, shall determine that the provisions of the MCM are in place.

8.3.2 The details in and number of volumes of the MCM will vary depending upon the type, complexity and number of aircraft involved. Detailed inspection procedures are outlined in Volume III, Chapter 2 this handbook.

## **Chapter 9**

### **CERTIFICATION PHASE**

#### **9.1 FINAL PREPARATION FOR THE ISSUANCE OF AN AOC**

9.1.1 The [State CAA] PM will have notified the applicant in writing of all discrepancies that need to be resolved before an AOC and its associated operations specifications can be issued.

9.1.2 The PM reviews the final operations specifications and makes any changes necessary.

9.1.3 The PM and the [State CAA] certification team shall ensure that all the requirements for certification have been met and also have determined that the applicant is fully capable of fulfilling all the responsibilities incumbent in the conduct of the proposed operations and of complying with the applicable laws and regulations, and the provisions of the AOC and operations specifications.

9.1.4 Further, an AOC will not be issued until the [State organization responsible for the economic and financial assessment] of the applicant has presented a favourable report, and until [State CAA] is satisfied that the operator has the financial resources to conduct its planned operations, including resources for the disruptions that can be reasonably expected in daily operations.

9.1.5 The PM will provide a report with appropriate recommendations on the issuance or denial of an AOC to the [DGCA or the State official responsible for its issuance]. The report shall include the following information.

9.1.5.1 In the case of a recommendation on issuance of the AOC:

- a) confirmation that the air operator has been certificated in accordance with the policy and procedures as contained in the [State] Air Operator Certification and Surveillance Handbook;
- b) listing of the applicable job aids/checklists that have been completed to confirm that the air operator is in compliance with [State regulations] and related guidance material;
- c) confirmation that [State CAA] is satisfied that the operator has the financial resources to conduct its planned operations;
- d) signature of the PM and the name and title of each team member who assisted in the certification project.

9.1.5.2 In the case of a recommendation on denial of an AOC:

- a) listing of the applicable job aids/checklists that have been successfully completed to date;
- b) details of certification requirements which the air operator has failed to achieve; and
- c) signature of the PM and the name and title of each team member who assisted in the certification project.

## **9.2 ISSUANCE OF AN AOC AND THE ASSOCIATED OPERATIONS SPECIFICATIONS**

9.2.1 [State CAA] shall assign an AOC number and determine the date of issuance. The certificate and associated operations specifications shall be signed by the [State CAA official responsible for its issuance].

9.2.2 The format and the content required for an AOC are provided in Attachment C of Volume I to this handbook. The format, content and further guidance on the content for the associated operations specifications are provided in Attachment D of Volume I of this handbook.

9.2.3 Certification Phase Job Aid AOC-005 at the end of this chapter shall be utilized and completed to confirm the completion of all certification activities prior to recommending issuance of the AOC and associated operations specification.

## **9.3 PERIOD OF VALIDITY OF AN AOC AND THE ASSOCIATED OPERATIONS SPECIFICATIONS**

9.3.1 An AOC and associated operations specification shall be valid for X years. The date of issuance and an expiry date are to be entered on an AOC. *[Note to State.— If your State does not apply a period of validity to AOCs, amend the text as appropriate and add the following text ... the fact that the certificate does not expire is indicated on the certificate.]*

9.3.2 In general, an AOC or any portion of an AOC issued by a [State CAA] remains valid until:

- a) [State CAA] amends, suspends, revokes or otherwise terminates the certificate;
- b) the AOC holder surrenders the certificate to [State CAA];
- c) the AOC holder suspends operations for more than [ enter period of time as contained in State regulations or policy]; or
- d) the expiry date, as applicable.

*[Note to State.— If your State does not have a validity period of [X] years amend as appropriate. If the AOC is issued with no limit on the period of validity, the AOC shall be appropriately annotated (e.g. “Expiry date: valid until revoked, suspended or cancelled”).]*

## **9.4 IDENTIFICATION OF INDIVIDUAL AIRCRAFT BY NATIONALITY AND REGISTRATION MARKS**

9.4.1 Operations specifications include designation of the make, model and series (or master series) of the aircraft that are to be used.

9.4.2 In accordance with the standard format for the operations specifications, the nationality and registration marks of individual aircraft is not included. It is essential that information on the identification of individual aircraft, used by an operator for a particular operation, is maintained up to date and documented in the operations manual.

## **9.5 AMENDMENTS TO THE AOC AND THE OPERATIONS SPECIFICATIONS**

9.5.1 Any subsequent changes to the operation specified or to the equipment approved for use may necessitate amendments to the operations specifications. It is appropriate that an AOC will itself be a very basic document and that all aspects of the operation that might be the subject of certification changes would be dealt with in the associated operations specifications which would evolve with the operation.

9.5.2 The process for the amendment of operations specifications will be similar to the original certification process, with the exception that in many cases it will be far less complex, dependent upon the subject of the change that necessitates the amendment. Where changes involve new types of operation, new geographical areas or new aircraft, the appropriate level of complexity will have to be applied to the process.

## **9.6 RENEWAL OF AN AOC**

9.6.1 The continued validity of an AOC is dependent upon an operator maintaining the requirements for an adequate organization, method of control and supervision of flight operations, training programme as well as ground handling and maintenance arrangements consistent with the nature and extent of the operations specified in the AOC and the associated operations specifications, under the supervision of [State CAA].

9.6.2 [State CAA] will conduct continuing surveillance of the operator to continuously determine that the AOC remains valid. Procedures for the establishment and implementation of an annual surveillance plan are outlined in Volume II, Chapter 6 for Operations and Volume III, Chapter (Air) for Airworthiness.

*[Note to State.— Paragraph 9.6.3 is not required where the AOC has no expiry date.]*

9.6.3 The operator needs to apply for renewal of the AOC two months prior to the expiration date and the request for renewal shall include any desired changes to the basic information that was submitted prior to the original certification and during the ongoing operations. Such renewal does not involve a complete recertification procedure and thus will not be an onerous or prolonged process, because of the continuing surveillance exercised by [State CAA].

Attachment to Chapter 9

<b>CERTIFICATION PHASE — JOB AID AOC-005</b>			
SUBJECT	PM/FOI/AWI SIGNATURE	DATE COMPLETED	REFERENCE DOCUMENT
A. Prepare certification report			
a) Pre-application statement of intent			
b) Completed certification job aids			
c) Formal application letter			
d) Schedule of events			
e) Final compliance statement			
f) Demonstration evaluation report			
g) Summary of closure of all findings/safety concerns			
h) Operations specifications to be issued			
i) Recommendation letter for AOC approval			
j) [State CAA] Coordination meeting prior to issuance of AOC			
Remarks:			
B. Approve operations specifications of the operator			
C. Present AOC and operations specifications to certificate holder			
D. [State CAA] Final debriefing			
Remarks:			
_____	_____	_____	
Project Manager (PM)	Flight Operations Inspector (FOI)	Airworthiness Inspector (AWI)	

## **Chapter 10**

### **LEASING**

#### **10.1 GENERAL**

*[Note to State.— Some States do not permit the use of dry and/or wet lease foreign aircraft by their air operators, or will only permit these operations in particular circumstances. If your State does not permit these operations through regulations and/or policy then add a short paragraph to outline the State requirements and delete the text that follows, as applicable. If there are restrictions to the lease of aircraft, clearly state your policy in this Chapter.]*

#### **DEFINITIONS:**

**Lessee.** The party to which the aircraft is leased

**Lessor.** The party from which the aircraft is leased

**Dry lease.** The lease of an aircraft without with its crew, operated under the AOC of the lessee (custody and the operational and commercial control of the lessee) using the lessee's airline designator code and traffic rights.

**Wet lease.** A lease of an aircraft crew, operated under the AOC of the lessor, with commercial control of the lessee and using the lessee's airline designator code and traffic rights

*[Note to State.— Some authorities define a wet lease as the lease of an aircraft with at least the flight crew, while other authorities define a wet lease as the lease of an aircraft with at least one crew member, or the lease of an aircraft with an entire aircraft crew (flight and cabin crew members). Amend the definitions above and/or the text below to accurately reflect your State requirements.]*

**Damp lease.** A wet lease of an aircraft where the aircraft is operated under the AOC of the lessor, with the flight crew and possibly part of the cabin crew being provided by the lessor, and part or all of the cabin crew provided by the lessee.

10.1.1 While [State] permits the lease of foreign registered aircraft by [State] air operators, there are a number of legal and practical operational problems, which will be considered in the certification of an operator proposing to utilize leased aircraft, or when an operator, in possession of an AOC, proposes to act as a lessor or lessee or otherwise cooperate with another operator. These practices are economically driven and advantageous to operators. However, [State CAA] staff is responsible to ensure that safety takes precedence over any economic issues presented by the operator.

10.1.2 In recent years the practice of leasing aircraft has come into wide usage. Many leases involve aircraft owned by individuals or companies that are registered in one State and leased to operators from another State.

10.1.3 Unless suitable arrangements are made between the States involved, a lease may create complex legal, safety, enforcement and practical problems for either the State of Registry of the aircraft or the State of the Operator, or both of these States. These problems arise because of possible uncertainty concerning which party is responsible for the safe operation and airworthiness of the aircraft, and



uncertainty concerning the regulations of which State are applicable. The relevant authorities are responsible for resolving such uncertainties before a lease takes effect. The determination of responsibilities is a factual issue that depends upon the terms of the lease or other agreements. Determining which party to a lease is responsible for the operational control and airworthiness will in turn clarify the regulations of which State will apply, and what oversight responsibilities a particular State has for the operation of a leased aircraft. In some instances, the oversight responsibilities of the State of Registry and the State of the Operator may overlap. Some leases run for a long term while others are for short periods to cover temporary requirements.

10.1.4 In addition to the problems presented to [State CAA], questions also arise concerning what steps can be taken to protect the financial interests and the assets of the lessor. This relates primarily to whether the laws and regulations of the State of Registry and its surveillance capabilities are adequate to cover the interests of the lessor in situations where the lessee, the operator of the aircraft, is from another State. Where the State of Registry and the State of the Operator are adequately carrying out their responsibilities for safety oversight, these actions should tend to protect the lessor's interests in a leased aircraft.

10.1.5 In [State], [State CAA] is responsible for ensuring that every aircraft on [State] registry comply with the detailed technical and safety regulations promulgated by [State], wherever such aircraft may be operated. However, where [State] registered aircraft are operated under a lease arrangement outside of [State] it will be difficult for [State CAA] to properly carry out safety oversight, particularly in international commercial air transport. These responsibilities in turn create serious surveillance and enforcement problems for the [State] because these leased aircraft are frequently operated in distant areas where [State CAA] personnel from [State] would find it difficult to conduct safety inspections. Compliance with the pertinent safety standards and regulations of [State] may therefore diminish. Violations of regulations may occur by design or from ignorance and be unknown to the [State]. As a result, it is unlikely that enforcement action would be taken with respect to such leased aircraft.

10.1.6 Article 83 *bis* of the *Convention on International Civil Aviation* permits the transfer of certain responsibilities (those of Articles 12, 30, 31, 32 (a)) from the State of Registry to the State of the Operator in case of a lease to more effectively deal with this matter.

10.1.7 The primary purpose of the transfer of certain functions under an Article 83 *bis* agreement should be to enhance safety oversight capabilities by delegating responsibility for oversight to the State of the Operator, recognizing that this State is in a better position to carry out these responsibilities. For States to enter into an Article 83 *bis* agreement both will have had to ratify Article 83 *bis*.

10.1.8 However, before agreeing to transfer any functions, [State] shall determine that the State of the Operator is fully capable of carrying out the functions to be transferred. This determination can be accomplished by various means, including a safety oversight audit (SOA) conducted by the [State] or through review of reports of SOAs conducted either by ICAO, under the Universal Safety Oversight Audit Programme (USOAP), or by another Contracting State. Full information on USOAP audit results can be found on the ICAO SOA secure site which is accessible to all States. There may be circumstances where States are unable to reach agreement on the delegation and acceptance of responsibilities as provided for in Article 83 *bis* or where delegation is not an alternative that is acceptable to the parties involved. In such circumstances [State] would retain responsibility for maintaining proper surveillance of aircraft on its registry when operated under lease arrangements under the authority of another State.

10.1.9 A model agreement was developed on the basis of agreements registered with ICAO and taking into account other related information. This model agreement is provided in the *Manual for Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335), Attachment B to Part V. [State CAA] inspectors will use this format for development of such an agreement with

inclusion of only the referenced functions and duties of the State of Registry that may be subject to such a transfer to the State of the Operator.

10.1.10 Agreements or arrangements for the transfer of responsibilities under the terms of Article 83*bis* are required to be registered with ICAO. Such agreements registered with ICAO can be found on the ICAO public website (<http://cfapp.icao.int/dagmar/main.cfm>) by searching for “All Signatories” and “Article 83 *bis*”.

10.1.11 Where delegation of responsibility is not a viable solution, [State CAA] will ensure that it has in place technical staffing and funding to maintain acceptable surveillance over the operation of aircraft on its registry that are leased to operators from other States.

10.1.12 This general summary concerning leased aircraft is intended primarily to acquaint [States CAA] staff and operators with problems that may arise where an operator, using leased aircraft registered in another State, may have to comply with a confusing combination of:

- a) regulations of the State of Registry;
- b) regulations of the State of the Operator; and
- c) the operating regulations and rules of a third State over whose territory operations may be conducted.

## **10.2 DRY LEASE**

10.2.1 Under most dry lease agreements the lessee, who provides the crew, is the accountable party who exercises operational control over the aircraft with all the attendant responsibilities. If the lessee does not have operational control of the leased aircraft under the lease agreement, the responsible authority needs to carefully evaluate the arrangements to ensure that the operation can be conducted with an adequate level of safety in accordance with the applicable regulations.

10.2.2 When an applicant for an AOC, or an existing operator, wishes to use dry leased aircraft, the applicant or operator shall provide [State CAA] with the following information:

- a) the aircraft type, model and serial number;
- b) the name and address of the registered owner;
- c) State of Registry, nationality 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 applicable regulations;
- f) copy of the lease agreement or description of lease provisions;
- g) duration of the lease; and

- h) areas of operation.

10.2.3 [State CAA] staff will review the application, and contact other competent authorities as necessary to verify accuracy and completeness. [State CAA] will make the determination as to which party to the lease agreement is in fact responsible for the conduct of the operation. In making this determination, [State CAA] staff will consider the responsibilities of the parties under the lease agreement for:

- a) flight crew member licensing and training;
- b) cabin crew member training;
- c) airworthiness of the aircraft and the performance of maintenance;
- d) operational control, including dispatch and flight following;
- e) scheduling of flight crew and cabin crew members; and
- f) signing the maintenance release.

#### **DRY LEASE OF AIRCRAFT REGISTERED IN [STATE]**

10.2.4 This is a lease arrangement determined to be a dry lease to an operator of [State], involving an aircraft registered in [State] that possesses a valid certificate of airworthiness issued by [State], which is also the State of Registry. If the dry lease arrangement is acceptable to [State CAA], the operations specifications and the operations manual of the lessee shall be amended to provide at least the following data:

- a) names of the parties to the lease agreement and the duration thereof;
- b) nationality and registration marks of each aircraft involved in the agreement;
- c) type of aircraft to be used;
- d) areas of operation; and
- e) regulations applicable to the operation.

*[Note to State.— The operations specifications would provide the data requested in c) and d). Information in a), b) and e) can be provided in the operations manual.]*

#### **DRY LEASE OF AIRCRAFT REGISTERED IN OTHER STATES**

10.2.5 In cases where the dry lease involves an aircraft of a nationality different from [State], the regulatory and compliance problems become more acute. As with other applications for the use of dry leased aircraft, [State CAA] require that the operator, who is the lessee, provide [State CAA] with the information required by 10.2.2 above.

10.2.6 When the State of Registry is not [State], it may be beneficial for the State of Registry and the State to enter into an agreement regarding the transfer of all or part of the functions, duties or

responsibilities of the State of Registry under the Convention, to [State]. [*Note to State.— This assumes your State has ratified 83 bis and has regulations to permit its use*]. Where transfer of functions, duties or responsibilities cannot be achieved then [State CAA] will make a determination as to whether the State of Registry can reasonably meet its oversight responsibilities. When the determination is made that State of Registry cannot carry out its oversight functions in accordance with the Convention, and it cannot reach a satisfactory agreement with [State] on the transfer of its oversight functions pursuant to Article 83 *bis*, the use of aircraft under dry lease arrangements will not be permitted under these conditions.

10.2.7 Before [State CAA] agrees to accept the functions, duties or responsibilities of the State of Registry, it must determine that it has the resources and expertise to fulfill these obligations.

10.2.8 Where a dry lease has been agreed, but no delegation of responsibility has been agreed to between the States concerned, the lessee will be required to show that:

- a) the flight crew hold current valid and appropriate certificates or licences issued or validated by the State of Registry;
- b) the aircraft will be maintained in accordance with the airworthiness requirements of the State of Registry; and
- c) the aircraft will be operated in compliance with the applicable regulations of the State of Registry and the [State], the operator's AOC, the associated operations specifications and the operations manual and MCM.

10.2.9 Several practical problems confront an operator who arranges a dry lease for an aircraft registered in another State. In order to satisfy the requirements of Article 32 (a) of the Convention and continuing airworthiness requirements, the operator is required to use flight crew and maintenance personnel who possess current certificates or licences issued or rendered valid by the State of Registry. This may be accomplished by employing persons who already possess such certificates or licences. Alternatively, if this is not feasible or desirable, the operator needs to arrange for personnel already employed to take the necessary written and flight tests or practical examinations in order to obtain appropriate certificates or licences from the State of Registry. This may involve sending flight crew and maintenance personnel to the State of Registry for the requisite written examinations. Upon successful completion of these tests, arrangements need to be made for these individuals to take the required flight tests or practical examinations leading to appropriate certification or licensing by the State of Registry of the leased aircraft. In this context the operator may have to pre-position personnel with the aircraft to be leased in the State of Registry and make appropriate arrangements for the conduct of written and practical tests and the issue of certificates and licences.

10.2.10 Another option to overcoming the problem mentioned in 10.2.9 above, is to arrange for the State of Registry to validate licences or certificates issued by [State], or by another State, to the operator's personnel. Such validations would be subject to requirements established by the State of Registry.

10.2.11 Once the necessary certification, licensing or validation of certificates and licences has been accomplished, [State CAA] is responsible for ensuring that these individuals satisfy recent experience requirements and maintain their licence qualifications required under the regulations of the State of Registry.

10.2.12 The question of compliance with the airworthiness requirements of the State of Registry is another serious problem inherent in a dry lease arrangement.

10.2.13 [State CAA] staff need to carefully evaluate all aspects of a dry lease arrangement before authorizing the use of such aircraft by an operator under its jurisdiction. Once authorized, it is especially important for [State CAA] to carefully monitor the operations and maintenance of the leased aircraft. Should [State CAA] have reason to believe that an operator is not complying with the regulations of the State of Registry, the competent authority of the State of Registry shall be advised and a request made that the matter be investigated.

10.2.14 Where [State] has accepted a delegation of responsibility from the State of Registry, [State CAA] needs to ensure that the operator is complying fully with its regulations with respect to the dry leased aircraft.

### **10.3 WET LEASE**

#### **10.3.1 General**

10.3.1.1 In wet leases the lessor normally exercises operational control of the aircraft. A wet lease situation therefore means that an aircraft will be operated under an AOC issued by the State of the lessor. In this case the State of the Operator may also be the State of Registry of the leased aircraft.

10.3.1.2 The terms of a wet lease agreement are important since they may obscure the true relationship between, and the obligations of, the parties to the agreement. Additional information may be needed by the authorities concerned. The actual lease arrangements and other relevant information need to be examined by the respective authorities responsible for monitoring the operation of the wet leased aircraft. The final determination of responsibility for the exercise of operational control will depend upon a careful examination of all the factors in the particular situation.

10.3.1.3 Where both parties to a wet lease agreement hold AOCs, serious factual questions arise concerning which party, the lessor or the lessee, is actually responsible for the operation and compliance with the applicable safety regulations. The responsible authority or authorities, if the lessor and lessee are from different States, need to resolve such questions before operations involving use of the wet leased aircraft can be commenced.

#### **10.3.2 Determination of responsibility for operational control and safety**

10.3.2.1 The decision as to whether the lessor or the lessee is responsible for the safety of the operation will be made by [State CAA]. Consultation and coordination with counterparts from the State of the Operator of the lessor of the aircraft, who are assigned to work with the lessor, are most important in this decision process. The decision to be made is whether the aircraft should be operated under the lessor's AOC and associated operations specifications, or whether it should be operated under the authority of the lessee.

10.3.2.2 In [State], if a party, the lessor, leases an aircraft to another and also provides the flight crew, maintenance and fuel for the aircraft, the lessor of the aircraft is regarded as the operator. If the lessor makes a charge for the use of the aircraft and related service, the operation of the aircraft will be subject to the applicable regulations of the State of the Operator of the lessor. Operational control of the aircraft may be the responsibility of the lessor even though the lease may be characterized in terms similar to those of a dry lease, expressly stating that services such as flight following, communications and weather information, are to be performed by the lessee.

10.3.2.3 In the rare event that there is a determination that the lessee will be the operator of a wet leased aircraft under a wet lease agreement, [State CAA] needs to determine whether the lessee can

effectively maintain operational control of the aircraft. In such cases, the training and supervision of the flight crew, including how they are to be integrated into the lessee's operations, become critical considerations. If it is apparent that the lessee will not be able to maintain effective operational control under the terms of the agreement, [State CAA] will require that those terms be modified, otherwise [State CAA] will not approve the proposed wet lease.

10.3.2.4 Additional complications may arise when an aircraft, dry leased to an operator, is registered in a State (State of Registry) different from the State (State of the Operator) responsible for the operator currently using that aircraft under the dry lease, and this operator is proposing to further lease the aircraft, as a wet lease, to another operator, possibly in a third State. In such cases there may be an agreement under Article 83 *bis* between the State of Registry of the aircraft and the State of the Operator, or the State of Registry may seek such an agreement because of a proposed wet lease to an operator from a third State. For example, an authority may conclude that although it can effectively carry out the State of Registry responsibilities when the aircraft is dry leased to an operator in another State, it cannot effectively execute those same responsibilities when that operator decides to wet lease the aircraft to a lessee in a third State.

10.3.2.5 In such cascading subleases, operational control resides with the operator holding the AOC under which the aircraft is operated. The State of the Operator is responsible for safety oversight of the operation.

10.3.2.6 Practical safety problems develop in wet lease operations when the lessor provides only the flight crew while the lessee provides the cabin crew. In such cases, the cabin crew members, employed by the lessee, will not be familiar with the aircraft, associated emergency equipment, communications and the emergency procedures used by the flight crew. In these circumstances the lessee's cabin crew members will need to receive additional training, under the approved training programme of the lessor, with respect to their emergency duties on the particular aircraft. In addition, they may have no knowledge of the requirements of the lessor's State of the Operator with respect to flight and duty time limitations and the provision of rest periods, and to the performance of their duties and responsibilities aboard the wet leased aircraft. These aspects need also to be taken into account.

### 10.3.3 **Short-term wet lease, charter or sub-charter**

10.3.3.1 Some wet leasing operations, charters or sub-charters are organized for short terms at very short notice, for example, where an operator wishes to replace an unserviceable aircraft on a particular service and is forced to contract with another operator for that service to be operated.

10.3.3.2 In order to facilitate operations and such leases, information on the need for this type of arrangement and the possible lessors should be sought by [State CAA] from its operators such that appropriate arrangements could be put in place to enable approval for an actual short-term wet lease or charter to be given very quickly.

10.3.3.3 In the case of a short-term wet lease, charter or sub-charter, the lessor will retain all responsibilities and operational control.

*[Note to State.— Further information is available in the ICAO Manual on the Regulation of Air Transport (Doc 9626) and in the ICAO circulars Guidance on the Implementation of Article 83 bis of the Convention on International Civil Aviation (Cir 295) and Implications of Airline Code sharing (Cir 269).]*



<b>Section 1C. To be completed by air operator applicants</b>		
8. Aircraft data (provide a copy of the lease agreement for all leased aircraft)	9. Geographic area(s) of intended operations and proposed route structure:	
a) Number of aircraft by type and model. Aircraft nationality and registration marks where available.	b) Number of passengers seats and/or cargo payload capacity.	

<b>Section 1D. To be completed by all applicants</b>		
10. Additional information that provides a better understanding of the proposed operation or business (attach additional sheets, if necessary):		
11. Proposed training (aircraft and/or flight simulation training device):		

<b>Section 1E. The signature and the information contained in this form denote an intent to apply for an AOC.</b>		
Signature:	Date: (day/month/year)	Name and title:

<b>Section 2. To be completed by [State CAA]</b>		
Received by (name and office):	Date received: (day/month/year)	
Date forwarded to the [ insert appropriate State CAA office) (day/month/year):	For: <input type="checkbox"/> Action <input type="checkbox"/> Information only	
Remarks:		



<b>Section 3. To be completed by the [insert appropriate State CAA office]</b>	
Received by:	Pre-application number:
Date (day/month/year):	
Local office assigned responsibility for designation of the [State CAA ] project manager and the certification team:	Date forwarded to local office for initiation of the formal certification or approval process: (day/month/year)
Remarks:	

DRAFT

**Appendix B**

**INSTRUCTIONS FOR THE COMPLETION OF THE  
PROSPECTIVE OPERATOR'S  
PRE-ASSESSMENT STATEMENT AS SET OUT IN ATTACHMENT A**

All sections are to be completed.

**Section 1A.**

1. Enter the official name and mailing address, telephone, fax and e-mail address of the company. Include any other name under which business is conducted if different from the official company name.
2. This address shall be the physical location where the primary activities are based. It is where the offices of management required by legislation are located. If the address is the same as under item 1, enter "same". Include secondary business addresses and identify the type of operation conducted at such addresses.
3. Enter the estimated date when operations or services are intended to commence.
4. This information will be used to assign a company identification number, known as a designator for aircraft operating agency. You may indicate up to three, three-letter identifiers, such as ABC, XYZ. If all choices have already been allocated to other operators or maintenance organizations, another identifier will be allocated.
5. Enter the names, titles, telephone numbers and other contact details of management and key staff personnel.

**Section 1B.**

6. Indicate whether the applicant air operator intends to perform maintenance as an AMO or intends to contract out all or part of its maintenance, or perform its maintenance using [State Regulation XXX], as an equivalent system.
7. The proposed type of air operation will be indicated. Check all applicable boxes.

**Section 1C.**

8. Data for all aircraft to be used to be provided. Provide a copy of the lease agreement for all leased aircraft.
  - a) Indicate number and types of aircraft by make, model and series, and indicate individual aircraft nationality and registration marks; and
  - b) number of passenger seats and/or cargo payload capacity.

9. Indicate geographic area(s) of intended operation and proposed route structure.

**Section 1D.**

10. Provide any information that would assist [State CAA] personnel in understanding the type and scope of the operation or business to be performed by the applicant. If an air operator intends to contract out maintenance and inspection of its aircraft and/or associated equipment, identify the AMO selected and list the maintenance and inspections that the contracting organization will perform. Provide copies of all maintenance contracts where applicable.
11. Identify the type of aircraft and/or flight simulation training devices, including flight simulators, to be used and the training to be provided.

**Section 1E.**

Signature of the pre-assessment statement by the accountable manager denotes an intent to seek certification as an air operator.

**Section 2.** The application is to be forwarded by the receiving office to the [insert appropriate State CAA office] with all available information and a recommendation on the action to be taken.

**Section 3.** Where certification or approval action is to be continued, [State CAA] will designate a PM and a certification team.

### Appendix C

#### SAMPLE OF AIR OPERATOR CERTIFICATE

<b>AIR OPERATOR CERTIFICATE</b>		
1	<b>[STATE]</b>	1
	<b>[State CAA]</b>	
AOC # <sup>4</sup> : Expiry date <sup>5</sup> : <i>[Note to State – If no expiry date then amend as indicated in Chapter 9, 9.3]</i>	<b>OPERATOR NAME<sup>6</sup></b>  Dba trading name <sup>7</sup> : Operator address <sup>8</sup> : Telephone <sup>9</sup> : Fax: E-mail:	<b>OPERATIONAL POINTS OF CONTACT<sup>10</sup></b>  Contact details, at which operational management can be contacted without undue delay, are listed in _____ <sup>11</sup> .
This certificate certifies that _____ <sup>12</sup> is authorized to perform commercial air operations, as defined in the attached operations specifications, in accordance with the operations manual and the _____ <sup>13</sup> .		
Date of issue <sup>14</sup> :	Name and signature <sup>15</sup> : Title:	

*Notes.—*

1. *For use of the State of the Operator.*
2. *Reserved.*
3. *Reserved.*
4. *Unique AOC number, as issued by the [State CAA].*
5. *Date after which the AOC ceases to be valid (dd-mm-yyyy).*
6. *Replace by the operator's registered name.*
7. *Operator's trading name, if different. Insert "dba" before the trading name (for "doing business as").*
8. *Operator's principal place of business address.*
9. *Operator's principal place of business telephone and fax details, including the country code. E-mail to be provided if available.*
10. *The contact details include the telephone and fax numbers, including the country code, and the e-mail address (if available) at which operational management can be contacted without undue delay for issues related to flight operations, airworthiness, flight and cabin crew competency, dangerous goods and other matters, as appropriate.*
11. *Insert the controlled document, carried on board, in which the contact details are listed, with the appropriate paragraph or page reference, e.g.: "Contact details are listed in the operations manual, Gen/Basic, Chapter 1, 1.1" or "... are listed in the operations specifications, page 1" or "... are listed in an attachment to this document".*
12. *Operator's registered name.*
13. *Insertion of reference to the appropriate State civil aviation regulations.*
14. *Issuance date of the AOC (dd-mm-yyyy).*
15. *Title, name and signature of the authority representative. In addition, an official stamp may be applied on the AOC.*

Appendix D

EXAMPLE OF OPERATIONS SPECIFICATIONS

<b>OPERATIONS SPECIFICATIONS</b> (subject to the approved conditions in the operations manual)				
<b>ISSUING AUTHORITY CONTACT DETAILS<sup>1</sup></b>				
Telephone: _____		Fax: _____		E-mail: _____
AOC# <sup>2</sup> : _____	Operator name <sup>3</sup> : _____	Date <sup>4</sup> : _____	Signature: _____	
Dba trading name: _____				
Aircraft model <sup>5</sup> : _____				
Types of operation: Commercial air transportation <input type="checkbox"/> Passengers <input type="checkbox"/> Cargo <input type="checkbox"/> Other <sup>6</sup> : _____				
Area(s) of operation <sup>7</sup> : _____				
Special limitations <sup>8</sup> : _____				
<b>SPECIAL AUTHORIZATIONS</b>	<b>YES</b>	<b>NO</b>	<b>SPECIFIC APPROVALS<sup>9</sup></b>	<b>REMARKS</b>
Dangerous goods	<input type="checkbox"/>	<input type="checkbox"/>		
Low visibility operations				
Approach and landing	<input type="checkbox"/>	<input type="checkbox"/>	CAT <sup>10</sup> : _____ RVR: _____ m DH: _____ ft	
Take-off	<input type="checkbox"/>	<input type="checkbox"/>	RVR <sup>11</sup> : _____ m	
RVSM <sup>12</sup> <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>		
EDTO <sup>13</sup> <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>	Threshold time <sup>14</sup> : _____ minutes Maximum diversion time <sup>14</sup> : _____ minutes	
Navigation specifications for PBN operations <sup>15</sup>	<input type="checkbox"/>	<input type="checkbox"/>		<sup>16</sup>
Continuing airworthiness	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<sup>17</sup>	
Other <sup>18</sup>	<input type="checkbox"/>	<input type="checkbox"/>		

Notes.—

1. Telephone and fax contact details of the authority, including the country code. E-mail to be provided if available.
2. Insert the associated AOC number.
3. Insert the operator's registered name and the operator's trading name, if different. Insert "dba" before the trading name (for "doing business as").
4. Issuance date of the operations specifications (dd-mm-yyyy) and signature of the authority representative.
5. Insert the Commercial Aviation Safety Team (CAST)/ICAO designation of the aircraft make, model and series, or master series, if a series has been designated (e.g. Boeing-737-3K2 or Boeing-777-232). The CAST/ICAO taxonomy is available at: <http://www.intlaviationstandards.org/>.
6. Other type of transportation to be specified (e.g. emergency medical service).
7. List the geographical area(s) of authorized operation (by geographical coordinates or specific routes, flight information region or national or regional boundaries).
8. List the applicable special limitations (e.g. VFR only, day only).
9. List in this column the most permissive criteria for each approval or the approval type (with appropriate criteria).
10. Insert the applicable precision approach category (CAT I, II, IIIA, IIIB or IIIC). Insert the minimum RVR in metres and decision height in feet. One line is used per listed approach category.
11. Insert the approved minimum take-off RVR in metres. One line per approval may be used if different approvals are granted.
12. "Not applicable (N/A)" box may be checked only if the aircraft maximum ceiling is below FL 290.
13. If extended diversion time operations (EDTO) approval does not apply based on the provisions in Chapter 4, 4.7, select "N/A". Otherwise a threshold time and maximum diversion time must be specified.
14. The threshold time and maximum diversion time may also be listed in distance (NM), as well as the engine type.
15. Performance-based navigation (PBN): one line is used for each PBN specification authorization (e.g. RNAV 10, RNAV 1, RNP 4), with appropriate limitations or conditions listed in the "Specific Approvals" and/or "Remarks" columns.
16. Limitations, conditions and regulatory basis for operational approval associated with the performance-based navigation specifications (e.g. GNSS, DME/DME/IRU). Information on performance-based navigation, and guidance concerning the implementation and operational approval process, are contained in the Performance-based Navigation (PBN) Manual (Doc 9613).
17. Insert the name of the person/organization responsible for ensuring that the continuing airworthiness of the aircraft is maintained and the regulation that requires the work, i.e. within the AOC regulation or a specific approval (e.g. EC2042/2003, Part M, Subpart G).
18. Other authorizations or data can be entered here, using one line (or one multi-line block) per authorization (e.g. special approach authorization, MNPS, approved navigation performance).

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**VOLUME II — OPERATIONAL DEMONSTRATIONS,  
INSPECTIONS APPROVALS AND SURVEILLANCE**

DRAFT

## **Chapter 1**

### **OPERATIONS MANUAL INSPECTION**

#### **1.1 BACKGROUND AND OBJECTIVES**

1.1.1 [State regulations] require each air operator to issue to crew members and persons assigned operational control functions an operations manual. Furthermore, [State regulations] outline the organization and contents of the operations manual. The operations manual shall be reviewed by the [State CAA] and its content found acceptable or be approved, as applicable, prior to being provided for the use of personnel. [State CAA] will require revision of the manual as necessary to achieve compliance with [State regulations] and safety requirements.

1.1.2 The objective of [State CAA] review of the operations manual is to ensure that the policies and procedures contained in the manual:

- a) implement the regulations of the [State];
- b) provide clear, complete and detailed operating instructions, policies and procedures so that operational personnel are fully informed of what is required of them. Procedures shall be effective, represent sound safety philosophy and be capable of being accomplished;
- c) make provisions for revision to ensure that the information contained therein is kept up to date;
- d) present the necessary guidance and instructions to personnel in a suitable and convenient format; and
- e) outline standardized procedures for all crew member functions.

#### **1.2 MANUAL ORGANIZATION**

1.2.1 In order to accomplish the above requirements and effectively organize policy and instructions, that portion of an operator's overall manual system which applies specifically to operations personnel is typically divided into several volumes. The size, as well as the number of volumes, of the operations manual will depend upon the size and complexity of the proposed operations. The overall manual system may be organized in any manner which adequately provides guidance concerning all important aspects of the operation.

1.2.2 The operations manual shall be organized with the following structure:

- a) general;
- b) aircraft operating information;
- c) area, routes and aerodromes; and
- d) training.



### **1.3 OVERALL OPERATIONS MANUAL INSPECTION AREAS**

Inspectors shall review the air operator's operations manual or manual system to ensure that it contains information in sufficient detail to permit all flight operations personnel to perform their duties safely and efficiently. The following areas shall be evaluated:

- a) *organization and readability.* The manual(s) shall be organized so that information specific to various employee positions and types of operations is easy to locate, clear, concise, and unambiguous. Tables of contents shall be detailed enough so that specific subject areas may be easily and expeditiously located. Print quality, illustrations, and graphics shall be clear and readable. Each manual shall be numbered and issued according to a specific distribution list, and each holder made responsible for its prompt and accurate update. The distribution list shall contain all operations personnel and others requiring the information therein for proper performance of their duties. Those parts of the manual required to be carried on board each aircraft shall be designed for convenient use and all parts shall permit ready and accurate reference;
- b) *validity and accuracy.* Technical information contained in manuals such as weight and balance charts, performance charts, limitations, etc. shall accurately reflect data provided from the manufacturer or shall have been developed through the use of accepted and approved methods;
- c) *consistency.* Information presented in the various sections or volumes of a manual shall be consistent with that presented in other sections;
- d) *currency and conformity.* Information contained in manuals shall reflect current company organization, equipment, procedures and policies. The manual(s) shall be easy to update and contain a list of effective pages;
- e) *distribution and availability.* The operator shall have an effective system for distributing and updating manuals. The individual(s) responsible for entering changes in specific manuals shall be identified. The [State CAA] must be provided with copies of all manuals;
- f) *approvals.* [State regulations] require that certain portions of the operations manual be reviewed in detail and approved by [State CAA], while other portions of the operations manual are to be acceptable to [State CAA]. For aspects of the operations manual to be acceptable to [State CAA] inspectors shall conduct a specific evaluation to ensure that the information provided is in accordance with the applicable regulations and/or [State CAA] guidance material. The inspectors shall ensure the operator complies with the applicable approvals issued by the State of Registry, when [State] is not the State of Registry, and/or the State of Design in addition to [State CAA] requirements;
- g) *content.* The operations manual inspection checklist/report form which appears at the end of this chapter will be used for all operations manual inspections. The focus of the manual inspection will be to evaluate the operator's operations manual in the areas listed above. The "content" area of the form contains a checklist of the minimum subject areas which shall be adequately addressed in the operator's manual(s). The checklist items in the "content" area are designed to be used for all operators. Certain items may not apply to a particular operator in which case the checklist item shall be annotated – not applicable. More specific information on each checklist item is outlined below. In determining the acceptability of the material contained in the manual(s), inspectors will need to often cross reference against the applicable regulations and [State CAA] guidance material;

*Note.— Training subjects are not included in this chapter as they are contained in Chapter 4 of this volume.*

## **1.4 SPECIFIC OPERATIONS MANUAL INSPECTION AREAS**

**1.4.1 General part/section.** The general part or section of the operations manual shall contain at least the following:

- a) administration and control of the operations manual:
  - 1) introduction:
    - i) a statement that the manual complies with all applicable [State CAA] regulations and requirements and with the terms and conditions of the applicable air operator certificate;
    - ii) a statement that the manual contains operational instructions that are to be complied with by the relevant personnel in the performance of their duties;
    - iii) a list and brief description of the various operations manual parts, their contents, applicability and use; and
    - iv) explanations and definitions of terms and words used in the manual;
  - 2) system of amendment and revision:
    - i) an operations manual shall describe who is responsible for the issuance and insertion of amendments and revisions;
    - ii) a record of amendments and revisions with insertion dates and effective dates is required;
    - iii) a statement that hand-written amendments and revisions are not permitted except in situations requiring immediate amendment or revision in the interest of safety;
    - iv) a description of the system for the header of footer data of pages, including their effective dates;
    - v) a list of effective pages and their effective dates;
    - vi) a means of indicating changes on text pages and as practicable, on charts and diagrams;
    - vii) a system for recording temporary revisions;
    - viii) a description of the distribution system for the manuals, amendments and revisions; and
    - ix) a statement of who is responsible for notifying [ State CAA] of proposed changes and working with the [State CAA] on changes requiring approval;

b) organization and responsibilities:

- 1) *organizational structure*. A description of the organizational structure, including the general company organization and operations department organization. The relationship between the operations department and other departments of the company. In particular, the subordination and reporting lines of all divisions, departments, etc., which pertain to the safety of flight operations shall be shown. Instructions outlining the responsibilities of operations personnel pertaining to the conduct of flight operations;
- 2) *responsible manager*. The name of each manager responsible for flight operations, the maintenance system, crew training, quality assurance and ground operations, and of the executive accountable for the implementation and management of the safety management system shall be listed. A description of their function and responsibilities shall be included;
- 3) *responsibilities and duties of operations management personnel*. A description of the duties, responsibilities of operations management personnel pertaining to the safety of flight operations and to compliance with applicable regulations shall be listed;
- 4) *duties and responsibilities of a PIC*. A statement defining the duties and responsibilities of the PIC shall be listed;
- 5) *duties and responsibilities of crew members other than the PIC*. A statement defining the duties and responsibilities of all required crew members shall be listed;

c) operational control and supervision:

- 1) *supervision of the operation by the air operator*. A description of the system for supervision of the operation by the Air operator shall be listed. This description shall show how the safety of flight operations and the qualifications of personnel involved in such operations are supervised and monitored. In particular, the procedures related to the following items shall be described:
  - i) specifications for the operational flight plan;
  - ii) competence of operations personnel; and
  - iii) control, analysis and storage of records, flight documents, additional information and safety related data;
- 2) *system of promulgation of additional operational instructions and information*. A description of any system for promulgating information which may be of an operational nature but is supplementary to that in the operations manual. The applicability of this information and the responsibilities for its promulgation shall be included;
- 3) *operational control*. A description of the objectives, procedures, and responsibilities necessary to exercise operational control with respect to flight safety;

d) crew:

- 1) *crew composition*. An explanation of the method for determining crew compositions taking into account of the following:

- i) experience (total and on type), recency and qualification of the crew members;
  - ii) the designation of the PIC and, if required by the duration of the flight, the procedures for the relief of the PIC or other members of the flight crew; and
  - iii) the flight crew for each type of operation including the designation of the succession of command;
- 2) *designation of the PIC*. The rules applicable to the designation of a PIC;
- e) qualifications of flight crew, cabin crew, flight operations officer and other operations personnel :
- 1) *qualifications*. A description of the required licence, rating(s), qualification/competency (e.g., for routes and aerodromes), experience, training, checking and recency of experience, as applicable, for operations personnel to conduct their duties. Consideration shall be given to the aircraft type, kind of operation, and composition of the crew;
  - 2) *flight crew*. Operation on more than one type or variant;
  - 3) *cabin crew*:
    - i) cabin crew member in charge;
    - ii) cabin crew member;
      - required cabin crew member;
      - additional cabin crew member; and
      - cabin crew member during familiarization flights;
    - iii) operation on more than one type or variant;
  - 4) *flight operations officer*;
  - 5) *other operations personnel*;
- f) flight and duty time:
- 1) *flight and duty time limitations and rest schemes*:
    - i) flight crew;
    - ii) cabin crew;
- g) crew health:
- 1) *crew health precautions*. The relevant regulations and guidance for crew members concerning health including:
    - i) psychoactive substances;
    - ii) pharmaceutical preparations;
    - iii) immunization;
    - iv) self-contained underwater breathing apparatus (SCUBA) diving;

- v) blood donation;
  - vi) meal precautions prior to and during flight;
  - vii) sleep and rest; and
  - viii) surgical operations;
- h) operating procedures:
- 1) *flight preparation instructions*. As applicable to the operation:
    - i) criteria for determining the usability of aerodromes;
    - ii) the method for determining minimum flight altitudes;
    - iii) the method for determining aerodrome operating minima;
    - iv) *en-route operating minima for visual flight rules (VFR) flights*. Policy regarding VFR flights, including a description of en route operating minima for VFR flights or VFR portions of a flight and, where single-engine aircraft are used, instructions for route selection with respect to the availability of surfaces which permit a safe forced landing;
    - v) presentation and application of aerodrome and en-route operating minima;
    - vi) *interpretation of meteorological information*. Explanatory material on the decoding of meteorological (MET) forecasts and MET reports relevant to the area of operations, including the interpretation of change indicators and probability groups;
    - vii) *determination of the quantities of fuel and oil carried*. The specific instructions and methods by which the quantities of fuel and oil to be carried are determined and monitored in flight. Such instructions shall take account of all circumstances likely to be encountered on the flight, including the possibility of in-flight re-planning and of failure of one or more of the aircraft's power plants, and possible loss of pressurization. This section shall also include instructions on the measurement and distribution of the fluid carried on board. The system for maintaining fuel and oil records shall also be described;
    - vii) *mass and centre of gravity*. The general principles of mass and centre of gravity including:
      - the policy for using either standard and/or actual masses;
      - the method for determining the applicable passenger, baggage and cargo mass;
      - the applicable passenger and baggage masses for various types of operations and aircraft type;
      - general instruction and information necessary for verification of the various types of mass and balance documentation in use;
      - last minute changes procedures;
      - seating policy/procedures; and
      - list of documents, forms and additional information to be carried during a flight;
  - i) ground handling arrangements and procedures:
    - 1) *fuelling procedures*. A description of fuelling procedures, including:

- i) safety precautions during refuelling and defueling including when an auxiliary power-unit (APU) is in operation or when a turbine engine is running and, if applicable, the propeller brakes are on;
  - ii) refuelling and defueling when passengers are embarking, on board or disembarking, including the two-way communication;
  - iii) precautions to be taken to avoid mixing fuels; and
  - iv) method to ensure the required amount of fuel is loaded;
- 2) *aircraft, passengers and cargo handling procedures related to safety.* A description of the handling procedures to be used when allocating seats and embarking and disembarking passengers and when loading and unloading the aircraft. Further procedures, aimed at achieving safety whilst the aircraft is on the ramp, shall also be given. Handling procedures shall include:
- i) sick passengers and persons with reduced mobility;
  - ii) permissible size and weight of hand baggage;
  - iii) loading and securing of items in the aircraft;
  - iv) special loads and classification of load compartments (i.e., dangerous goods, live animals, etc.);
  - v) positioning of ground equipment;
  - vi) operation of aircraft doors;
  - vii) safety on the ramp, including fire prevention, blast and suction areas;
  - viii) start-up, ramp departure and arrival procedures;
  - ix) servicing of aircraft;
  - x) documents and forms; and
  - xi) multiple occupancy of aircraft seats;
- 3) *procedures for the refusal of embarkation.* Procedures to ensure that persons who appear to be intoxicated or who demonstrate by manner or physical indications that they are under the influence of alcohol or drugs, except medical patients under proper care, are refused embarkation;
- 4) *de-icing and anti-icing on the ground (as applicable).* Instructions for the conduct and control of ground de-icing/anti-icing operations. A description of the de-icing and anti-icing policy and procedures for aircraft on the ground. These shall include descriptions of the types and effects of icing and other contaminants on aircraft while stationary, during ground movements and during take-off. In addition, a description of the fluid types used shall be given including:

- i) proprietary or commercial names;
  - ii) characteristics, including hold-over tables;
  - iii) effects on aircraft performance;
  - iv) precautions during usage;
- j) *flight procedures and flight navigation equipment:*
- 1) *flight procedures*, including:
    - i) standard operating procedures (SOP) for each phase of flight;
    - ii) instructions on the use of normal checklists and the timing for their use;
    - iii) departure contingency procedures;
    - iv) instructions on the maintenance of altitude awareness and the use of automated or flight crew altitude call-outs;
    - v) instructions on the use of autopilots and auto-throttles in instrument meteorological conditions (IMC), in RVSM airspace and when conducting performance-based navigation procedures, as applicable;
    - vi) instructions on the clarification and acceptance of ATC clearances, particularly where terrain clearance is involved;
    - vii) departure and approach briefings;
    - viii) procedures for familiarization with areas, routes and aerodromes;
    - ix) stabilized approach procedure;
    - x) limitation on high rates of descent near the surface;
    - xi) conditions required to commence or to continue an instrument approach;
    - xii) instructions for the conduct of precision and non-precision instrument approach procedures;
    - xiii) allocation of flight crew duties and procedures for the management of crew workload during night and IMC instrument approach and landing operations;
    - xiv) the circumstances during which a radio listening watch is to be maintained; and
    - xv) instructions and training requirements for the use of head-up-displays (HUD) and enhanced vision systems (EVS) equipment as applicable;
  - 2) *navigation equipment*. A list of the navigational equipment to be carried including any requirements relating to operations where performance-based navigation is prescribed;

- 3) *navigation procedures.* A description of all navigation procedures relevant to the type(s) and area(s) of operation. Consideration shall be given to:
- i) standard navigational procedures including policy for carrying out independent cross-checks of keyboard entries where these affect the flight path to be followed by the aircraft;
  - ii) in-flight re-planning;
  - iii) procedures in the event of system degradation;
  - iv) where relevant to the operations, the long range navigation procedures, engine failure procedure for extended diversion time operation (EDTO) and the identification and utilization of diversion aerodromes;
  - v) instructions and training requirements for the avoidance of controlled flight into terrain and policy for the use of the ground proximity warning system (GPWS);
  - vi) policy, instructions, procedures and training requirements for the avoidance of collisions and the use of the airborne collision avoidance system (ACAS);
  - vii) information and instructions relating to the interception of civil aircraft including:
    - procedures for pilots-in-command of intercepted aircraft; and
    - visual signals for use by intercepting and intercepted aircraft;
  - viii) for aeroplanes intended to be operated above 49 000 ft (15 000 m):
    - limit values for exposure to solar cosmic radiation;
    - procedures for the use of cosmic or solar radiation detection equipment and for recording its readings including actions to be taken in the event that limit values specified in the operations manual are exceeded;
    - information which will enable the pilot to determine the best course of action to take in the event of exposure to solar cosmic radiation; and
    - procedures in the event that a decision to descend is taken, covering:
      - the necessity of giving the appropriate air traffic services (ATS) unit prior warning of the situation and of obtaining a provisional descent clearance; and
      - the action to be taken in the event that communication with ATS unit cannot be established or is interrupted;
- 4) *policy and procedures for in-flight fuel management.*
- 5) *adverse and potentially hazardous atmospheric conditions.* Procedures for operating in, and/or avoiding, potentially hazardous atmospheric conditions including:



- i) thunderstorms;
  - ii) icing conditions;
  - iii) turbulence;
  - iv) wind shear;
  - v) jet stream;
  - vi) volcanic ash clouds;
  - vii) heavy precipitation;
  - viii) sand storms;
  - ix) mountain waves; and
  - x) significant temperature inversions;
- 6) *operating restrictions*:
- i) cold weather operations;
  - ii) take-off and landing in turbulence;
  - iii) low-level wind shear operations;
  - iv) crosswind and tailwind operations;
  - v) high temperature operations;
  - vi) high altitude operations;
- 7) *incapacitation of crew members*. Procedures to be followed in the event of incapacitation of crew members in flight. Examples of the types of incapacitation and the means for recognizing them shall be included;
- 8) *cabin safety requirements*. Procedures covering:
- i) cabin preparation for flight, in-flight requirements and preparation for landing including procedures for securing cabin and galleys;
  - ii) procedures to ensure that passengers are seated where, in the event that an emergency evacuation is required, they may best assist and not hinder evacuation from the aircraft;
  - iii) procedures to be followed during passenger embarkation and disembarkation;
  - iv) smoking on board; and
  - v) use of portable electronic equipment and cellular telephones;
- 9) *passenger briefing procedures*. The contents, means and timing of passenger briefing;
- k) all-weather operations;
- l) use of the minimum equipment list (MEL) and configuration deviation list (CDL);
- m) *non-revenue flights*. Procedures and limitations, including the kind of persons who may be carried on such flights, for:
- 1) training flights;

- 2) test flights;
  - 3) delivery flights;
  - 4) ferry flights;
  - 5) demonstration flights; and
  - 6) positioning flights;
- n) *oxygen requirements*. An explanation of the conditions under which oxygen shall be provided and used;
- o) dangerous goods and weapons:
- 1) *transport of dangerous goods*. Information, instructions and general guidance on the transport of dangerous goods including:
    - i) air operator's policy on the transport of dangerous goods;
    - ii) guidance on the requirements for acceptance, labelling, handling, stowage and segregation of dangerous goods;
    - iii) procedures and actions to be taken for responding to emergency situations involving dangerous goods;
    - iv) duties and training of all personnel involved; and
    - v) instructions on the carriage of company material;
  - 2) *transport of weapons*. The conditions under which weapons, munitions of war and sporting weapons may be carried;
- p) security;
- 1) *security policies and procedures*. A description of security policies and procedures for handling and reporting crime on board such as unlawful interference, sabotage, bomb threats, and hijacking;
  - 2) *security instructions and guidance*. Security instructions and guidance of a non-confidential nature which shall include the [State CAA] and responsibilities of operations personnel;
  - 3) *preventative security measures and training*. A description of preventative security measures and training;
  - 4) *aeroplane search procedures and guidance on least-risk bomb locations where practicable*. A checklist of the procedures to be followed in searching for a bomb in case of suspected sabotage and for inspecting aeroplanes for concealed weapons, explosives or other dangerous devices. The checklist shall be supported by guidance on the appropriate course of action to be taken should a bomb or suspicious object be found and information on the least-risk bomb location specific to the aeroplane.

*Note.— Parts of the security instructions and guidance may be kept confidential.*

- q) *handling of accidents and occurrences.* Procedures for the handling, notifying and reporting of accidents and occurrences. This section shall include:
  - 1) definitions of accidents and occurrences and the relevant responsibilities of all persons involved;
  - 2) the descriptions of which company departments, Authorities or other institutions have to be notified by which means and in which sequence in case of an accident;
  - 3) special notification requirements in the event of an accident or occurrence when dangerous goods are being carried;
  - 4) a description of the requirements to report specific occurrences and accidents;
  - 5) the forms used for reporting and the procedure for submitting them to the [insert agency to report accidents and serious incidents] shall also be included; and
  - 6) procedures for pilots-in-command observing an accident;
- r) *rules of the air.* Rules of the air including:
  - 1) territorial application of the rules of the air;
  - 2) interception procedures;
  - 3) ATC clearances, adherence to flight plan and position reports;
  - 4) the ground/air visual codes for use by survivors, description and use of signal aids; and
  - 5) distress and urgency signals;
- s) *safety management system (SMS).* Details of the safety management system;

*Note.— The requirements for acceptance of the SMS Manual/Programme are contained in Chapter 2 of this volume.*

**1.4.2 Aircraft operating information.** The part or section containing aircraft operating information shall contain at least the following:

- a) *general information and units of measurement.* General Information (e.g., aircraft dimensions), including a description of the units of measurement used for the operation of the aircraft type concerned and conversion tables;
- b) *certification and operational limitations.* A description of the certified limitations and the applicable operational limitations including:

- 1) certification status;
  - 2) passenger seating configuration for each aircraft type including a pictorial presentation;
  - 3) types of operation that are approved (e.g. IFR/VFR, CAT II/III, flights in known icing conditions etc.);
  - 4) minimum crew composition;
  - 5) mass and centre of gravity limitations;
  - 6) speed limitations;
  - 7) flight envelopes;
  - 8) wind limits including operations on contaminated runways;
  - 9) performance limitations for applicable configurations;
  - 10) runway slope limitations;
  - 11) limitations on wet or contaminated runways;
  - 12) airframe contamination;
  - 13) time-limit of systems, as applicable;
  - 14) brake temperature limitations; and
  - 15) tire speed and tire pressure limitations.
- c) *normal procedures.* The normal procedures and duties assigned to the crew, the appropriate checklists, the system for use of the checklists and a statement covering the necessary coordination procedures between flight and cabin crew, as applicable. The following normal procedures and duties shall be included:
- 1) pre-flight;
  - 2) pre-departure and loading;
  - 3) altimeter setting and checking;
  - 4) taxi, take-off and climb;
  - 5) noise abatement;
  - 6) cruise and descent;
  - 7) approach, landing preparation and briefing;
  - 8) VFR approach;
  - 9) instrument approach;
  - 10) visual approach and circling;
  - 11) missed approach;
  - 12) normal landing;
  - 13) post-landing; and
  - 14) operation on wet and contaminated runways;
- d) *specific flight deck procedures:*
- 1) determining airworthiness of aircraft;
  - 2) obtaining flight release;
  - 3) initial cockpit preparation;
  - 4) standard operating procedures;
  - 5) cockpit discipline and sterile cockpit procedures;
  - 6) standard call-outs;
  - 7) communications;
  - 8) flight safety;
  - 9) push-back and towing procedures;
  - 10) taxi guidelines and ramp signals;
  - 11) take-off and climb out procedures;
  - 12) choice of runway;
  - 13) take-off in limited visibility;

- 14) take-off in adverse weather;
  - 15) use and limitations of weather radar;
  - 16) use of landing lights;
  - 17) monitoring of flight instruments;
  - 18) power settings for take-off;
  - 19) malfunctions during take-off;
  - 20) rejected take-off decision;
  - 21) climb at normal speed, best angle and best rate;
  - 22) en-route and holding procedures;
  - 23) cruise control;
  - 24) navigation log book;
  - 25) descent, approach and landing procedures;
  - 26) reporting maintenance deficiencies;
  - 27) how to obtain maintenance and service en-route;
- e) *abnormal and emergency procedures and duties.* The manual shall contain a listing of abnormal and emergency procedures assigned to crew members with appropriate check-lists that include a system for use of the check-lists and a statement covering the necessary co-ordination procedures between flight and cabin crew. The following abnormal and emergency procedures and duties shall be included:
- 1) general considerations and policy;
  - 2) fire and smoke drills;
  - 3) unpressurised and partially pressurized flight, as applicable;
  - 4) exceeding structural limits such as overweight landing;
  - 5) exceeding cosmic radiation limits, as applicable;
  - 6) lightning strikes;
  - 7) distress communications and alerting ATC to emergencies;
  - 8) engine failure;
  - 9) system failures;
  - 10) guidance for diversion in case of serious technical failure;
  - 11) ground proximity warning;
  - 12) ACAS advisories;
  - 13) windshear;
  - 14) emergency landing/ditching;
  - 15) aircraft evacuation;
  - 16) fuel jettisoning (as applicable);
  - 17) crew incapacitation ;
  - 18) emergency descent;
  - 19) low fuel;
  - 20) emergency signal for cabin crew members; and
  - 21) communication procedures;
- f) *performance data.* Performance data shall be provided in a form in which it can be used without difficulty. Performance material which provides the necessary data to allow the flight crew to comply with the approved aircraft flight manual performance requirements shall be included to allow the determination of:
- 1) take-off climb limits – mass, altitude, temperature;
  - 2) take-off field length limits (dry, wet, contaminated), including the effect of inoperative systems under the MEL which affect the take-off distance (e.g. de-activated brake);
  - 3) net flight path data for obstacle clearance calculation or, where applicable, take-off flight path;

- 4) the gradient losses for banked climb outs;
  - 5) en-route climb limits;
  - 6) approach climb limits;
  - 7) landing climb limits;
  - 8) landing field length limits (dry, wet, contaminated) including the effects of an in-flight failure of a system or device, if it affects the landing distance;
  - 9) brake energy limits; and
  - 10) speeds applicable for the various flight stages (also considering wet or contaminated runways);
- g) *supplementary performance data*. Supplementary data covering:
- 1) flights in icing conditions;
  - 2) the maximum crosswind and tailwind components for each aeroplane type operated and the reductions to be applied to these values having regard to gust, low visibility, runway surface conditions, crew experience, use of autopilot, abnormal or emergency circumstances, or any other relevant operational factors;
  - 3) any certified performance related to an allowable configuration, or configuration deviation, such as anti-skid inoperative, shall be included;
- h) *other acceptable performance data*. If performance data, as required for the appropriate performance class, is not available in the approved AFM, then other data acceptable to the [State CAA] shall be included. Alternatively, the operations manual may contain cross-reference to the approved data contained in the AFM where such data is not likely to be used often or in an emergency;
- i) *additional performance data*. Additional performance data where applicable including:
- 1) all engine climb gradients;
  - 2) drift-down data;
  - 3) effect of de-icing/anti-icing fluids;
  - 4) flight with landing gear down;
  - 5) for aircraft with three or more engines, one engine inoperative ferry flights; and
  - 6) flights conducted under the provisions of a configuration deviation list (CDL).
- j) *flight planning data*:
- 1) *flight planning*. Specific data and instructions necessary for pre-flight and in-flight planning including factors such as speed schedules and power settings. Where applicable, procedures for engine(s) out operations, EDTO and flights to isolated aerodromes shall be included for the flight plan and the operational flight plan; and
  - 2) *fuel calculations*. The method for calculating the fuel needed for the various stages of flight;
- k) *mass and balance calculations*. Instructions and data for the calculation of mass and balance including:
- 1) calculation system (e.g. index system);
  - 2) information and instructions for completion of mass and balance documentation, including manual and computer generated types;

- 3) limiting mass and centre of gravity of the various versions; and
  - 4) dry operating mass and corresponding centre of gravity or index;
- l) *loading*:
- 1) *loading procedures*. Instructions for loading and securing the load in the aircraft;
    - i) use of aircraft systems and associated controls;
  - 2) *loading dangerous goods*. The operations manual shall contain a method to notify the PIC when dangerous goods are loaded in the aircraft (if applicable);
- m) *survival and emergency equipment including oxygen*:
- 1) list of survival equipment to be carried:
    - i) A list of the survival equipment to be carried for the routes to be flown and the procedures for checking the serviceability of this equipment prior to take-off. Instructions regarding the location, accessibility and use of survival and emergency equipment and its associated check list(s) shall also be included;
  - 2) *oxygen usage*. The procedure for determining the amount of oxygen required and the quantity that it available. The flight profile, number of occupants and possible cabin decompression shall be considered. The information provided shall be in a form in which it can be used without difficulty;
  - 3) *emergency equipment usage*. A description of the proper use of the following emergency equipment, if applicable:
    - i) life jackets;
    - ii) life rafts;
    - iii) medical kits/first aid kits;
    - iv) survival kits;
    - v) emergency locator transmitter (ELT);
    - vi) visual signaling devices;
    - vii) evacuation slides;
    - viii) emergency lighting;
- n) *emergency evacuation*:
- 1) *emergency evacuation preparation*. Instructions for preparation for emergency evacuation including crew co-ordination and emergency station assignment;
  - 2) *emergency evacuation procedures*. A description of the duties of all members of the crew for the rapid evacuation of an aircraft and the handling of the passengers in the event of a forced landing, ditching or other emergency;
- o) *aircraft systems*. A description of the aircraft systems, related controls and indications and operating instructions.

*Note.— MEL/CDLs would be contained in a separate document for each aircraft type. Chapter 3 of Volume II contains the detailed procedures for the review and approval of the MEL/CDL.*

1.4.3 **Route guide.** The route guide part or section of the operations manual shall contain at least the following:

- a) the route guide will ensure that the flight crew will have for each flight, information relating to communication facilities, navigation aids, aerodromes, instrument approaches, instrument arrivals and instrument departures as applicable for the operation, and such other information as the operator may deem necessary in the proper conduct of flight operations;
- b) each route guide shall contain at least the following information:
  - 1) the minimum flight altitudes for each aircraft to be flown;
  - 2) aerodrome operating minima for each of the aerodromes that are likely to be used as aerodromes of intended landing or as alternate aerodromes;
  - 3) the increase of aerodrome operating minima in case of degradation of approach or aerodrome facilities;



**Attachment  
OPERATIONS MANUAL  
INSPECTION CHECKLIST/REPORT**

Operator: <input style="width: 90%;" type="text"/>	Date: <input style="width: 90%;" type="text"/>
Location: <input style="width: 90%;" type="text"/>	Inspector: <input style="width: 90%;" type="text"/>

**S = Satisfactory; U = Unsatisfactory; NA = Not applicable**

	✓	S/U/NA
<b>A. OVERALL</b>		
1. Organization and readability		
a) Clear		
b) Concise		
c) Information easily located		
d) Print quality		
2. Validity and accuracy		
3. Consistency		
4. Currency and conformity		
5. Distribution and availability		
6. Approvals		
7. Content		
<b>B. GENERAL PART</b>		
<b>1. Administration and control of operations manual</b>		
a) Introduction		
b) System of amendment and revision		
<b>2. Organization and responsibilities</b>		
a) Organizational structure		
b) Responsible manager		
c) Responsibilities and duties of operations management personnel		
d) Duties and responsibilities of a PIC		
e) Duties and responsibilities of crew members other than the PIC		
<b>3. Operational control and supervision</b>		
a) Supervision of the operation by the Air operator		
b) System of promulgation of additional operational instructions and information		
c) Operational control		
<b>4. Crew</b>		
a) Crew composition		
b) Designation of the PIC		
<b>5. Qualifications of flight crew, cabin crew, flight operations officer and other operations personnel</b>		
a) Qualifications		
b) Flight crew		

	✓	S/U/NA
c) Cabin crew		
d) Flight operations officer		
e) Other operations personnel		
<b>6. Flight and duty time</b>		
a) Flight and duty time limitations and rest schemes		
<b>7. Crew health</b>		
a) Crew health precautions		
<b>8. Operating procedures</b>		
<b>a) Flight preparation instructions</b>		
i) Criteria for determining the usability of aerodromes		
ii) Method for determining minimum flight altitudes		
iii) Method for determining aerodrome operating minima		
iv) En-route operating minima for VFR flights		
v) Presentation and application of aerodrome and en-route operating minima		
vi) Interpretation of meteorological information		
vii) Determination of the quantities of fuel and oil carried		
viii) Mass and centre of gravity		
<b>b) Ground handling arrangements and procedures</b>		
i) Fuelling procedures		
ii) Aircraft, passenger and cargo handling procedures related to safety		
iii) Procedures for the refusal of embarkation		
iv) De-icing and anti-icing on the ground		
<b>c) Flight procedures and flight navigation equipment</b>		
i) Flight procedures		
ii) Navigation equipment		
iii) Navigation procedures		
iv) Policy and procedures for in-flight fuel management		

	✓	S/U/NA
v) Adverse and potentially hazardous atmospheric conditions		
vi) Operating restrictions		
vii) Incapacitation of crew members		
viii) Cabin safety requirements		
ix) Passenger briefing procedures		
d) All-weather operations		
e) Use of MEL and CDL		
f) Non-revenue flights		
g) Oxygen requirements		
<b>9. Dangerous goods and weapons</b>		
a) Transport of dangerous goods		
b) Transport of weapons		
<b>10. Security</b>		
a) Security procedures		
b) Security instructions		
c) Preventative security measures		
d) aeroplane search procedures and guidance on least-risk bomb locations		
<b>11. Handling of accidents and occurrences</b>		
<b>12. Rules of the air</b>		
<b>C. AIRCRAFT OPERATING INFORMATION</b>		
<b>1. General information and units of measurement</b>		
<b>2. Certification and operational limitations</b>		
<b>3. Normal procedures</b>		
<b>4. Specific flight deck procedures</b>		

	✓	S/U/NA
<b>5. Abnormal and emergency procedures and duties</b>		
<b>6. Performance data</b>		
<b>7. Supplementary performance data</b>		
<b>8. Other acceptable performance data</b>		
<b>9. Additional performance data</b>		
<b>10. Flight planning data</b>		
a) Flight planning data		
b) fuel calculation		
<b>11. Mass and balance calculation</b>		
<b>12. Loading</b>		
a) Loading procedures		
b) Loading dangerous goods		
<b>13. Survival and emergency equipment including oxygen</b>		
a) List of survival equipment		
c) Oxygen usage		
d) Emergency equipment usage		
<b>14. Emergency evacuation</b>		
a) Emergency evacuation preparation		
b) Emergency evacuation procedures		
<b>15. Aircraft systems</b>		
<b>D. ROUTE GUIDE</b>		
1. Minimum flight altitudes		
2. Aerodrome operating minima		
3. Increase of aerodrome operating minima		

Remarks:

<p><b>OVERALL RESULT:</b></p> <p>Satisfactory <input type="checkbox"/></p> <p>Unsatisfactory <input type="checkbox"/></p>	<p>Inspector's signature: <input style="width: 100%;" type="text"/></p> <p>Name: <input style="width: 100%;" type="text"/></p> <p>Date: <input style="width: 100%;" type="text"/></p>
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## **Chapter 2**

### **AIR OPERATOR SMS MANUAL REVIEW**

#### **2.1 BACKGROUND AND OBJECTIVES**

2.1.1 [State regulations, Part XX] requires a commercial air transport operator to implement a safety management system (SMS) acceptable to the [State CAA].

2.1.2 [State regulations, Part XX] also outline the framework for the implementation and maintenance of an SMS and provides for the SMS to be commensurate with the size of the air operator and the complexity of its operations. Some elements of SMS are quite complex, thus effective implementation of an SMS by an operator will typically take several years. Nevertheless, the framework for the implementation and maintenance of an SMS must be established and made acceptable to [State CAA] during the initial certification of an air operator. The objective of this chapter is to provide guidance and direction to inspectors for the initial review to determine the acceptability of the air operators' safety management system. This applies also to existing air operators that are implementing an SMS.

#### **2.2 GENERAL SMS REVIEW AND ACCEPTABILITY**

2.2.1 Determining the acceptability of an SMS is an important part of the overall certification process. The certification team or some of its members designated by the PM (hereinafter referred to as the Team) will complete a review exercise of the applicant's organization in accordance with the procedures described in this section. The review exercise is a two-part process comprising of a documentation review and an on-site review. Its purpose is to confirm that elements of the SMS are documented, in place and ready to be used. The exercise does not test the effectiveness of the system. The depth of the on-site review is at the discretion of the PM, and may be based on the results of the documentation review and any information uncovered while on-site.

#### **2.3 SPECIFIC SMS REVIEW**

##### **2.3.1 Documentation Review**

2.3.1.1 The objective of a documentation review is to identify omissions or deficiencies in the conformity of the submitted documentation with the regulations. It is not intended at this stage to establish if the described policies, procedures and processes are effective. This particular part of the certification is a desktop exercise that does not involve an on-site visit and is intended to confirm that the applicant has documented its SMS in a manner that meets the requirements.

2.3.1.2 The Team should consider two aspects of structure when conducting the documentation review, as some sections will apply to the whole organization while others may apply only to an individual certificate aspect:

- a) *the corporate aspect* are the policies, process and procedures documented and consistent across all regulated areas of the organization; and
- b) *the individual certificate aspect* are the policies, processes and procedures unique to a particular area of the operations.

2.3.1.3 The documentation review provides a focus for planning the on-site review by gaining a general overview and understanding of the applicant's SMS and of its state of preparedness for certification.

2.3.1.4 The major steps of a documentation review include the following:

- a) *SMS initial or routine review guide (contained in Attachment A and B, respectively).* In preparation for the exercise, the Team shall provide the applicant with the SMS initial review guide contained in the Attachment to this Chapter and request the applicant to enter the required information in Table Att A-1, i.e. the document references and supporting remarks. The Team will use Table Att A or B-1 of the guide to document the results of the documentation review exercise. The guide will be signed by the PM and the Team members.
- b) *Receipt of the applicant's submission.* Applicants must submit documentation that demonstrates to the [State CAA] that they have addressed all of the required SMS elements. Along with their documentation, organizations must submit the completed documentation review guide.
- c) *Preliminary review.* The Team will perform a preliminary review of the documentation submitted to verify its completeness. The Team members are required to pay particular attention to Part A of the documentation review guide.
- d) *Request for omitted documents.* The PM is responsible for contacting in writing the applicant to request any omitted documentation.
- e) *Documentation review.* The Team shall complete the documentation review exercise and document the results in Part B of the documentation review guide. The Team will clearly identify any discrepancies in the comment section of the guide.
  - i) The aim of the documentation review is to ascertain that the SMS requirements are clearly addressed in the submitted documentation. A general policy statement is not usually enough to satisfy the requirement. The Team must verify that there is a safety policy in place that it is supported by appropriate procedures and, where required by regulation, a process is outlined. The documentation shall be complete, comprehensive and appropriately cross-referenced.
  - ii) Although detailed processes and procedures may be referenced in an SMS manual, multiple documents may also be utilized.
- f) *Discrepancies.* All observed discrepancies shall be recorded in the comment/remarks section of Table Att A or B-1 of the SMS review guide in detail and communicated in writing to the applicant. The Team must ensure that the problem area and the reasons why they consider it missing, incomplete, or otherwise deficient are clearly defined.
- g) *Review of the documentation corrections.* The Team shall review any corrections to the organization's documentation and ensure that the documentation meets SMS requirements.
- h) *Conclusion of the documentation review.* Once the initial documentation review has been completed satisfactorily, the Team shall complete Table Att A-1 of the SMS initial review guide. This sign-off does not constitute an acceptance of the referenced documentation, but rather indicates that all available company documentation was reviewed against the SMS requirements and that the on-site portion of the review can proceed.

### **2.3.2 On-site review**

2.3.2.1 The objective of an on-site review is to validate observations from the documentation review exercise. This includes deficiencies in the submitted documentation, as well as verifying that the documented policies, processes and procedures are in place and available for immediate use when the applicant's request for certification is granted.

2.3.2.2 The major steps of an on-site review include the following:

- a) *On-site review.* Through a series of interviews and observations, the Team shall validate the information for selected SMS elements by comparing the organization against the SMS expectations. The Team is responsible for documenting observations and any supporting evidence;
- b) *Comparison of on-site observations to documentation review.* The Team shall compare the observations collected on-site to the documentation of SMS elements previously reviewed;
- c) *Discrepancies.* All discrepancies observed by inspectors shall be recorded. The Team shall ensure that the problem areas are clearly defined, and document the fact that observations from the documentation review and the on-site review were not compatible; and
- d) *Review of the documentation corrections.* The Team shall review any corrections to the applicant's documented policies, processes and procedures resulting from the on-site review and verify that the revised documentation meets SMS requirements.

## **2.4 CONCLUSION OF THE SMS REVIEW EXERCISE**

Once the on-site review has been completed satisfactorily, the PM shall sign the On-site Review Record of the Table Att A-1. *SMS assessment checklist — Initial SMS acceptance.* This does not constitute an acceptance of the referenced documentation, but rather indicates that all available company documentation was validated on site and the SMS portion of the organization is acceptable for initial certification of the air operator.

## **2.5 SMS ASSESSMENT**

2.5.1 For those air operators implementing SMS through a phased implementation acceptable to [State CAA], the minimum acceptable performance procedure illustrated in the Corrective Action Notice of Table Att A-1 provides for a three-stage minimum acceptable score criteria. Twelve months following the initial AOC issuance the operator shall undergo a full SMS assessment using the review guide contained in the Attachment A. This will be followed twelve months later by another SMS assessment using the review guide contained in the Attachment A.

2.5.2 Thereafter, or after the initial SMS review for those air operators implementing a full SMS when applying for an AOC, the SMS oversight will be integrated into the [State CAA] surveillance plan, using the routine review guide contained in Attachment B.

**Attachment A**  
**SMS INITIAL REVIEW GUIDE**

**Instructions:**

1. Table Att A-1 is a regulatory SMS assessment checklist (85 questions) which can be used for the initial assessment and acceptance of an air operator's SMS. For an initial acceptance process, the assessment questions need to be comprehensive in order to adequately address all SMS elements of the organization. This will ensure that all elements and their related processes are in place within the organization. The operational aspects of the SMS would be more appropriately addressed during subsequent routine review of the SMS (see Attachment B).
2. Those air operators implanting a full SMS when applying for an AOC should achieve an assessment result of 85%. For those air operators implementing SMS through a phased implementation acceptable to [State CAA], the minimum acceptable performance procedure illustrated in the Corrective Action Notice of Table Att A-1 provides for a three-stage minimum acceptable score criteria. This procedure can facilitate the regulator's progressive assessment of the service provider's SMS implementation process, instead of auditing only after an air operator's SMS has been fully implemented or is mature. Such a progressive assessment protocol will also ensure that the regulator is actively involved in monitoring the operator's SMS implementation from the early phases.
3. Where a phased-element SMS implementation approach is adopted the questions in the checklist may need to be re-configured and adapted to align with the specific spread of elements across the relevant phases, as may be determined by the State.
4. An illustrative corrective action notice (CAN) procedure is provided at the end of the checklist.
5. The completed SMS assessment checklist will be used by inspectors to plan the on-site review of the SMS.
6. After the on-site review is satisfactorily completed, the PM will sign the On-Site Review record.

Table Att A-1. SMS assessment checklist — Initial SMS acceptance

SMS Assessment Checklist — Initial Acceptance						SMS audit checklist_routine /18 Aug 2011			
Input column (shaded boxes): Annotate "Y" for Yes, "N" for No, "N/A" for not applicable									
Organization name:			Date of assessment:			Assessed by POI/PMI:			Ref:
SMS Element	Level 1	Input	Doc ref/ remarks	Level 2	Input	Doc ref/ remarks	Level 3	Input	Doc ref/ remarks
Management commitment and responsibilities [1.1]	<b>SMS Component 1. Safety Policy and Objectives</b>								
	1.1/L1/1			1.1/L2/1			1.1/L3/1		
	There is a documented safety policy statement.			There is evidence that the safety policy is communicated to all employees with the intent that they are made aware of their individual safety obligations.			There is a periodic review of the safety policy by senior management or the safety committee.		
	1.1/L1/2			1.1/L2/2			1.1/L3/2		
	The safety policy is relevant to aviation safety.			The safety policy is endorsed by the accountable manager.			The accountable manager's terms of reference indicate his overall responsibility for all safety issues.		
	1.1/L1/3			1.1/L2/3			–		
The safety policy is relevant to the scope and complexity of the organization's operations.			The safety policy addresses the provision of the necessary human and financial resources for its implementation.						
Safety accountabilities [1.2]	1.2/L1/1			1.2/L2/1			–		
	There is a documented safety (SMS) accountability within the organization that begins with the accountable manager.			The accountable manager's terms of reference indicates his ultimate responsibility for his organization's safety management.					
	1.2/L1/2			1.2/L2/2			–		
The accountable executive has final authority over all the aviation activities of his organization.			The accountable manager's final authority over all operations conducted under his organization's certificate(s) is indicated in his terms of reference.						

SMS Element	Level 1	Input	Doc ref/ remarks	Level 2	Input	Doc ref/ remarks	Level 3	Input	Doc ref/ remarks
Safety accountabilities [1.2]	1.2/L1/3			1.2/L2/3			1.2/L3/1		
	There is a safety committee (or equivalent mechanism) that reviews the SMS and its safety performance.			For a large organization, there are departmental or section safety action groups that work in conjunction with the safety committee.			The safety committee is chaired by the accountable manager or (for very large organizations) by an appropriately assigned deputy, duly substantiated in the SMS manual.		
	1.2/L1/4			1.2/L2/4			1.2/L3/2		
	The safety committee includes relevant operational or departmental heads as applicable.			There is an appointed safety (SMS) coordinator within the safety action group.			The safety action groups are chaired by the departmental or section head where applicable.		
Appointment of key safety personnel [1.3]	1.3/L1/1			1.3/L2/1			1.3/L3/1		
	There is a manager who performs the role of administering the SMS.			The manager responsible for administering the SMS does not hold other responsibilities that may conflict or impair his role as SMS manager.			The SMS manager has direct access or reporting to the accountable manager concerning the implementation and operation of the SMS.		
	1.3/L1/2			-			1.3/L3/2		
	The manager performing the SMS role has relevant SMS functions included in his terms of reference.						The SMS manager is a senior management position not lower than or subservient to other operational or production positions.		
Emergency response planning [1.4]	1.4/L1/1			1.4/L2/1			1.4/L3/1		
	There is a documented ERP or equivalent operational contingency procedure.			The ERP includes procedures for the continuing safe production, delivery or support of aviation products or services during such emergencies or contingencies.			The ERP addresses relevant integration with external customer or subcontractor organizations where applicable.		
	1.4/L1/2			1.4/L2/2			1.4/L3/2		
	The ERP is appropriate to the size, nature and complexity of the organization.			There is a plan for drills or exercises with respect to the ERP.			There is a procedure for periodic review of the ERP to ensure its continuing relevance and effectiveness.		
	1.4/L1/3			1.4/L2/3			-		
The emergency plan addresses possible or likely emergency/crisis scenarios relating to the organization's aviation product or service deliveries.				ERP drills or exercises are carried out according to plan and the result of drills carried out are documented.					



SMS Element	Level 1	Input	Doc ref/ remarks	Level 2	Input	Doc ref/ remarks	Level 3	Input	Doc ref/ remarks
SMS documentation [1.5]	1.5/L1/1			1.5/L2/1			1.5/L3/1		
	There is an SMS document or exposition which is approved by the accountable manager and accepted by the CAA.			The SMS document is accepted or endorsed by the organization's national aviation authority.			The SMS procedures reflect appropriate integration with other relevant management systems within the organization, such as QMS, OSHE, security, as applicable.		
	1.5/L1/2			1.5/L2/2			1.5/L3/2		
	The SMS document provides an overview or exposition of the organization's SMS framework and elements.			The SMS document's exposition of each SMS element includes cross-references to supporting or related procedures, manuals or systems as appropriate.			The SMS procedures reflect relevant coordination or integration with external customer or subcontractor organizations where applicable.		
	1.5/L1/3			1.5/L2/3			1.5/L3/3		
	The SMS document is a stand-alone controlled document or a distinct part/section of an existing CAA endorsed/accepted document.			Records are maintained pertaining to safety committee/SAG meeting (or equivalent) minutes.			There is a process to periodically review the SMS exposition and supporting documentation to ensure their continuing relevance.		
	1.5/L1/4			1.5/L2/4			-		
	All components and elements of SMS regulatory requirements are addressed in the SMS document.			Records pertaining to periodic review of existing safety/risk assessments or special review in conjunction with relevant changes are available.					
	1.5/L1/5			-			-		
	Records are maintained pertaining to safety risk assessments performed.								
1.5/L1/6			-			-			
Records pertaining to identified or reported hazards/threats are maintained.									

SMS Element	Level 1	Input	Doc ref/ remarks	Level 2	Input	Doc ref/ remarks	Level 3	Input	Doc ref/ remarks
Hazard identification [2.1]	<b>SMS Component 2. Safety Risk Management</b>								
	2.1/L1/1			2.1/L2/1			2.1/L3/1		
	There is a procedure for voluntary hazards/threats reporting by all employees.			In the hazard identification system, there is a clear definition of and distinction between hazards and consequences.			There is a procedure to identify hazards/threats from internal incident/accident investigation reports for follow-up risk mitigation where appropriate.		
	2.1/L1/2			2.1/L2/2			2.1/L3/2		
	There is a procedure for incident/accident reporting by operational or production personnel.			The hazard reporting system is confidential and has provisions to protect the reporter's identity.			There is a procedure to review hazards/threats from relevant industry service or incident/accident reports for risk mitigation where applicable.		
	2.1/L1/3			2.1/L2/3			2.1/L3/3		
There is a procedure for investigation of incident/accidents relating to quality or safety.			The organization's internal investigation and disciplinary procedures distinguish between premeditated and deliberate violations and unintentional errors and mistakes.			There is a procedure for periodic review of existing risk analysis records.			
Safety risk assessment and mitigation [2.2]	2.2/L1/1			2.2/L2/1					
	There is a documented HIRM procedure involving the use of objective risk analysis tools.			Risk assessment reports are approved by departmental managers or at a higher level where appropriate.			-		
	2.2/L1/2			2.2/L2/2					
	There is a procedure for identification of operations, processes, facilities and equipment which are deemed (by the organization) as relevant for HIRM.			Recommended mitigation actions which require senior management decision or approval are accounted for and documented.			-		
2.2/L1/3			2.2/L2/3			2.2/L3/1			
There is a programme for progressive HIRA performance of all aviation safety-related operations, processes, facilities and equipment as identified by the organization.			There is a procedure to prioritize HIRA performance for operations, processes, facilities and equipment with identified or known safety-critical hazards/risks.			There is evidence of progressive compliance and maintenance of the organization's HIRA performance programme.			

SMS Element	Level 1	Input	Doc ref/ remarks	Level 2	Input	Doc ref/ remarks	Level 3	Input	Doc ref/ remarks
Safety performance monitoring and measurement [3.1]	<b>SMS Component 3. Safety Assurance</b>								
	3.1/L1/1			3.1/L2/1			3.1/L3/1		
	There are identified safety performance indicators for measuring and monitoring the organization's safety performance.			There are lower-consequence safety performance indicators (e.g. non-compliance, deviation events).			There is a procedure for corrective or follow-up action to be taken when targets are not achieved and/or alert levels are breached.		
	3.1/L1/2			3.1/L2/2			3.1/L3/2		
There are high-consequence data-based safety performance indicators (e.g. accident and serious incident rates).			There are alert and/or target level settings within the safety performance indicators where appropriate.			Safety performance indicators are reviewed by the safety committee for trending, alert levels that have been exceeded and target achievement where applicable.			
The management of change [3.2]	3.2/L1/1			3.2/L2/1			3.2/L3/1		
	There is a procedure for review of relevant existing aviation safety-related facilities and equipment (including HIRA records) whenever there are pertinent changes to those facilities or equipment.			There is a procedure for review of new aviation safety-related facilities and equipment for hazards/risks before they are commissioned.			There is a procedure for review of relevant existing facilities, equipment, operations or processes (including HIRM records) whenever there are pertinent changes external to the organization such as regulatory/industry standards, best practices or technology.		
	3.2/L1/2			3.2/L2/2					
	There is a procedure for review of relevant existing aviation operations and processes (including HIRA records) whenever there are pertinent changes to those operations or processes.			There is a procedure for review of new aviation safety-related operations and processes for hazards/risks before they are commissioned.			–		

SMS Element	Level 1	Input	Doc ref/ remarks	Level 2	Input	Doc ref/ remarks	Level 3	Input	Doc ref/ remarks	
Continuous improvement of the SMS [3.3]	3.3/L1/1			3.3/L2/1			3.3/L3/1			
	There is a procedure for periodic internal audit/assessment of the SMS.			There is a follow-up procedure to address audit corrective actions.			SMS audit/assessment has been carried out according to plan.			
	3.3/L1/2			3.3/L2/2			3.3/L3/2			
	There is a current internal SMS audit/assessment plan.			-			There is a process for SMS audit/assessment reports to be submitted or highlighted for the accountable manager's attention when necessary.			
	3.3/L1/3			3.3/L2/3			3.3/L3/3			
	There is a documented internal SMS audit/assessment procedure.			The SMS audit plan includes the sampling of completed safety assessments.			The SMS audit plan covers the SMS roles/inputs of contractors where applicable.			
Training and communication [4.1, 4.2]	<b>SMS Component 4. Safety Promotion</b>									
	4.1/L1/1			4.1/L2/1			4.1/L3/1			
	There is a documented SMS training/familiarization policy for personnel.			Personnel involved in conducting risk evaluation are provided with appropriate risk management training or familiarization.			There is evidence of organization-wide SMS education or awareness efforts.			
	4.1/L1/2			4.1/L2/2			4.1/L3/2			
	The manager responsible for SMS administration has undergone an appropriate SMS training course.			Personnel directly involved in the SMS (safety committee/SAG members) have undergone appropriate SMS training or familiarization.			There is evidence of a safety (SMS) publication, circular or channel for communicating safety and SMS matters to employees.			
	4.1/L1/3			-			-			
The accountable manager has undergone appropriate SMS familiarization, briefing or training.										

SUBTOTAL	LEVEL 1	LEVEL 2	LEVEL 3
Y			
N			
N/A			
Number of questions completed			
<b>GRAND TOTAL (Sum of levels 1, 2 and 3)</b>			
Y	31	<b>ASSESSMENT RESULT from Grand Total [Y/(Y + N)]:</b> _____%	
N	51		
N/A	3		
Number of questions completed	85		

**CORRECTIVE ACTION NOTICE (CAN) PROCEDURE**

1) Minimum overall acceptable performance (phased SMS implementation):

First year/phase of assessment (e.g. 2012) — 45%.  
 Second year/phase of assessment (e.g. 2013) — 65%.  
 Third year/phase of assessment (e.g. 2014) and thereafter — 85%.  
 Ninety (90) days for corrective action to obtain not less than 45% overall performance.

2) Baseline performance (Level 1 questions) (during any year/phase of assessment subsequent to State’s SMS required applicability date):

Corrective action notice (CAN) to be issued for “No” answers to any Level 1 questions (during any year/phase of assessment).  
 (Sixty (60) days for corrective action to obtain a “Yes” answer to the relevant question(s)).

**On-site Review Record**

1. The on-site review is to validate observations from the documentation review exercise. This includes deficiencies in the submitted documentation, as well as verifying that the documented policies, processes and procedures are in place and available for immediate use when the applicants request for certification is granted.

2. Deficiencies noted by the review team will be rectified by the air operators prior to acceptance of the SMS.

Company documentation was validated on site and the SMS portion of the organization is acceptable for initial certification of the air operator.

Date: \_\_\_\_\_ PM signature: \_\_\_\_\_ Name: \_\_\_\_\_

**Attachment B**  
**SMS ROUTINE REVIEW GUIDE**

**Instructions:**

1. Table Att B-1 is a regulatory SMS assessment checklist (39 questions) to be used for routine SMS assessment after the initial review has been completed successfully. After an organization's SMS has satisfied the regulator's initial assessment and acceptance process, there will be many assessment questions from the initial assessment checklist that will no longer be expedient or necessary for routine assessment purposes. A routine SMS assessment checklist need only focus on the operational aspects of an SMS and evidence of the satisfactory implementation of its supporting processes.

2. The routine SMS assessment may be conducted on a stand-alone basis or incorporated as part of a routine surveillance audit of the organization/systems. In case of the latter, such SMS routine assessment questions may accordingly be incorporated as a section within the normal organization audit checklist. The auditor performing an integrated QMS-SMS audit will need to be trained for SMS audit as appropriate. The normal corrective action notice (CAN) protocol of the regulator can also be applied to the routine SMS assessment.

**Table Att B-1. SMS assessment checklist — Routine SMS assessment**

**S = Satisfactory; U = Unsatisfactory; NA = Not applicable**

<i>SMS element</i>		<i>Assessment question</i>	<i>S/U/NA</i>
Management commitment and responsibilities [1.1]  Comments:	1	The safety policy is relevant to the scope and complexity of the organization's operations.	
	2	There is evidence that the safety policy is communicated to all employees with the intent that they are made aware of their individual safety obligations.	
	3	There is a periodic review of the safety policy by senior management or the safety committee.	
	4	The accountable manager's terms of reference indicate his overall responsibility for all safety issues.	
Safety accountabilities [1.2]  Comments:	1	There is a safety committee (or equivalent mechanism) that reviews the SMS and its safety performance.	
	2	The accountable manager's final authority over all operations conducted under his organization's certificate(s) is indicated in his terms of reference.	
Appointment of key safety personnel [1.3]  Comments:	1	The manager performing the SMS role has relevant SMS functions included in his terms of reference.	
	2	The manager responsible for administering the SMS does not hold other responsibilities that may conflict or impair his role as SMS manager.	
	3	The SMS manager has direct access or reporting to the accountable manager concerning the implementation and operation of the SMS.	
	4	The SMS manager is a senior management position not lower than or subservient to other operational or production positions.	
Emergency response planning [1.4]  Comments:	1	The ERP addresses possible or likely emergency/crisis scenarios relating to the organization's aviation service deliveries.	
	2	The ERP includes procedures for the continuing safe production, delivery or support of its aviation products or services during emergencies or contingencies.	
	3	ERP drills or exercises are carried out according to plan and the result of drills carried out are documented.	
	4	The ERP addresses relevant integration with external customer or subcontractor organizations where applicable.	
	5	There is evidence of periodic review of the ERP to ensure its continuing relevance and effectiveness.	

<i>SMS element</i>		<i>Assessment question</i>	<i>S/U/NA</i>
SMS documentation [1.5]  Comments:	1	The organization's SMS components and elements are adequately manifested in the SMS document.	
	2	The organization's documented SMS components and elements are in line with the aviation authority's SMS requirements.	
	3	There is evidence of relevant SMS coordination or integration with external customer or subcontractor organizations where applicable.	
	4	There is evidence of procedures for periodic review of the SMS document and supporting documentation to ensure their continuing relevance.	
	5	Records pertaining to periodic review of existing safety/risk assessments are available.	
Hazard identification [2.1]  Comments:	1	The number or rate of the organization's registered/collected hazard reports is commensurate with the size and scope of the organization's operations.	
	2	The hazard reporting system is confidential and has provisions to protect the reporter's identity.	
	3	There is evidence that hazards/threats uncovered during the incident/accident investigation process are registered with the HIRM system.	
	4	There is evidence that registered hazards are systematically processed for risk mitigation where applicable.	
Safety risk assessment and mitigation [2.2]  Comments:	1	There is evidence that operations, processes, facilities and equipment with aviation safety implications are progressively subjected to the organization's HIRM process.	
	2	Completed risk assessment reports are approved by an appropriate level of management.	
	3	There is a procedure for periodic review of completed risk mitigation records.	



<i>SMS element</i>		<i>Assessment question</i>	<i>S/U/NA</i>
Safety performance monitoring and measurement [3.1]  Comments:	1	The organization's SMS safety performance indicators have been agreed with the relevant national aviation authority.	
	2	There are high-consequence data-based safety performance indicators (e.g. accident and serious incident rates).	
	3	There are lower-consequence safety performance indicators (e.g. non-compliance, deviation events).	
	4	There are alert and/or target level settings within the safety performance indicators where appropriate.	
	5	The organization's management of change procedure includes the requirement for a safety risk assessment to be conducted whenever applicable.	
	6	There is evidence of corrective or follow-up action taken when targets are not achieved and/or alert levels are breached.	
The management of change [3.2]  Comments:	1	There is evidence that relevant aviation safety-related processes and operations have been subjected to the organization's HIRM process as applicable.	
	2	The organization's management of change procedure includes the requirement for a safety risk assessment to be conducted whenever applicable.	
Continuous improvement of the SMS [3.3]  Comments:	1	There is evidence that an internal SMS audit/assessment has been planned and carried out.	
Training, education and communication [4.1, 4.2]  Comments:	1	There is evidence that all personnel involved in SMS operations have undergone appropriate SMS training or familiarization.	
	2	Personnel involved in conducting risk evaluation are provided with appropriate risk management training or familiarization.	
	3	There is evidence of a safety (SMS) publication, circular or channel for communicating safety and SMS matters to employees.	

## Chapter 3

### APPROVAL OF MINIMUM EQUIPMENT LISTS (MEL) AND CONFIGURATION DEVIATION LISTS (CDL)

#### 3.1 GENERAL

##### 3.1.1 Background

3.1.1.1 MEL procedures were developed to allow the continued operation of an aircraft with specific items of equipment inoperative under certain circumstances. For particular situations, an acceptable level of safety can be maintained with specific items of equipment inoperative for a limited period of time, until repairs can be made.

3.1.1.2 A flight operations inspector (FOI) is the primary [State CAA] official responsible for the overall process of administering, evaluating, and approving an operator's MEL. It is essential that the FOI coordinates closely with the airworthiness inspector (AWI) and other individuals or groups involved in this process prior to the approval of the MEL.

##### 3.1.2 Definitions

3.1.2.1 The following definitions are used throughout this chapter:

***MMEL review board.*** In conjunction with the certification of each new type of aircraft, a board should be established to develop and maintain the MMEL for the aircraft and additional models of that aircraft developed in the future. The board is an advisory body to the CAA of the State of design and should have representation from the flight operations and airworthiness organizations within the CAA, as well as from the organization responsible for the type design and air operators.

*Note.— specific name utilized for the review board will vary amongst the different States of Design but the function is essentially the same.*

***Aircraft flight manual (AFM).*** A manual, associated with the certificate of airworthiness, containing limitations within which the aircraft is to be considered airworthy and instructions and information necessary to the flight crew members for the safe operation of the aircraft.

*Note.— The State of Registry may either accept the AFM approved by the State of design or approve its own which could be different due to differences in its airworthiness requirements. If the State of registry approves the AFM, that AFM should not be less restrictive than the one approved by the State of Design.*

***Aircraft maintenance manual (AMM).*** The AMM is the source document for aircraft maintenance procedures. The term AMM can apply to either an aeroplane or a rotorcraft manual. The AMM is developed as part of the aircraft certification process.

***Air Transport Association of America (ATA) Specification 100.*** ATA Specification 100, Manufacturer's Technical Data, is an international industry numbering standard developed to identify systems and components on different aircraft in the same format and manner.

***Configuration deviation list (CDL).*** A list established by the organization responsible for the type design with the approval of the State of Design which identifies any external parts of an aircraft type which

may be missing at the commencement of a flight, and which contains, where necessary, any information on associated operating limitations and performance.

***Inoperative.*** Inoperative means that a system or component has malfunctioned to the extent that it does not accomplish its intended purpose and/or is not consistently functioning normally within its approved operating limits or tolerances.

***Master minimum equipment list (MMEL).*** A list established for a particular aircraft type by the organization responsible for the type design with the approval of the State of Design containing items, one or more of which is permitted to be unserviceable at the commencement of a flight. The MMEL may be associated with special operating conditions, limitations or procedures.

*Note.— The State of Registry may either accept the MMEL or approve its own which could be different due to differences in its airworthiness requirements. The MMEL accepted or approved by the State of Registry should not be less restrictive than the one approved by the State of Design.*

***Minimum equipment list (MEL).*** A list which provides for the operation of aircraft, subject to specified conditions, with particular equipment inoperative, prepared by an operator in conformity with, or more restrictive than, the MMEL established for the aircraft type.

*Note.— The MEL is derived from the MMEL and is applicable to an individual operator. The operator's MEL takes into consideration the operator's particular aircraft configuration, operational procedures and conditions. When approved and authorized for use, the MEL permits operation of the aircraft under specified conditions with certain inoperative equipment.*

### 3.1.3 **Purpose of MEL**

3.1.3.1 [State Civil Aviation Regulations] permit the approval of an MEL in that compliance with all the aircraft equipment requirements is not necessary in the interest of safety for a particular operation. Through the use of appropriate conditions or limitations, the MEL provides for improved scheduled reliability and aircraft utilization with an equivalent level of safety. This process is possible because of the installation of additional and redundant instruments, equipment and/or systems in present transport aircraft. Without an approved MEL, inoperative equipment would ground the aircraft until repair or replacement of the non-functioning equipment. An MEL is for a specific make and model of aircraft and for a specific configuration and is approved by a stamp and/or signature from the [State CAA] inspector authorising its use by the operator.

### 3.1.4 **Items listed on the MEL**

3.1.4.1 *Categories of items.* There are three categories of items that may be contained in the operator's MEL:

- a) ***MMEL items.*** The MEL will list all of the items for which the operator seeks relief and that are appropriate for its operation. The operator, by not listing at its discretion certain items in its MEL, may be more restrictive than permitted by the MMEL;
- b) ***passenger convenience items.*** The passenger convenience items, as contained in the operator's approved MEL, are those related to passenger convenience, comfort or entertainment such as, but not limited to, galley equipment, movie equipment, in-flight phones, stereo equipment, and overhead reading lamps. It is incumbent on the operator and the FOI to develop procedures to

ensure that those inoperative passenger convenience items are not used. Passenger convenience items do not have fixed repair intervals. Items addressed elsewhere in the MMEL shall not be authorized relief as a passenger convenience item. "M" and "O" procedures may be required and shall be developed by the operator, approved by the FOI/AWI, and included in the air operator's appropriate document; and

- c) ***administrative control items.*** An operator may use an MEL as a comprehensive document to control items for administrative purposes. In such cases, the operator's MEL may include items not listed in the MMEL; however, relief may not be granted for these items unless conditions and limitations are contained in approved documents other than the MMEL or meet the regulatory requirements of the [State]. An example of items considered to be administrative control items would be cockpit procedure cards.

### 3.1.5 **Timely repair of items that are inoperative**

- a) ***Operator's responsibility.*** The MEL is intended to permit the operation of an aircraft with certain inoperative items for a limited period of time until repairs can be accomplished. The operator is responsible for establishing a controlled and effective repair programme.
- b) ***Repair interval.*** Operators must make repairs within the time period specified by the MEL. Although the MEL might permit multiple days of operation with certain inoperative equipment, operators must repair the affected item as soon as possible.
- c) ***Day of discovery.*** The day of discovery is the calendar day an equipment malfunction was recorded in the aeroplane technical log or record. This day is excluded from the calendar days or flight days specified in the MMEL for the repair of an inoperative item of equipment. This provision is applicable to all MMEL items such as categories "A", "B", "C" and "D". The operator and the FOI must establish a reference time in which the calendar day or flight day begins and ends 24 hours later. This reference time is established to ensure compliance with timely repair of equipment and items.
- d) ***MMEL definitions.*** More than one set of MMEL definitions exist due to years of evolving changes during which not all MMELs have been updated to the latest revision of the definitions. However, only the most up-to-date set of definitions may be used with a specific MMEL. Only certain portions of the latest definitions may be appropriate for a specific air operator's MEL.
- e) ***Continuing authorizations.*** The State of the Operator may authorize an experienced operator of an approved MEL to use a documented continuing authorization process to approve extensions to the maximum repair interval for category "B" and "C" items, provided the [State CAA] is notified within 24 hours of the operator's exercise of extension authority. This process should require coordination with the quality manager. The certificate holder is not authorised to extend the maximum repair time for category "A" items, as specified in the approved MEL. Misuse of the continuing authorization process may result in the [State CAA] removing the operator's authority to use an MEL.

### 3.1.6 **Record keeping**

When an item of equipment becomes inoperative, the operator must report it by making an entry in the aircraft technical log, as prescribed by [State CAR], with reference to the relevant MEL numbering, date of the day of discovery and MEL repair interval .

### 3.1.7 **Multiple items that are inoperative**

Individual MEL requirements are designed to provide coverage for single failures en-route. When operating with multiple inoperative items, the operator shall consider the interrelationships between those items and the resulting impact on safety, and the effect on aircraft operation and crew workload, including consideration of a single additional failure occurring en-route. If acceptable, the aircraft can be dispatched under the MEL with those inoperative systems.

### 3.1.8 **Fleet approval**

An operator who has a single MEL for multiple aircraft may reflect equipment in its MEL that is not installed on all aircraft in its fleet. In this case, the item's title in the operator's MEL need not reference any specific aircraft identification (usually registration marks) unless the operator determines that there is need to do so. The installed number of items must be identified for each airframe (the remarks column of the MEL can be used for that). The list of aircraft for which the MEL is applicable should be part of the MEL content.

### 3.1.9 **Access to MEL**

The [State CARs] requires that the MEL is carried aboard the aircraft or that the flight crew has direct access to the MEL information prior to flight. Other means of direct access require approval.

### 3.1.10 **Conflict with other [State CAA] approved documents**

The MEL may not conflict with other [State CAA] approved documents such as the approved flight manual limitations and airworthiness directives. The operator's MEL may be more restrictive than the MMEL, but under no circumstances may the operator's MEL be less restrictive.

### 3.1.11 **Acceptable sources of MMELs**

- a) **Source MMELs policy.** [State CAA] shall generally accept MMELs approved by the regulatory authority of the State of Design unless differences in its airworthiness requirements dictate a more restrictive MMEL. Operators are to incorporate source MMEL amendments as soon as they are available. [State CAA] is to be informed immediately of subsequent amendment. In addition, [State CAA] shall establish a system to be notified by the manufacture or State of Design of any amendment to a MMEL. The amendment to an operator MEL is to be submitted to the [State CAA] for approval prior to usage.
- b) **Third country MMEL.** [State CAA] will not normally accept a MMEL produced by a third country (an example would be a U.S. MMEL for a European aircraft). However, exceptions may be made, particularly for older aircraft, if no other source is available or to enable for an air operator to have a consistent relief for different aircraft types.

## 3.2 **MEL APPROVAL PROCESS**

### 3.2.1 **General**

This section contains specific direction, guidance, and procedures to be used by flight operations and airworthiness inspectors when evaluating and approving MELs. The operator's MEL is developed by the operator from the appropriate MMEL, then approved by the [State CAA]. The [State CAA] approval process for an MEL follows the general process for approval or acceptance.

### 3.2.2 MEL acceptability

The general criteria for MEL acceptability are as follows:

- a) ***Equally or more restrictive.*** The operator's MEL must not be less restrictive than the MMEL, the [State CARs], operations specifications, the approved flight manual limitations, certification maintenance procedures, or airworthiness directives (AD).
- b) ***Appropriate.*** The MEL must be appropriate to the individual aircraft make and model. It should take into account the service bulletins implemented and the equipment installed.
- c) ***Specific.*** The operator's operations ("O") and maintenance ("M") procedures must be specific to the aircraft and the operations conducted.

### 3.2.3 Initial phase of MEL approval

- a) ***Phase overview.*** In this phase of the MEL approval process, the operator shall consult with the operations inspector (FOI) regarding requirements for either developing an MEL or for revising an existing MEL. The FOI shall consult with and seek the participation of the airworthiness inspector (AWI) during the entire approval process. During the review of the "O" and "M" procedures, the FOI or AWI may consult with the State which approved the type design as necessary concerning specific procedures. Normally, the "O" and "M" procedures are accepted on the basis of the MMEL, unless amended by the applicant.
- b) ***Operator familiarization.*** In phase one of the MEL approval process, the FOI shall determine the scope of the task, based on the operator's experience with MELs. FOIs shall adapt the discussion to fit the operator's needs and experience, and shall provide advice and guidance to the operator as necessary. FOIs must ensure that the operator clearly understands that MEL document preparation is solely the operator's responsibility.
- c) ***Required document submittal.*** FOIs shall advise the operator that, for an MEL to be approved, the following documents must be submitted:
  - 1) the proposed MEL or MEL changes;
  - 2) necessary "O" and "M" procedures, which may be based on the aircraft manufacturer's recommended procedures, supplemental type certificate (STC) modifier's procedures, or equivalent operator procedures;
  - 3) a description of the MEL management programme and its procedures as required by the operations manual, unless an MEL management programme is already in place; and
  - 4) any required guidance material developed by the operator, such as training material, guidance, and deferral procedures for both maintenance and operations personnel.

*Note.— Several manufacturers have produced manuals of recommended procedures for operating with inoperative equipment. When a manufacturer's recommended procedures exist, operators may use them or may develop alternate procedures. When contract services are used to develop the operator's MEL along with acceptable "O" and "M" procedures differing from the MMEL, the operations and maintenance inspectors review the "O" and "M" procedures in light of the type of operations being conducted and ensure the acceptability of the procedures. The inspectors need to ensure that the developed MEL procedures can be adequately implemented by the operator.*

- d) **Materials provided to the operator.** Operators may obtain a copy of an MMEL for a specific aircraft in either hard copy or electronic format, along with appropriate guidance material, from the manufacturer, State of Design or [State CAA].
- e) **Document form.** The operator may submit MEL draft documents to the [State CAA] either on hard copy (printed on paper) or on computer disk, as mutually agreed upon between the operator and the FOI. The operator and the FOI shall discuss the techniques that will be used for revising and editing the proposed document. It is important that the operator understand that when the process is complete, the final proposed MEL must be submitted on paper unless otherwise approved by the [State CAA].
- f) **MEL format.** The MMEL format has been standardized to facilitate the development, revision, and approval of both master and operator documents. While the master document contains eight total sections, six of these sections are considered basic for MEL development and shall be included in each operator's MEL.
- g) **Generic single engine MMELs.** A generic MMEL for single engine aircraft may have been developed and published by the State of Design. This MMEL is applicable to all single engine aeroplanes and single engine helicopters for which a specific MMEL has not been issued. When an operator is approved to use this generic MMEL, and a specific MMEL for the individual aircraft type is subsequently issued, the operator's MEL must be revised within the specified time frame to conform to the specific MMEL.

#### 3.2.4 Final phase of MEL approval process

- a) **Phase overview.** The final phase begins when the operator formally submits the proposed MEL or MEL changes to the FOI. The FOI shall initially review the operator's submittal to verify that it is complete, contains the required elements, and is detailed enough to permit a thorough evaluation of the MEL.
- b) **Unacceptable submittal.** If the FOI finds the proposed MEL package to be incomplete or unacceptable at this time or at any other juncture in the approval process, the FOI shall contact the operator. If a mutually acceptable correction cannot be immediately agreed upon, the entire package must be immediately returned to the operator, or its representative, along with a written explanation of the problems found within the documents.
- c) **Acceptable submittal.** If the FOI finds the proposed MEL package to be complete and to contain the required information in an acceptable format, the detailed analysis begins. During this analysis, the FOI shall coordinate with the AWI to perform a detailed examination of the proposed MEL document and other supporting documents and procedures. If the operator does not currently have an MEL programme, its MEL management programme must also be reviewed for acceptability. Inspectors shall examine the technical content and quality of the proposed MEL document and other supporting documents and procedures as follows:
  - 1) **timely review.** Inspectors shall promptly address all deficiencies and notify the operator in writing of any discrepancies or outstanding issues. The FOI/AWI and the operator may informally coordinate by telephone to clarify minor discrepancies or misunderstandings;

- 2) *reference material*. Inspectors shall use the MMEL and this handbook as the primary reference document when reviewing and approving the MEL. In addition, inspectors shall use the following references:
- i) related [State regulations];
  - ii) advisory circulars/pamphlets;
  - iii) approved flight manual;
  - iv) operator's operations specification;
  - v) operator's manuals; and
  - vi) other information provided by the State of Design or State of Manufacture as applicable.
- d) ***MEL evaluation***. Inspectors shall compare the operator's MEL changes against the corresponding items in the current MMEL for the specific aircraft type. In addition, inspectors shall verify that the operator's MEL contains the following required sections:
1. *cover page (required)*. The MEL cover page contains the operator's name and the make and model of the aircraft to which the MEL applies;
  2. *table of contents (required)*. The table of contents contains a list of all of the sections in the MEL by title and the corresponding page identification (usually a page number);
  3. *log of revisions (required)*. The log contains the revision identification (usually a number) and date of the revision. It may also contain a list of the revised pages, a block for the initials of the person posting the change and additional enhancements for use by the operator;
  4. *preamble (required)*. The standard MMEL preamble section must be reproduced word for word in each MEL without modification;
  5. *definitions (required)*. The standard MMEL definitions section must be reproduced word for word in each MEL without modification; and
  6. *control page (required)*. The control page is used as a method for keeping track of the status of the MEL and includes a record of the revision status or the date of each page of the operator's MEL. It will also be used as a means of conveying [State CAA] approval of the MEL. The control page is also referred to as the "List of Effective Pages".
- e) ***Minimum contents of the control page***. At a minimum, the control page must contain the following:
- 1) the operator's name;
  - 2) a listing of all of the pages in the MEL (including the date of each page and its page number or revision number);
  - 3) the MMEL revision number on which the MEL is based;
  - 4) a signature block containing space for signature of the FOI and for the date of approval;
  - 5) *optional contents*. The operator may include additional information on the control page to provide flexibility and additional approval functions; and



- 6) *highlights of change page (optional)*. This page contains a synopsis of the changes made by the operator in each revision.
- f) **Additional Items**. The operator may include additional information sections in excess of the six [State CAA] sections.
- 1) *Individual Air Transport Association of America (ATA) system pages*. These pages contain a list of individual items of equipment in the aircraft together with provisions for the operation of the aircraft when the items are inoperative. The reviewing inspector shall examine the individual ATA system pages, ensuring that the MEL is at least as restrictive as the MMEL and that operator's procedures are adequate and appropriate. The inspector shall also examine the material contained on these pages for conflict with the [State CAR], with the approved flight manual emergency procedures and limitations, and with the operator's operations specification. The following elements are included:
    - i) *the ATA numbering system*. Operators shall use the standard ATA numbering system, similar to the manner used in the MMEL, for numbering individual pages in this section. An example of this numbering system would be the communications page: the first page would be 23-1; the second page would be 23-2'
    - ii) *individual items of equipment*. The MMEL contains listed items of installed equipment that may be inoperative.
  - 2) *MMEL items not listed on the operator's MEL*. If items listed on the MMEL are not listed on the MEL there is no relief.
  - 3) *MMEL items listed on the operator's MEL*. Each piece of equipment that is installed on the aircraft and that is contained in the MMEL, for which the operator seeks relief and that is appropriate for its operation, shall be listed on the appropriate page of the operator's MEL within the associated ATA system. The operator may be more restrictive than permitted by the MMEL by not listing certain items in its MEL or adding operational restrictions or using a more restrictive repair category or increasing the number required for dispatch. Each item title on the operator's MEL will generally be entered exactly as it is shown on the MMEL. Exceptions include the following:
    - i) when the MMEL uses a generic term to address equipment that serves a similar function when various operators use different names for that equipment; or
    - ii) when the MMEL lists functions rather than individual pieces of equipment within that category such as "navigation equipment" or "communications equipment". In such cases, the MEL must contain a list of the individual equipment items or systems within that category that are actually installed on the aircraft such as "VHF communications transceivers". When items of this type consist of several components of a system, the item may be listed as a complete system such as "VOR navigation system", consisting of a VOR navigation receiver and its associated indicator. The inspector shall ensure that the operator has not listed inappropriate items or items that are listed individually elsewhere in the MMEL..
  - 4) *Items listed on the MMEL but not installed on the operator's aircraft*. The FOI may follow several acceptable methods of dealing with an item of equipment being listed on the MMEL but not installed on the operator's aircraft. One method is to simply omit the item from the MEL altogether, renumbering individual items within an ATA category as necessary to

- provide proper continuity. (It should be noted that individual item numbers on a page are not necessarily ATA code numbers but are simply sequential item numbers within an ATA category). Another method is to list the item as shown on the MMEL and to show the number installed as zero. In this case, the “number required for dispatch” would also be zero, and the remark “not installed” may be noted under “remarks and exceptions”; repair category designators should be omitted.
- 5) *Triple asterisk symbol (\*\*\*)*. The triple asterisk symbol is used in an MMEL to indicate that an item is not installed on some models of the aircraft. Operators shall not produce or use this symbol in the MEL.
  - 6) *Repair category*. Each item of equipment listed in the operator’s MEL, except for administrative control items and passenger convenience items, must include the repair category designator for that item as shown on the MMEL. These designators, categorized as “A”, “B”, “C” or “D” indicate the maximum time that an item may remain inoperative before repair is made. The actual repair categories corresponding to these letters are provided in the “definitions” section of the MMEL. The operator may choose to adopt a more restrictive repair category than the one shown on the MMEL, but may not relax the requirement. Components or subsystems of items categorized in the MMEL, such as items of communications or navigation equipment that are not listed individually in the MMEL, must retain the repair category shown on the MMEL when listed as separate items on the MEL.
  - 7) *Passenger convenience items*. Passenger convenience items relate to the convenience, comfort and entertainment of passengers and must never affect the airworthiness of the aircraft. These items do not carry a specific repair category; however, the operator shall make repairs to convenience items within a reasonable time frame. Normally, the operator lists these items individually in ATA Chapters 25 and 38. Passenger convenience items may be included elsewhere in the MEL if clearly identified as passenger convenience items. FOIs shall review the proposed MEL to decide which passenger convenience items are components of an item appearing in the MMEL. When listing passenger convenience items on the MEL, the operator must list each item for which the operator wishes relief. Passenger convenience items also apply to cargo aeroplanes, as appropriate.
  - 8) *Administrative control items*. “Administrative control item” means an item listed by the operator in the MEL for tracking and informational purposes. It may be added to an operator’s MEL by approval of the FOI, provided no relief is granted or provided conditions and limitations are contained in an approved document (such as structural repair manual or airworthiness directive). An example of items that could be considered administrative control items is cockpit procedure cards. These items should appear in the appropriate ATA chapter and would not have a repair category. When the operator chooses this course of action, the FOI must examine each proposed administrative control item on the operator’s proposed MEL to ensure that the following conditions are met:
    - i) no item is included as an administrative control item if it is included elsewhere in the MMEL;
    - ii) administrative items are not included as a subsystem of items listed in the MMEL;
    - iii) administrative items are not granted relief in the MEL unless the release conditions or limitations are contained in another approved document.

- 9) *Number of items installed.* The MEL will normally contain the actual number of items of particular equipment installed on the aircraft. This number may be either greater or less than the number shown on the MMEL. The MMEL shows the number of items installed as the number of those items normally installed on a particular aircraft type. Individual aircraft operated by an operator may have a different number of items. Frequently, the MMEL shows a dash in the “number installed” column. This dash indicates that variable quantities of these items are usually installed on the aircraft. If the operator has an MEL for a single aircraft or identical aircraft, the actual number of these items on the particular aircraft must be listed in the MEL. If the operator has an MEL for multiple aircraft, and the equipment is not installed on all aircraft or there is a variable quantity between aircraft, the operator’s MEL will reference specific aircraft identifications (registration marks) and the number of installed items for the aircraft, possibly in the remarks section; the “number installed” column may then contain a dash.
- 10) *Number of items required for dispatch.* Normally, the number of items required for dispatch is determined by the State of aircraft design and may be modified in the MEL in only two cases:
- i) when the item is not installed on the aircraft, in which case a zero may be shown as the number required for dispatch; and
  - ii) when the item is shown in the MMEL as being a variable number required for dispatch.

*Note.— In this case, the reviewing inspector shall ascertain that the operator has made a determination as to the number required for dispatch. There can be several factors that establish this number. In some cases, it is determined by a reference to specific requirements listed in the “remarks or exceptions” column of the MMEL. An example would be cabin lights. In this case, the MMEL may show a variable number installed while the “remarks or exceptions” column might state that 50 per cent of those items be operable. The number required for dispatch would therefore be 50 per cent of the number of lights determined to be actually installed on the individual aircraft. Another case where the MMEL may show a variable number required for dispatch is when the “remarks or exceptions” column of the MMEL contains the statement “as required by regulation”. In this case, the number is the minimum quantity of these items that must be installed for operations under the [State CARs].*

- 11) *“Remarks or exceptions”.* Certain items demand specific relief developed by the operator as authorized through operations specifications, area of operation and [State CARs]. “As required by regulation” is an example of this type of relief. This column may also contain aircraft identifications, with one item row per list of aircraft identifications for that item.
- 12) *Other items.* Other items in which relief has been specifically written to reflect actions or restrictions to the operation may be changed only when the State that approved the aircraft design makes a change to the MMEL. Generally they contain “O” and “M” procedures in which the operator develops its company procedures to comply with the MEL.
- 13) *Evaluation of associated documentation.* The inspector shall evaluate the supporting documentation submitted by the operator to ensure that it is complete and appropriate.
- i) *The operator’s operations manual.* Inspectors shall evaluate the operator’s manual to ensure that it contains adequate guidance for the operator’s personnel in conducting operations using the MEL. Generally, if the operator does not presently have an MEL

programme, the applicable portions of its manual and other guidance material shall be submitted at the time the MEL is submitted for initial review. When evaluating the operator's manual, inspectors shall ensure procedures for recording inoperative equipment (in the aircraft technical log) and for any required maintenance procedures, such as affixing placards, are clear. At a minimum, provisions for recording the following data shall be included:

- an identification of the item of equipment involved;
- a description of the nature of the malfunction;
- an identification of the person making the entry; and
- the MEL item number for the equipment involved.

14) *Flight crew notification.* The operator shall establish procedures for advising the pilot-in-command (PIC) of inoperative items and required procedures such as affixing placards, alternate operating procedures and operating limitations. The PIC and the operator are both responsible for ensuring that flights are not dispatched or released until all of the requirements of the “O” and “M” procedures have been met.

15) *Flight restrictions.* The operator shall establish procedures to ensure that dispatch or other operational control personnel, as well as the flight crew, are notified of any flight restrictions required when operating with an item of equipment that is inoperative. These restrictions may involve maximum altitudes, limitations for the use of ground facilities, weight limitations or a number of other factors.

16) *Training programme material.* Inspectors shall ensure that the operator's flight and ground personnel training programmes contain adequate instruction for MEL use.

17) *MEL management programme.* The FOI shall co-ordinate closely with both the AWI and the operator on the MEL management programme. Operators must develop an MEL management programme as a comprehensive means of controlling the repair of items listed in the approved MEL. Operators must include a description of the programme in their maintenance manual, maintenance control manual or other documents. The MEL management plan must include the following:

- i) a method for tracking the date and time of deferral and repair;
  - ii) the procedures for controlling extensions to maximum repair categories;
  - iii) a plan for co-ordinating parts, maintenance, personnel and aircraft at a specific time and place for repair;
  - iv) a review of items deferred due to unavailability of parts;
  - v) the specific duties and responsibilities of the managers of the MEL management programme, listed by job title.
- g) *Terms and conditions of relief.* This section contains the terms and conditions of relief granted to an operator for operating the aircraft with items of installed equipment that are inoperative. The operator must state the terms and conditions under which operations may be conducted with inoperative items for the operator's particular organization and aircraft. The reviewing inspector must address the following elements of this section:
- 1) *standard phraseology.* When reviewing the MEL, inspectors shall ensure that the operator generally uses the phraseology used in the MMEL to ensure clarity and standardization. In some cases modified phraseology is appropriate for the operator's specific installation.

- 2) “as required by regulations”. The general term “as required by regulations”, applies to various ATA Chapters, including 23 (Communications), 31 (Instruments), 33 (Lights) and 34 (Navigation equipment). When this term appears in the “remarks or exceptions” section of an MMEL, the operator’s MEL must contain the specific conditions that apply. The operator usually must research the applicable regulations in detail to develop the appropriate provisions that apply to that operator’s particular operations.

*Note.— The operator’s MEL must clearly establish the actual requirement for its operation when the MMEL stipulates “as required by regulation”. It is not acceptable for the MEL to simply refer to the regulation.*

- 3) “O” and “M” procedures.

- i) “O” and “M” procedures must contain descriptions of the individual steps necessary to accomplish each process. For example, if the MMEL contains an “M” symbol with a provision that a valve must be closed, the operator must include the appropriate procedures to close the valve as part of the operator’s maintenance manual or MEL. The reviewing inspector must ensure that the procedure addresses the following:
- how the procedure is accomplished;
  - the order of accomplishing the elements of the procedure;
  - the actions necessary to complete the procedure
- ii) For example, if the MMEL contains an “M” symbol with a provision that a valve must be closed, the operator must include detailed steps and actions for closing and testing the valve and installing the placard. The actual written procedures may be contained within the “remarks or exceptions” section of the MEL, in separate documents, or attached as an appendix. Inspectors shall consult the Guidelines for “O” and “M” Procedures of the MMEL when evaluating these procedures. The section about the Guidelines for “O” and “M” Procedures does not have to be contained within the operator’s MEL. If the “O” and “M” procedures are not contained within the MEL, the MEL shall include a reference to the location of the procedures.

*Note.— While inspectors shall ensure that the procedures are detailed and explicit, it is not necessary that the operator repeat obvious requirements of the MEL item, of the regulation, or of other established standards.*

- iii) “O” procedures. The “(O)” symbol indicates a requirement for a specific operations procedure that must be accomplished in planning for and/or operating with the listed item inoperative. Normally, these procedures are accomplished by the flight crew; however, other personnel may be qualified and authorised to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as a part of the operator’s operations manual or MEL.
- iv) “M” procedures. The “(M)” symbol indicates a requirement for a specific maintenance procedure, which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorized to perform certain functions. Maintenance personnel shall accomplish procedures requiring specialized knowledge or skill, or requiring the use of tools or test equipment. The satisfactory accomplishment of all maintenance procedures, regardless of who

performs them, is the responsibility of the operator. Appropriate procedures are required to be published as part of the operator's maintenance manual or MEL.

- v) *Provisos.* The “remarks and exceptions” section of the MMEL generally contains provisos that include specific conditions under which an item of equipment may be inoperative. These provisos must be carried over either verbatim into the operator’s MEL or by using equivalent terminology. Provisos are distinct from “O” and “M” procedures. A procedure is an action that must be performed. A proviso is a condition that must exist. For a proviso that operations must be conducted under VFR, an operation under an IFR flight plan is not permitted, regardless of the weather conditions. When reference is made to visual meteorological conditions (VMC), operations may be conducted under an IFR flight plan, but only in VMC.
- h) **Approval of the MEL.** The FOI will coordinate with the AWI on approving the MEL. The AWI must ensure that, prior to authorizing the use of the approved MEL for an Air operator, the MEL management programme is approved. Once the FOI and AWI are satisfied that all requirements of this chapter have been met the FOI sends the letter of approval to the operator and stamps and signs the list of effective pages.

### 3.3 MEL USE IN SERVICE

#### 3.3.1 General

This section contains specific direction, guidance, and procedures for operations and airworthiness inspectors on the revision, administration, and policy application for administering MELs that have been approved for use by operators operating under the provisions of the [State CARs].

#### 3.3.2 Revision procedures

- a) **Revisions to an MEL.** Either the operator or the [State CAA] may initiate revisions to an operator’s MEL. Operator initiated revisions may be equal to or more restrictive than the MMEL. It is not necessary for an operator to submit an entire MEL when requesting the approval of a revision. The minimum submission would consist of only the affected pages and a revised control page(s); the approval by the operations inspector (FOI) may only consist of specific items. These items are approved within a controlled process, and the operator will produce the final MEL document. If the revision results in individual pages either being added or deleted, a revised table of contents page is also required.
- b) **MEL revision initiated by an operator.** An operator initiated MEL revision will normally fit into one of the following three categories:
  - 1) *items not requiring an MMEL change.* Operators may propose changes to an MEL that are equal to, or more restrictive than, the MMEL. These revisions are approved by the FOI using the same procedures, as those required for an original MEL approval;
  - 2) *items resulting from or requiring an MMEL change.* Operators may request changes to an MEL that are less restrictive than the MMEL. However, the MEL cannot be revised until the MMEL has been revised to permit the proposed MEL change. The most common instance of a revision request of this type occurs when an operator installs additional equipment on an aircraft and provisions for that equipment are not included on the current MMEL; or

- 3) *major aircraft modifications.* Major aircraft modifications, such as a supplemental type certificate (STC), a major alteration or a type certificate (TC) amendment, may invalidate the MEL for that aircraft. Operators shall review the MEL to assess the impact of any planned modification and shall immediately notify the FOI of these modifications and the impact on the MEL. The FOI should obtain guidance from the State of Design, as applicable, to determine if a revision to the MMEL is required.
  - 4) *change to operations.* Operators may propose changes to an MEL as a result of a change to their operations, which may affect the relief in the MEL, either providing more or less relief, and may also require an amendment to the operations specifications; e.g., the start or discontinuation of long-distance overwater operations or a request for RVSM approval.
- c) ***MEL revisions initiated by the [State CAA].*** When the State of Design revises an MMEL, operators and manufacturers receive notification by printed or electronic means.
- i) *Non-mandatory revision.* Some MMEL revisions only provide additional relief that are less restrictive than the operator's MEL and may be ignored by the operator. An example of a non-mandatory revision is when the MMEL has been revised to provide for optional equipment normally not installed on all aircraft of a particular type, such as logo lights. Operators that operate aircraft with logo lights may choose to revise the MELs, while operators operating without logo lights would not.
  - ii) *Mandatory revisions.* Mandatory changes, which are more restrictive and may remove relief from the current MMEL, are reflected by the next successive change to the basic MMEL revision number itself. Any MMEL changes that are more restrictive than the operator's MEL will be implemented by the operator as soon as possible. In some cases when relief is removed from the MMEL, there will be a specific date for compliance or guidance for an acceptable date to be negotiated between the FOI and the operator.
  - iii) *FOI initiated revision.* A FOI may initiate an MEL revision that is not based on a revision to the MMEL, ensuring that the MEL remains more restrictive than the MMEL. The FOI shall make such a request to the operator in writing, stating specific reasons why the revision is necessary. A FOI initiated revision may be made upon the discovery that an operator has modified an aircraft or that faulty maintenance or operations procedures exist. The FOI should work closely with the operator and make every effort to resolve the matter in a mutually agreeable manner. The operator shall be given a reasonable time period to make the required changes depending on whether safety of flight is affected.
- d) ***Modifications within a fleet.*** If an operator has been granted approval to use the MEL for a fleet, and the operator installs a new piece of equipment in one or more aircraft, the operator may continue to operate that aircraft under the provisions of the currently approved MEL. The operator may not defer repair of the new item until an appropriate revision to the MEL has been approved.

### 3.3.3 **Tracking of revision status**

FOIs shall maintain a copy of the current MEL for each operator's aircraft type. The FOI shall track the revision status of the operator's MEL, to ensure it is current with the revision status of the MMEL (except for non-mandatory amendments).

### **3.3.4 Availability of MEL for flight crew members**

Flight crew members must have direct access to the MEL at all times prior to flight. Although not required, the easiest method of compliance with this requirement is for the operator to carry the MEL aboard each aircraft. The operator may choose to use some system of access to the MEL other than the MEL document. The critical element in approving an alternate form of access is whether or not the flight crew has a direct means of access to the appropriate information in the MEL, in particular "O" and "M" procedures. Direct access shall not be construed to mean access through telephone or radio conversations with maintenance or other personnel. If the operator chooses to provide the flight crew with access to the MEL by other than printed means, the method must be approved in the operator's MEL programme.

### **3.3.6 Discrepancies discovered during flight**

Use of the MEL is not applicable to discrepancies or malfunctions that occur or are discovered during flight. Once an aircraft moves under its own power, the flight crew should handle any equipment failure in accordance with the approved operations manual. A flight is considered to have departed when the aircraft moves under its own power for the purpose of flight. Discrepancies occasionally occur between the time the flight departs and the time it takes off. If the operations manual contains procedures for handling that discrepancy, and if the PIC deems that the discrepancy does not affect the safety of flight, the flight may continue. The discrepancy must be addressed prior to the next departure. For those operators who are required to use a flight dispatch procedure as part of their operational control, the PIC must handle a discrepancy that occurs after the issuance of the dispatch, but before the flight departs, in accordance with the MEL. The PIC must obtain a new or amended dispatch, as well as any required airworthiness release. This new or amended dispatch must contain any applicable flight restrictions necessary for operation with any item of equipment that is inoperative.

### **3.3.7 Documentation of discrepancies**

Provisions of the MMEL preamble require that an airworthiness release be issued or an entry be made in the aircraft technical log prior to conducting any operations with items of equipment that are inoperative.

### **3.3.8 Conflict with airworthiness directives (ADs)**

Occasionally an AD may apply to an item of equipment that may be authorized to be inoperative under the MEL. The item may not simply be deferred under the MEL in order to avoid or delay compliance with the AD or a [State CAA] approved alternate means of compliance with the AD. In all cases, when an AD has been issued, the operator must comply fully with the terms of the AD or a [State CAA] approved alternate means of compliance with the AD. In other cases, the provisions of an AD may allow operation of the aircraft on the condition that certain items of installed equipment be used or be operable. In those cases, the affected items must be operable even though the MEL may provide for deferral of repair.

### **3.3.9 Interrelationships of inoperative components**

When the MEL authorizes a component of a system to be inoperative, only that component may be affected. When a system is authorized to be inoperative, individual components of that system may also be inoperative. Any warning or caution systems associated with that system must be operative unless specific relief is authorized in the MEL. The operator must consider the interrelationship of inoperative components. This consideration must include the following:

- a) the interrelationship of one piece of equipment on another;



- b) the crew workload;
- c) the operation of the aircraft; and
- d) the flight restrictions.

### **3.3.10 Repair categories**

When an item of equipment becomes inoperative, and repair is deferred under an MEL, the operator must make repairs as specified by the associated repair category designator (“A”, “B”, “C” or “D”) and the operator’s MEL management system. In the event that more items are installed than those that are required for normal operation, the “C” repair category may be used. For example, if one altitude alerting system is required and the associated repair category is “B”, but there are two such systems installed, failure of the first system could be deferred as specified for a “C” category item (10 days). Failure of the remaining system would limit at least one system to the repair category for the “B” category item (3 days). See the definitions section of the MMEL for an explanation of repair categories.

## **3.4 CONFIGURATION DEVIATION LIST (CDL)**

### **3.4.1 General**

This section contains information for operations and airworthiness inspectors concerning the development and approval processes of configuration deviation lists (CDL). Transport aircraft may be approved for operations with missing secondary airframe and engine parts. Approval for operating with these parts missing would be authorised by the State of Design. Evaluation and approval of CDLs are functions of the State of Design.

### **3.4.2 CDL document**

The CDL, once approved, is often incorporated into the limitations section of the aeroplane flight manual (AFM) as an appendix. For some manufacturers, the CDL may be a stand-alone document and part of the structural repair manual or another manufacturer’s document. Some operators may choose to attach a copy of the CDL to their MEL for easy and ready reference by flight crews.

### **3.4.3 Use of a CDL**

Operators must follow the CDL limitations when operating with a configuration deviation. Operators are required to observe the following:

- a) the limitations in the CDL when operating with certain equipment missing;
- b) the flight operations, restrictions or limitations that are associated with each missing airframe and engine part;
- c) any placard(s) required by the CDL describing associated limitations, which must be affixed in the cockpit in clear view of the pilot in command (PIC) and other appropriate crew members.

3.4.4 **CDL use approval**

[State CAA] shall ensure that operators comply with any applicable approvals for the use of the CDL, issued by the State of Registry and/or State of Design. The operations inspector (FOI) must ensure that the operator has developed appropriate procedures for the PIC and, if appropriate, procedures for notifying dispatch of the CDL missing parts by an appropriate notation in the aircraft technical logbook or other acceptable means. For aircraft for which [State] is the [State of Registry], [State CAA] should accept the CDL.

**Attachment  
MEL REVIEW – OPERATIONS  
Job Aid**

<b>File reference:</b>		<b>Date of inspection:</b>	
<b>Operator:</b>			
<b>Aircraft Make/Model:</b>			
<b>Air Operator Contact:</b>		<b>MMEL Revision #:</b>	
<b>[State CAA] Inspector(s):</b>			

**S = Satisfactory U = Unsatisfactory N/A = Not Applicable**

	<b>S</b>	<b>U</b>	<b>N/A</b>
1. The MEL is based on the current MMEL date and revision number			
2. Contains the ATA Table of Contents			
3. Contains the Preamble			
4. Contains the Definitions Section same as the MMEL			
5. Contains list of effective pages and the other elements of the control page(s)			
6. All items addressed in the MMEL covered in the MEL			
If no, include explanation:			
7. Items have been added			
If so, include description:			
8. Each page of the MEL can be matched to MMEL to confirm revision number and date of revision			
9. Describes the operations procedure for placarding:			
10. Describes the procedure for recording discrepancies:			
11. Describes the procedure for clearing discrepancies:			

12. Are all items at least as restrictive as the MMEL:			
13. Remarks or exceptions for specific relief developed:			
14. Flight Crew notification procedures established			
15. MEL is tailored for the equipment installed and the service bulletins implemented			
16. MEL Management Programme has been established			
17. MEL training programme			
Remarks:			
<p><b>OVERALL RESULT:</b></p> <p>Satisfactory <input type="checkbox"/></p> <p>Unsatisfactory <input type="checkbox"/></p>		<p>FOI's signature: <input style="width: 100%;" type="text"/></p> <p>AWI's signature: <input style="width: 100%;" type="text"/></p> <p>Date: <input style="width: 100%;" type="text"/></p>	

## **Chapter 4**

### **TRAINING PROGRAMME**

#### **PART I — TRAINING MANUAL/PROGRAMME APPROVAL**

##### **4.1 BACKGROUND AND OBJECTIVES**

4.1.1 [State regulations, Part XX] require an air operator to ensure that all operations personnel are properly instructed in their duties and responsibilities and the relationship of such duties to the operation as a whole. The air operator shall have a training programme manual approved by [State CAA] containing the general training, facilities and record keeping policies. Furthermore, training programmes for instructors who provide training to operations personnel shall also have the approval of the [State CAA].

4.1.2 This chapter outlines the procedures and job aids that [State CAA] inspectors will utilize prior to providing the approval of an air operator's training programmes for the purpose of qualifying a crew member, or person performing operational control functions, for duties in commercial air transport.

##### **4.2 TRAINING MANUAL APPROVAL**

4.2.1 The training programme shall be described in detail either in the operations manual or in a training manual which, whilst it will form part of the operations manual, will be issued as a separate manual. 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 application and updating. Depending on the scope and complexity of the proposed operation, the training programmes required by [State regulations] may be carried out under the direct control of the air operator or conducted by other training facilities under contract or a combination thereof. For flight crew members, the approved training contracted to another facility will be conducted in an approved training organization.

4.2.2 Training syllabi and checking programmes for all operations personnel assigned to operational duties in connection with the preparation and/or conduct of a flight shall be developed to meet the respective requirements of the [State CAA]. An air operator may not use, nor may any person serve in a required crew member capacity or operational capacity unless that person meets the training and currency requirements established by [State CAA] for that respective position.

4.2.3 **Flight Crew.** The training syllabi and checking programmes for flight crew members shall include:

- a) a training programme approved by the [State CAA] that provides for basic indoctrination, initial, transition, difference and recurrent training, as appropriate, for flight crew members for each type of aircraft flown by that crew member. This training programme shall include both normal and emergency procedures training applicable for each type of aircraft flown by the crew member;
- b) adequate ground and flight training facilities and properly qualified instructors required to meet training objectives and needs;
- c) a current list of approved training materials, equipment, training devices, simulators and other required training items needed to meet the training needs for each type and variation of aircraft flown by the air operator; and

- d) a record system acceptable to the [State CAA] to show compliance with appropriate training and currency requirements.

4.2.4 **Cabin crew.** The training syllabi and checking programmes for cabin crew members shall include:

- a) basic initial ground training covering duties and responsibilities;
- b) appropriate [State CAA] rules and regulations;
- c) appropriate portions of the operator's operating manual;
- d) appropriate recurrent training as required by the [State CAA] and the operator's operating manual;
- e) appropriate in-flight safety duties and functions training;
- f) appropriate recurrent, upgrade, or difference training, as required, to maintain currency in any type and variance of aircraft the crew member may be required to work in;
- g) adequate training facilities and properly qualified instructors required to meet training objectives and needs;
- h) a current list of approved training materials, equipment, training devices, simulators and other required training items needed to meet the training needs for each type and variation of aircraft flown by the air operator; and
- i) maintain a training record system acceptable to the [State CAA] to show compliance with all required training.

4.2.5 **All crew members.** A training programme shall be developed for all crew members in the emergency procedures appropriate to each make and model of aircraft flown in by the crew member. Areas shall include:

- a) instruction in emergency procedures, assignments and crew co-ordination;
- b) individual instruction in the use of on-board emergency equipment such as fire extinguishers, emergency breathing equipment, first aid equipment and its proper use, emergency exits and evacuation slides and the aircraft's oxygen system including the use of portable emergency oxygen bottles. Flight crew members shall also practice using their emergency equipment designed to protect them in case of a cockpit fire or smoke;
- c) training shall also include instruction in potential emergencies such as rapid decompression, ditching, fire-fighting, aircraft emergency evacuation, medical emergencies, hijacking and disruptive passengers; and
- d) scheduled recurrent training to meet [State CAA] requirements.

4.2.6 **All operations personnel.** The training syllabi and checking programmes for all operations personnel shall include:

- a) training in the safe transportation and recognition of all dangerous goods to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify them and what requirements apply to the carriage of such goods by passengers or as cargo. Training shall include: general philosophy; limitations on dangerous goods in air transport; package marking and labeling; dangerous goods in passengers baggage; emergency procedures; and a method of providing any required notification of an accident or incident involving undeclared dangerous good;

*Note.— The requirements for training outlined here are for air operators who are not authorized to carry dangerous goods. The requirements for the initial approval and continuing safety oversight of air operators to carry dangerous goods are extensive. Therefore, the [insert name of such as Dangerous Goods Inspector Handbook] has been established as a separate handbook and the procedures and job aids/checklist in this document will be utilized by [State CAA] inspectors for the approval (including training) and oversight of air operators who may wish to be approved to carry dangerous goods.*

[Note to States.— Amend the paragraph above as appropriate to your State.]

- b) all appropriate security training required by the [ State CAA].

*Note.— Procedures for the review of the security training programmes are not contained in this handbook as this review will be completed by the [Note to State.— insert name of appropriate authority designated for aviation security by the State] in consultation with [State CAA].*

4.2.6 **Operations personnel other than crew members.** For operations personnel other than crew members (e.g., flight operations officer, handling personnel, etc.), a documented training programme shall be developed that pertains to their respective duties. The training programme shall provide for initial, recurrent and any required upgrade training.

4.2.7 **Procedures for training and checking.** These are procedures to be applied for checking and procedures in the event that personnel do not achieve or maintain the required standards.

4.2.8 **Document retention.** These are procedures for retention of documentation and training records as required by [State regulations].

### **4.3 TRAINING PROGRAMME APPROVAL – GENERAL**

4.3.1 An applicant for an air operator certificate (AOC) is required to develop a training programme for crew members, dispatchers and instructors. An existing operator may need to revise its training programme when purchasing new equipment, operating in a new environment, obtaining new authorizations, or when new [State CAA] requirements are specified. Each operator must obtain [State CAA] approval of curriculums used for training crew members, instructors, examiners and flight operations officers. The operator is responsible for ensuring that its training programme is complete, current and in compliance with [State CAA] guidance. (Unless otherwise specified in this chapter, the term “operator” applies equally to an applicant for a certificate and an existing certificate holder).

4.3.2 The [State CAA] inspectors will carry out a thorough analysis and inspection of all phases of the applicant’s ground and flight training programmes. This analysis and inspection will establish whether the training methods, syllabi, training aids/devices, training standards, related facilities and record keeping are adequate. The qualifications of ground and flight instructor personnel and their effectiveness will be evaluated.

4.3.3 Factors to be considered in the assessment and inspection of an applicant's training programme are:

- a) the completeness of the training syllabus and adequacy of facilities, aids, equipment and related training material. These items shall satisfactorily provide for the particular type of training required and be utilized in such a manner as to achieve the desired training standards and objectives. Particular attention shall be given to the availability of approved flight simulation training devices appropriate to the flight training syllabus;
- b) the adequacy and effectiveness of audio-visual training systems that use computer-based instructions, slides, videos and/or films for presenting instructions on aircraft systems, aerodrome qualifications and other subjects;
- c) the existence of provisions to obtain the necessary training material and to instruct personnel whenever new types of operations, new aircraft and/or equipment are introduced; and
- d) the competency of the applicant's instructors and training supervisors or training organizations to which the applicant intends to contract training.

4.3.4 In assessing the scope, quality and effectiveness of the training programme, the [State CAA] inspector shall observe a sampling of actual training or instruction being given so that it can be determined that:

- a) the applicant adheres to the prescribed syllabus;
- b) the applicant's ground and flight instructors are competent; and
- c) training personnel are able to recognize and appropriately deal with weak or unsatisfactory trainees.

4.3.5 During the inspection of the training programme, the applicant's plan for the maintenance of pilot qualifications, for conversion and pilot upgrading shall also be reviewed to ensure that:

- a) the training and associated qualification checks are carried out in a conscientious manner by properly qualified and authorized personnel;
- b) during training in actual flight, no manoeuvre that might result in an accident is prescribed, taking into account the aircraft involved and the experience and qualifications of the pilot in training and also of the instructor or check pilot;
- c) initial and recurrent training and checking is conducted in a systematic manner and in accordance with the training syllabus, without undue reliance upon the individual skill or preferences of the instructor or check pilot; and
- d) simulation of abnormal or emergency situations is not permitted when passengers or cargo are carried.

4.3.6 The [State CAA] inspector will approve the applicant's training programme in discrete self-contained sections such as initial training, recurrent training, transition training, conversion training and upgrading training, which can then be further divided into subsections such as ground training, simulator training and flight training. Should any section or subsection of the training programme not



meet the required standards, it shall be referred back to the applicant with a written detailed explanation of its deficiencies and of the corrective action necessary. When all requirements for the training programme have been fully met, the applicant shall be notified officially that the training programme has been approved. Any subsequent change to the training programme will require the approval of [State CAA].

#### **4.4 SPECIFIC TRAINING PROGRAMME**

4.4.1 **Human factors (CRM) training.** Flight operations officers and all aircraft crew members shall have CRM training as part of their initial and recurrent training requirements. CRM training shall include an initial indoctrination/awareness segment, a method to provide recurrent practice and feedback, and a method of providing continuing reinforcement. Curriculum topics to be contained in a CRM training course include:

- communications processes and decision behaviour
- internal and external influences on interpersonal communications
- barriers to communication
- listening skills
- decision-making skills
- effective briefings
- developing open communications
- inquiry, advocacy, and assertion training
- crew self-critique
- conflict resolution
- team building and maintenance
- leadership and followership training
- interpersonal relationships
- workload management
- situational awareness
- how to prepare, plan and monitor task completions
- workload distribution
- distraction avoidance
- individual factors
- stress reduction

4.4.2 **Emergency equipment training.** The training programme shall require each aircraft crew member to complete emergency equipment training during the specified training periods, using those items of installed emergency equipment for each type of aircraft in which he or she is to serve. During initial training, each aircraft crew member shall be required to perform the following one-time emergency drills:

- a) protective breathing equipment (PBE)/fire-fighting drill:
  - i) locate source of fire or smoke (actual or simulated fire);
  - ii) implement procedures for effective crew co-ordination and communication, including notification of flight crew members about fire situation;
  - iii) don and activate installed PBE or approved PBE simulation device;
  - iv) manoeuvre in limited space with reduced visibility;
  - v) effectively use the aircraft's communication system;
  - vi) identify class of fire;
  - vii) select the appropriate extinguisher;

- viii) properly remove extinguisher from securing device;
  - ix) prepare, operate and discharge extinguisher properly; and
  - x) utilize correct fire-fighting techniques for type of fire;
- b) emergency evacuation drill:
- i) recognize and evaluate an emergency;
  - ii) assume appropriate protective position;
  - iii) command passengers to assume protective position;
  - iv) implement crew coordination procedures;
  - v) ensure activation of emergency lights;
  - vi) assess aircraft conditions;
  - vii) initiate evacuation (dependent on signal or decision);
  - viii) command passengers to release seatbelts and evacuate;
  - ix) assess exit and redirect, if necessary; open exit, including deploying slides and commanding helpers to assist;
  - x) command passengers to evacuate at exit and run away from aircraft;
  - xi) assist special-need passengers, such as handicapped, elderly and persons in a state of panic; and
  - xii) if required by the [State CAA] despite the safety risk, actually exit aircraft or training device using at least one of the installed emergency evacuation slides or device; or
  - xiii) observe a demonstration of the use of the emergency evacuation slide or device.

*Note.— The training programme shall require crew members to either observe the aeroplane exits being opened in the emergency mode and the associated exit slide/raft pack being deployed and inflated, or perform the tasks resulting in the accomplishment of these actions.*

The training programme shall require each aircraft crew member to accomplish additional emergency drills during initial and recurrent training, with a prescribed periodicity, including actual performance of the following emergency drills:

- c) emergency exit drill:
- i) correctly pre-flight each type of emergency exit and evacuation slide or slide raft (if part of cabin crew member's assigned duties; this is required for flight crew members);
  - ii) disarm and open each type of door exit in normal mode;
  - iii) close each type of door exit in normal mode;
  - iv) arm each type of door exit in emergency mode;
  - v) open each type of door exit in emergency mode or, if no door trainer device is available, observe a demonstration then simulate the door opening in emergency mode;
  - vi) use manual slide inflation system to accomplish or ensure slide or slide raft inflation or, if no slide inflation training device is available, observe a demonstration;
  - vii) open each type of window exit; and
  - viii) remove escape rope and position for use;
- d) hand-held fire extinguisher drill:
- i) pre-flight each type of hand-held fire extinguisher;
  - ii) locate source of fire or smoke and identify class of fire;
  - iii) select appropriate extinguisher and remove from securing device;
  - iv) prepare extinguisher for use;

- v) actually operate and discharge each type of installed hand fire extinguisher;

*Note 1.— Fighting an actual or a simulated fire is not necessary during this drill.*

*Note 2.— The discharge of halon extinguishing agents during fire-fighting drills is not appropriate. Other appropriate agents that are not damaging to the environment should be used during the drills to simulate the discharge of halon.*

- vi) utilize correct fire-fighting techniques for type of fire;
  - vii) implement procedures for effective crew co-ordination and communication, including notification of flight crew members about the type of fire situation;
- e) emergency oxygen system drill:
- i) pre-flight and operation of portable oxygen devices;
  - ii) actually operate portable oxygen bottles, including masks and tubing;
  - iii) verbally demonstrate operation of chemical oxygen generators or installed oxygen supply system;
  - iv) prepare for use and operate oxygen device properly, including donning and activation;
  - v) administer oxygen to self, passengers and to those persons with special oxygen needs;
  - vi) utilize proper procedures for effective crew coordination and communication;
  - vii) manually open each type of oxygen mask compartment and deploy oxygen masks, for masks designed for manual retrieval and donning;
  - viii) identify compartments with extra oxygen masks;
  - ix) implement immediate action decompression procedures;
  - x) pre-flight and operation of PBE; and
  - xi) activate PBE;
- f) flotation device drill:
- i) pre-flight flotation device, if appropriate;
  - ii) don and inflate life vests;
  - iii) remove and use flotation seat cushions, as installed; and
  - iv) demonstrate swimming techniques using a seat cushion, as installed;
- g) ditching drill, if applicable

*Note.— During a ditching drill, students shall perform the “prior to impact” and “after impact” procedures for ditching, as appropriate, to the specific operator’s type of operation.*

#### **4.4.3 Flight crew initial aircraft ground training**

4.4.3.1 The initial aircraft ground training curriculum for the flight crew shall be applicable to their duties, the type of operations conducted and aircraft flown. Instructions shall include at least the following general subjects:

- a) operator’s dispatch, maintenance release, method of control and supervision of flight operations or flight locating procedures;
- b) principles and methods for determining mass and balance and runway limitations for take-off;

- c) operator's operations specifications, authorizations and limitations;
- d) adverse weather recognition and avoidance, and flight procedures which shall be followed when operating in the following conditions:
  - icing
  - fog
  - turbulence
  - heavy precipitation
  - thunderstorms
  - mountain waves
  - volcanic ash
  - low-level windshear and microburst
  - low visibility
  - contaminated runways
- e) normal and emergency communications procedures and navigation equipment including the operator's communications procedures and ATC clearance requirements;
- f) navigation procedures used in terminal departure, en-route, terminal arrival, approach and landing phases, to include visual cues prior to and during descent below DH or MDA;
- g) crew resource management training;
- h) air traffic control systems, procedures and phraseology;
- i) aircraft performance characteristics during all flight regimes, including:
  - i) the use of charts, tables, tabulated data and other related manual information;
  - ii) normal, abnormal and emergency performance problems;
  - iii) meteorological and mass limiting performance factors (such as temperature, pressure, contaminated runways, precipitation, climb/runway limits);
  - iv) inoperative equipment performance limiting factors (such as MEL/CDL, inoperative anti-skid); and
  - v) special operational conditions (such as unpaved runways, high altitude aerodromes and drift down requirements).
- j) normal, abnormal and emergency procedures on the aircraft type to be used;

4.4.3.2 The initial aircraft ground training curriculum for the flight crew shall be applicable to their duties, the type of operations conducted and aircraft flown, including at least the content of the aircraft operating information of the operations manual, as well as the additional operating procedures that are in the General part of the operations manual.

4.4.3.3 The initial aircraft ground training curriculum for the flight crew shall be applicable to their duties, the type of operations conducted and aircraft flown, including at least the following aircraft systems integration items and procedures:

- a) use of checklist;
- b) flight planning;
- c) navigation and communications systems;
- d) autoflight/flight directors; and
- e) cockpit familiarization.

#### 4.4.4 **Flight crew initial aircraft flight training**

4.4.4.1 The pilot initial flight training includes at least the following training and practice in procedures related to the carrying out of pilot duties and functions. This training and practice may be accomplished either in flight or in a flight simulation training device (FSTD), as appropriate to the category and class of aircraft and as approved by [State CAA]. If available, an FSTD must be utilized for training on turbo-jet aircraft and all large turbo-prop aircraft training. The training curriculum will be based on the manufacturer flight crew training manual if available and on the TCDS if the TCDS contains type-rating training data.

*Note.* — *The flight training events for pilots listed in 4.4.4.2 are generic in nature for an aircraft type-rating training curriculum conducted in an FSTD.*

4.4.4.2 The training events should include:

- a) Flight preparation, including ground operations before take-off
- b) Takeoff
- c) Climb:
- d) En-route:
- e) Descent
- f) Approaches (visual and instrument approaches including missed approach)
- g) Landings
- h) After landing
- i) Other flight procedures during any airborne phase
- j) Normal, abnormal and alternate procedures during any phase
- k) Emergency procedures during any phase

#### 4.4.5 **Flight engineer flight training.**

4.4.5.1 The flight engineer flight training shall include at least the following training and practice in procedures related to the carrying out of flight engineer duties and functions. This training and practice may be accomplished either in flight or in an FSTD, as approved by [State CAA].

*Note.— The flight training events for flight engineers listed 4.4.5.2 are generic in nature for a type-rated aeroplane training curriculum. Additional training events may need to be added, changed or deleted.*

4.4.5.2 The training events should include:

- a) Flight preparation
- b) Ground operations
- c) Take-off
- d) Climb
- e) En-route
- f) Descent
- g) Approach
- h) Landings
- i) Procedures during any ground or airborne phase

4.4.6 **Aircraft differences training.** Aircraft differences training for crew members and flight operations officers are required when the operator has aircraft variances within the same type of aircraft. This training depends on the variances in equipment installed and in an aircraft family (e.g. A-318, A-319, A-320, A-321). . The variances in installed equipment and the resulting training requirements must be identified. Guidance on training for aircraft family variances may be available from the State of Design or from the manufacturer or from the TCDS A training curriculum needs to be developed covering the variances.

#### 4.4.7 **Pilot recurrent training**

4.4.7.1 The recurrent training programme for all flight crew shall be relevant to the type or variant of aircraft on which he or she is assigned and rated to operate and for the crew member position involved. The flight crew member recurrent ground training includes at least the following:

- a) general subjects
- b) aircraft systems, limitations and procedures
- c) ground icing and de-icing procedures and requirements
- d) emergency equipment and drills
- i) every 12 months:

- location and use of all emergency and safety equipment carried on the aeroplane.
- the location and use of all types of exits
- actual donning of a lifejacket where fitted
- actual donning of protective breathing equipment
- actual handling of fire extinguishers

ii) every 3 years:

- operation of all types of exits
- demonstration of the method used to operate a slide, where fitted
- fire-fighting using equipment representative of that carried in the aeroplane on an actual or simulated fire

*Note.— With halon extinguishers, an alternative method acceptable to the [State CAA] may be used.*

- effects of smoke in an enclosed area and actual use of all relevant equipment in a simulated smoke-filled environment.
- actual handling of pyrotechnics, real or simulated, where fitted
- demonstration in the use of the life-raft(s), where fitted
- an emergency evacuation drill
- a ditching drill, if applicable
- a rapid decompression drill, if applicable

e) crew resource management:

f) dangerous goods:

g) security:

4.4.7.2 The pilot recurrent flight training shall include at least the following:

*Note.— Flight training may be conducted in an appropriate aircraft, adequate flight simulation training device (FSTD), or in a combination of aircraft and FSTD, as approved by [State CAA]. Recurrent training shall be conducted in an FSTD for all turbo-jet and large turbo-prop.*

- a) flight preparation:
- b) ground operation before take-off
- c) take-off
- d) climb
- e) en-route
- f) descent
- g) approaches (visual and instrument approaches including missed approach)
- h) landings

- i) after landing
- j) other flight procedures during any airborne phase
- k) normal, abnormal and alternate procedures during any phase:
- l) emergency procedures during any phase:

4.4.8 **Flight engineer recurrent.** The flight engineer recurrent flight training includes at least the flight training specified in 4.4.5.

4.4.9 **Initial aircraft ground training – Cabin crew.** The initial ground training curriculum for cabin crew members shall be applicable to the type of operations conducted and aircraft flown, including at least the following general subjects, if applicable:

- a) aircraft familiarization:
- b) aircraft equipment and furnishings:
- c) aircraft systems:
- d) aircraft exits
- e) crew member communication and coordination, including the authority of the PIC
- f) routine crew member responsibilities, duties and procedures for all phases of the operation
- g) passenger handling responsibilities:

4.4.9.1 **Initial ground training for cabin crew members.** The initial ground training curriculum for cabin crew members shall be applicable to the type of operations conducted and aircraft flown, including at least the following aircraft specific emergency subjects, if applicable:

- a) emergency equipment:
- b) emergency assignments and procedures:
- c) aircraft-specific emergency drills:

4.4.10 **Recurrent normal and emergency training – Cabin crew.** Each cabin crew member shall undergo recurrent training in evacuation and other appropriate normal and emergency procedures and drills relevant to his or her assigned positions and the type(s) and/or variant(s) of aircraft on which he or she operates every twelve months in at least the following:

- a) emergency equipment
- b) emergency procedures:
- c) emergency drills as in 4.4.7.1 d)



- d) crew resource management:
- e) dangerous goods:
- f) security:

4.4.11 **Initial training – Flight operations officer.** The initial aircraft ground training for flight operations officers that include instruction in at least the following subjects:

- a) general dispatch and operational control subjects
- b) aircraft characteristics
- c) operations procedures
- d) abnormal and emergency procedures
- e) crew resource management
- f) dangerous goods
- g) security
- h) differences training

i) at least one qualification flight shall be performed in the flight crew compartment of an aircraft over any area for which the flight operations officer is authorized to exercise flight supervision.

#### 4.4.12 **Recurrent training – Flight operations officer**

4.4.12.1 The recurrent training programme, to be completed every twelve months shall be relevant to the type(s) and/or variant(s) of aircraft and the operations conducted by the air operator.

4.4.12.2 The training programme shall ensure that each flight operations officer receives recurrent training in the subjects required for initial training listed in 4.4.10 in sufficient detail to ensure competency in each specified area of training. Operators may choose to provide in-depth coverage of selected subjects on any one cycle of training. In such cases the operator's training programme must cover all the subjects to the detail required for initial qualification within three years.

4.4.12.3 within the preceding 12 months, at least one qualification flight shall be performed in the flight crew compartment of an aircraft over any area for which the flight operations officer is authorized to exercise flight supervision.

4.4.13.1 **Flight crew instructor training.** The initial ground training for flight instructors shall include the following:

- flight instructor duties, functions and responsibilities
- applicable regulations and the operator's policies and procedures
- training to ensure the flight instructor is competent to:
  - manage safety
  - prepare the training environment

- manage the trainee
- conduct training
- perform trainee assessment
- perform course evaluation

For candidates not rated on the aircraft type, the programme shall include the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the aircraft to which the flight instructor is in transition training.

4.4.13.2 The initial and transition flight training for flight instructors shall include the following:

- safety measures for emergency situations that are likely to develop during instruction
- potential results of improper, untimely or non-execution of safety measures during instruction
- for pilot flight instructor (aircraft):
  - in-flight training and practice in conducting flight instruction from the left and right pilot seats in the required normal, abnormal and emergency procedures to ensure competence as an instructor
  - the safety measures to be taken from either pilot seat for emergency situations that are likely to develop during instruction
- flight training requirements for flight instructors can be completed in full or in part in flight or in a flight simulation training device, as appropriate
- initial and transition flight training for flight instructors (FSTD) shall include training in the operation of flight simulation training devices, to ensure competence to conduct the flight instruction required.
- 

4.4.14 **Cabin crew instructor training.** The initial ground training for the cabin instructors shall include the following:

- cabin instructor duties, functions and responsibilities
- applicable regulations and the operator's policies and procedures
- training to ensure the cabin crew instructor is competent to:
  - manage safety
  - prepare the training environment
  - manage the trainee
  - conduct training
  - perform trainee assessment
  - perform course evaluation

For candidates not qualified to perform cabin duties on the aircraft, the training programme shall include the approved methods, procedures and limitations for performing the required normal, abnormal and emergency procedures applicable to the aircraft, as appropriate to which the cabin instructor is in transition.

4.4.15 **Flight operations officer instructor training** shall include the following:

- flight operations officer instructor duties, functions and responsibilities
- applicable regulations and the operator's policies and procedures

- training to ensure the flight operations officer instructor is competent to:
  - manage safety
  - prepare the training environment
  - manage the trainee
  - conduct training
  - perform trainee assessment
  - perform course evaluation

Transition ground training for flight operations officer instructors shall include the approved methods, procedures and limitations for performing the required normal, abnormal and emergency procedures applicable to the position involved to which the flight operations officer instructor is in transition.

#### 4.4.16 **Report procedures**

The appropriate training manual/programme checklist/report form [CAA form # xx] included at the end of this chapter shall be used for recording the results of the review of the applicable training manual/programme.

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## **PART II — TRAINING PROGRAMME MONITORING**

### **4.1 BACKGROUND AND OBJECTIVES**

4.1.1 Inspections of the many components of a training programme are an important part of the [State CAA] certification and surveillance programme. For the initial approval, the monitoring programme is to ensure that the programme as approved is being followed and that the results of the proficiency/competency checks indicate that the training is adequate to ensure company personnel are fully qualified for their duties. Subsequent inspections are best planned and executed over a period of time to permit a thorough and on-going evaluation of an operator's training programme.

4.1.2 The primary objective of a training programme inspection is to ensure that the operator's overall training programme continues to provide quality instruction by conducting an evaluation of the training programme curriculums, facilities, instructors, courseware, instructional delivery methods and testing and/or checking procedures that were previously approved by the [State CAA].

4.1.3 Training programme inspections also provide the [State CAA] with the ability to require changes in an operator's training programme, to rescind an approved programme (or segments of that programme) and to maintain a current and accurate appraisal of the programme's status and ability to train competent and capable flight operations personnel.

### **4.2 TRAINING PROGRAMME INSPECTIONS AREAS**

4.2.1 Training programmes vary widely in their complexity depending on the operator's size, aircraft fleet diversification, number of flight operations personnel, training locations and scope of operation. Training programme inspections involve much more than simply observing and evaluating training in progress. Four primary inspection areas may be identified as areas to be observed and evaluated:

- training manual or curriculums
- courseware
- instructional delivery methods
- testing and checking

Information concerning these four areas is as follows:

- a) **Training curriculums inspection area.** Inspectors shall evaluate the operator's approved training curriculums. Inspectors shall ensure that these training curriculums are consistent with regulatory and general guidance for the type of operation being conducted. The inspector shall ensure that the curriculum outlines contain enough descriptive detail to ensure that the main features of each principal subject will be addressed during the course of instruction. Inspectors shall evaluate each of the operator's curriculum outlines to ensure that the subject matter is current and appropriate in depth and scope, and also to gain an adequate understanding of what kinds of subject matter will be observed and evaluated during later phases of the inspection. The following is a list of basic curriculums typical of air operators. These shall be reviewed for all crew member positions and flight operations officers:

- Basic indoctrination aircraft ground training
- Emergency training
- Flight training (flight crew members only)

- cabin training (for cabin crew members)
- upgrade training
- Differences training (if applicable)
- Recurrent training
- Special curriculums
- Transition training
- Qualification curriculums

Special curriculums include training which is in addition to the regulatory training requirements, such as crew resource management (CRM) training. Qualification curriculums include training of pilots to conduct CAT II and III approaches, various route qualification courses and instructor training.

- b) **Courseware inspection area.** Inspectors shall examine an operator's courseware, such as lesson plans, instructor guides, computer software or audiovisual programmes and hand-outs. The courseware shall be examined to ensure that it is consistent with the curriculum outline and be organized to permit effective instructional delivery. The courseware shall also be examined to ensure it is current, effective and germane to the various instructional delivery methods.
- c) **Instructional delivery methods inspection area.** Inspectors shall ensure that the operator's various instructional delivery methods, such as lectures, workshops, slide tape presentations, training devices and FSTDs are sufficient to convey information to a trainee. These methods shall be evaluated to ensure that they are effectively creating a transfer of learning to the trainee, that they are being maintained as originally approved and that they are updated as necessary.
- d) **Testing and checking inspection area.** Observing testing and checking is the primary method by which an inspector can determine if learning has occurred. In this inspection area, the inspector can evaluate the operator's standards, reflected by pass/fail rates, which determine whether a desired level of knowledge and skill has been acquired by the trainees. The inspector shall examine the operator's training records to ensure the operator's regulatory compliance with testing, checking and other training programme requirements. Additionally, instructor programmes shall be examined as the functional quality control element within this area.

### **4.3 GENERAL TRAINING PROGRAMME INSPECTION PRACTICES AND PROCEDURES**

4.3.1 The five primary inspection areas previously outlined shall constitute the core areas of an operator's training programme that were evaluated by the [State CAA] before the issuance of final approval. These inspection areas apply to all operators and vary only in their complexity from operator to operator.

4.3.2 In certain situations, there may be a requirement for the [State CAA] to initiate a "special emphasis" training programme inspection of one or more specific areas. This type of inspection may be initiated for several reasons such as an incident, an accident, or a series of deficiencies discovered through trend analysis of surveillance data. Special emphasis training programme inspections usually focus on a limited area, such as use of checklists or windshear training and are relatively short in duration.

4.3.3 Before the inspector can inspect any particular training programme area, the inspector shall introduce him/herself to the instructor conducting the training and to the trainee; the inspector shall present his [State CAA] credentials. The inspector shall then inform them that a [State CAA] inspection of training in progress will be conducted. Inspectors shall refrain from active participation in the training

being conducted and shall make every effort not to influence the training environment or the instruction in the subject matter. If an inspector has comments on any of the areas of training being conducted, the inspector shall reserve those comments for the debriefing with the instructor after the training session.

#### **4.4 SPECIFIC TRAINING PROGRAMME INSPECTION PROCEDURES**

4.4.1 The four areas discussed in 4.2 above must be carefully considered before granting approval to a training curriculum. Because these areas are broad in terms of scope and context, their key elements have been organized into ten categories in order to provide a flexible inspection strategy. This approach permits the many components of an operator's training programme to be broken down into manageable inspection areas, and provides inspection data which lends itself to meaningful interpretation. This means the inspector has more latitude in terms of scheduling specific types of inspections, maximizing inspector resource capabilities and in determining the sequence of the various types of inspections to be conducted. An inspection of any of the following categories may be conducted as an independent inspection, or categories may be combined when examining a specific training curriculum in detail:

- a) **Training curriculum.** The inspector shall evaluate each of the operator's approved training curriculums, primarily for format and content. Ideally, each shall contain the following:
  - *Title.* Each curriculum shall be appropriately titled with a specific crew member position (or positions, such as PIC/SIC) or function and the relevant category of training.
  - *List of effective pages.* Each curriculum shall have a list of effective pages and a means to record revisions.
  - *Approvals.* The title page or the list of effective pages (for finally approved programmes) shall be signed, dated and stamped by an operations inspector.
  - *Detail.* Each curriculum shall include comprehensive outlines of course material contained therein in sufficient detail to determine adequacy of coverage.
  - *Hours.* The total number of training hours shall be specified for each curriculum.
  - *Objective.* Each curriculum shall list a training objective.
  - *Currency.* The information contained in each curriculum shall be current and may not be contrary to the regulations or safe operating practices. Company bulletins, notices, information letters and other means of conveying new or revised information to crewmembers shall have been, or are in the process of being, incorporated into the appropriate curriculums.
  - *Conformity.* Scope and content of each curriculum shall conform to [State CAA] requirements.
  
- b) **Instructor courseware.** In this module, the inspector shall evaluate the operator's instructor guides, lesson plans, and/or training outlines. Ideally, this courseware shall have the following characteristics:
  - *Title.* Instructor courseware shall be clearly titled for the appropriate curriculum.
  - *Detail.* It shall contain sufficient information to permit the instructor to conduct detailed instruction for each subject area.

- *Usability/practicality.* It shall contain instructional material in a logical order and sequence that is relatively easy to use.
  - *Consistency.* It shall be consistent with the curriculum outline.
  - *References.* It shall have references to the applicable operator’s manuals and publications.
  - *Assessment (evidence) guide.* A guide that provides detailed information (e.g. tolerances) in the form of evidence that an instructor or an examiner can use to determine whether a candidate meets the requirements of the competency standard.
  - *Validation.* Instructor courseware shall include some means for determining that the students are properly assimilating the instructed material (such as “responder” panels, multiple choice questions, or in class exercises).
- c) **Student courseware.** In this module, the inspector shall evaluate the information in all of the various “self-teaching” training mediums such as video tapes, audiovisual, slide presentations, computer-based training presentations, programmed learning publications and home study materials, as follows:
- *Consistency.* The information shall be consistent with the curriculum outline. It shall be current with information in the operator’s manual and other publications.
  - *Detail.* It shall have sufficient detail to ensure that students can clearly understand the applicable subject area.
  - *Validation.* The courseware shall include some means of testing student assimilation of information presented.
- d) **Training facilities/environment.** The inspector shall evaluate the operator’s training facilities as follows:
- The training facilities and the instructional environment shall be conducive to learning by providing adequate seating space for students, storage areas for training materials and facilities for instructors to prepare their lessons.
  - The facility shall be free of distractions which adversely affect instructional delivery, such as excessive temperatures, extraneous noise, poor lighting and cramped classrooms and/or work spaces.
- e) **Ground instructors.** The inspector shall evaluate the quality of instruction provided by ground instructors as follows:
- *Training.* Instructors shall be adequately trained in accordance with the operator’s approved programme and be appropriately documented in the operator’s training records.
  - *Knowledge.* Instructors shall be knowledgeable in the specific area of instruction and in the operator’s training policies and procedures and record completion requirements.

- *Instructional technique and delivery.* Instructors shall exhibit satisfactory instructional methods and techniques. They shall be able to present the material in a logical, clear and organized manner.
  - *Adherence.* Instructors shall follow the applicable lesson plans, guides or other training aids to ensure the material is properly presented as designed.
- f) **Flight instructors.** In addition to the areas listed in sub-paragraph e) above, flight instructors shall be evaluated in the following specific areas:
- *Proficiency.* Flight instructors shall be highly proficient in the operation of aircraft, flight simulators and training devices and in the performance of manoeuvres and procedures which they are teaching.
  - *Briefing.* Flight instructors shall provide a thorough pre-flight briefing (for FSTD or the aircraft) on all manoeuvres and procedures that will be conducted.
  - *Debriefing.* Flight instructors shall provide a thorough post-flight debriefing to review each individual student's performance during a training session.
  - *Evaluation.* Flight instructors shall properly evaluate trainee progress and provide or recommend additional training when necessary.

During evaluations of flight training, the instructor shall adhere to the events listed for the specific flight training curriculum. Instructors may deviate when necessary, however, to accommodate events from previous or subsequent flight training sessions. Every effort shall be expended to alleviate artificiality from the training session and the instructor shall be accorded a certain measure of flexibility to ensure the highest level of realistic training is achieved.

- g) **Training aids and equipment.** The inspector shall evaluate the operator's training aids and equipment such as audiovisual equipment, systems mock-up boards, panel layouts, ground training devices, instructor station equipment, trainee responders (if applicable) and other related items, in terms of equipment. Ideally, the following conditions will prevail:
- *Instructions for use.* Any equipment designated to be used for "self-teaching" purposes (such as CBT platforms) shall have clear operating instructions readily available for the trainee's use.
  - *Condition.* All equipment used in the training programme shall operate and function in good working order. (Replacement parts or components such as slide projector lamps, shall be readily available).
  - *Fidelity.* Systems panels, layouts, boards, or mock-ups (such as aircraft exit mock-ups) shall accurately represent the designated aircraft.
- h) **FSTDs and training devices.** It is not intended for the inspector to conduct an extensive flight evaluation of the training device or FSTD but rather to evaluate the following: the qualification of the FSTD and its approval for the training to be conducted; the general condition of the equipment; any significant periods of "down-time" (and the reasons for the down-time); and the operator's general ability to maintain the equipment as approved. The inspector shall evaluate the operator's FSTDs, as follows:



- *Approval.* FSTDs and flight training devices shall have been approved for use as required by [State CAA]. Inspectors shall review the operator's record of FSTD evaluations and approval information to ensure compliance.
  - *Condition.* Inoperative or defective equipment shall be properly documented along with the training events that are affected by the inoperative or defective components.
  - *Documentation.* Published instrument approach charts, SIDs, STARs, en-route charts, flight management system databases and other information (such as aircraft performance manuals and take-off/landing data charts) which are contained within the FSTD shall be current and in generally good condition.
- i) **Examiners.** The inspector shall evaluate the following elements:
- *Staffing.* The number of examiners designated by the [State CAA] and employed by the operator shall be adequate for the level of training and checking activity.
  - *Training and qualification.* Training records shall reflect that the examiners are qualified/designated in accordance with applicable regulations and the operator's approved training programme.
  - *Standardization.* The operator or [State CAA] shall have an effective standardization programme to ensure that examiners conduct oral and flight examinations in a uniform manner.
  - *Assessment (evidence) guide.* A guide that provides detailed information (e.g. tolerances) in the form of evidence that an instructor or an examiner can use to determine whether a candidate meets the requirements of the competency standard.
  - *Level of activity.* The number of examinations that an examiner conducts each year shall be sufficient to maintain currency and proficiency in performing his duties.

## **4.5 INSPECTION REPORTING PROCEDURES**

4.5.1 This chapter has provided a broad overview of the many areas of an operator's training programme that must be evaluated during the inspector's annual work programme. The Air Operator Training Inspection Checklist/Report form [CAA form # xx] which appears at the end of this chapter will be used for all such inspections. It contains the major inspection areas which were discussed in this chapter, broken down into the categories described in paragraph 4.4 of Part II to this chapter. This form is designed to be flexible and appropriate sections shall be completed to indicate the scope or content of an inspection which has been conducted.

**Attachment A  
TRAINING PROGRAMME MONITORING INSPECTION CHECKLIST/REPORT**

Company/ operator:		Date:	
Location:		Inspector:	
Name of training programme inspected:			

**S = Satisfactory; U = Unsatisfactory**

	✓	S/U
<b>A. TRAINING CURRICULUM</b>		
1. Appropriate title(s)		
2. List of effective pages		
3. Record of revisions		
4. [State CAA] approved		
5. Sufficient detail		
6. Training hours specified		
7. Objective (s) stated		
8. Currency		
9. Conformity		
<b>B. INSTRUCTOR COURSEWARE</b>		
1. Title		
2. Detail		
3. Usability/practicality		
4. Consistency		
5. References		
Assessment (evidence) guide		
6. Validation		
<b>C. STUDENT COURSEWARE</b>		
1. Consistency		
2. Detail		
3. Validation		
<b>D. TRAINING FACILITIES AND ENVIRONMENT</b>		
1. Classroom seating space		
2. Storage space		
3. Instructor areas		
4. Lighting		
5. Noise and temperature		
<b>E. GROUND INSTRUCTORS</b>		
1. Training		
2. Knowledge		
3. Instructional technique and delivery		
4. Adherence		

	✓	S/U
<b>F. FLIGHT INSTRUCTORS</b>		
1. Training		
2. Knowledge		
3. Proficiency		
4. Instructional technique and delivery		
5. Adherence		
6. Briefings		
7. Debriefings		
8. Evaluation		
<b>G. TRAINING AIDS AND EQUIPMENT</b>		
1. Instructions for use		
2. Condition		
3. Fidelity		
<b>H. FSTDs AND TRAINING DEVICES</b>		
1. Approval		
2. Condition		
3. Documentation		
<b>I. EXAMINER</b>		
1. Staffing		
2. Training and qualification		
3. Standardization		
Assessment (evidence) guide		
4. Level of activity		
<b>J. ORAL AND PRACTICAL ASSESSMENT GUIDE</b>		
1. Conform to accepted international standards		
2. Comply with regulations		
<b>K. QUALITY CONTROL</b>		
1. Training adequately monitored		
2. Utilizes progress evaluations		
3. Training folders		

Remarks:

<b>OVERALL RESULT:</b>	Inspector's signature:	
Satisfactory <input type="checkbox"/>		
Unsatisfactory <input type="checkbox"/>		

**Attachment B  
[STATE CAA]  
EMERGENCY EQUIPMENT TRAINING CHECKLIST/REPORT**

Company: <input style="width:90%;" type="text"/>	Date: <input style="width:90%;" type="text"/>
Location: <input style="width:90%;" type="text"/>	Inspector: <input style="width:90%;" type="text"/>
Name of training programme inspected: <input style="width:95%;" type="text"/>	

**S = Satisfactory; U = Unsatisfactory**

	✓	s/u
1. Protective breathing equipment (PBE)/fire-fighting drill		
2. Emergency evacuation drill		
3. Emergency exit drill		
4. Hand-held fire extinguisher drill		
5. Emergency oxygen system drill		
6. Flotation device drill		
7. Ditching drill, if applicable		
The follow drill 8 – 11 shall be observed during initial and recurrent training.		
8. Life raft removal and inflation drill, if applicable		
9. Slide raft transfer drill		
10. Slide and slide raft deployment, inflation and detachment drill		
11. Emergency evacuation slide drill		

Remarks:

<b>OVERALL RESULT:</b>	Inspector's signature: <input style="width:95%;" type="text"/>
Satisfactory <input style="width:30px;" type="checkbox"/>	<input style="width:95%;" type="text"/>
Unsatisfactory <input style="width:30px;" type="checkbox"/>	<input style="width:95%;" type="text"/>



l) Emergency procedures

Remarks:

<b>OVERALL RESULT:</b>	Inspector's signature:
Satisfactory <input type="checkbox"/>	<input type="text"/>
Unsatisfactory <input type="checkbox"/>	<input type="text"/>

DRAFT

**Attachment D  
[STATE CAA]  
FLIGHT ENGINEER TRAINING CHECKLIST/REPORT**

Company: <input style="width:90%;" type="text"/>	Date: <input style="width:90%;" type="text"/>
Location: <input style="width:90%;" type="text"/>	Inspector: <input style="width:90%;" type="text"/>
Type of training programme inspected: <input style="width:95%;" type="text"/>	

**S = Satisfactory; U = Unsatisfactory**

	✓	S/U
1. Flight preparation		
2. Ground operations		
3. Take-off		
4. Climb		
5. En-route		
6. Descent		
7. Approach		
8. Landings		
9. Procedures during any ground or airborne phase		

Remarks:

<b>OVERALL RESULT:</b>	Inspector's <input style="width:90%;" type="text"/>
	signature: <input style="width:90%;" type="text"/>
Satisfactory <input style="width:50px;" type="text"/>	: <input style="width:90%;" type="text"/>
Unsatisfactory <input style="width:50px;" type="text"/>	: <input style="width:90%;" type="text"/>

**Attachment E  
[STATE CAA]  
CABIN CREW TRAINING CHECKLIST/REPORT**

Company: <input style="width:90%;" type="text"/>	Date: <input style="width:90%;" type="text"/>
Location: <input style="width:90%;" type="text"/>	Inspector: <input style="width:90%;" type="text"/>
Type of training programme inspected: <input style="width:90%;" type="text"/>	

**NA = Not applicable; S = Satisfactory; U = Unsatisfactory**

		✓ NA/S/U
<b>A. INITIAL AIRCRAFT GROUND TRAINING</b>		
1. Aircraft familiarization		
2. Aircraft equipment and furnishings		
3. Aircraft systems		
4. Aircraft exits		
5. Crew member communication and coordination		
6. Routine crew member responsibilities, duties and procedures		
7. Passenger handling responsibilities		
<b>B. RECURRENT NORMAL AND EMERGENCY TRAINING</b>		
1. Emergency equipment, as applicable		
2. Emergency procedures		
3. Emergency drills		
3.1. Every twelve months:		
- location and use of all emergency and safety equipment carried on the aeroplane		
- the location and use of all types of exits		
- actual donning of a lifejacket where fitted		
- actual donning of protective breathing		

		✓ NA/S/U
equipment		
- actual handling of fire extinguishers		
3.2. Every three years:		
- operation of all types of exits		
- demonstration of the method used to operate a slide, where fitted		
- fire-fighting using equipment		
- use of all relevant equipment in a simulated smoke-filled environment		
- actual handling of pyrotechnics, real or simulated, where fitted		
- demonstration in the use of the life-raft(s), where fitted		
- an emergency evacuation drill		
- a ditching drill, if applicable		
- a rapid decompression drill, if applicable		
4. Crew resource management		
5. Dangerous goods		
6. Security		

Remarks:

<b>OVERALL RESULT:</b>	Inspector's signature: <input style="width:95%;" type="text"/>
Satisfactory <input type="checkbox"/>	<input style="width:95%;" type="text"/>
Unsatisfactory <input type="checkbox"/>	<input style="width:95%;" type="text"/>

**Attachment F  
[STATE CAA]  
FLIGHT OPERATIONS OFFICER TRAINING CHECKLIST/REPORT**

Company: <input style="width:90%;" type="text"/>	Date: <input style="width:90%;" type="text"/>
Location: <input style="width:90%;" type="text"/>	Inspector: <input style="width:90%;" type="text"/>
Type of training programme inspected: <input style="width:95%;" type="text"/>	

**S = Satisfactory; U = Unsatisfactory**

		✓	S/U
<b>A. INITIAL AIRCRAFT GROUND TRAINING</b>			
1. General dispatch and operational control subjects			
2. Aircraft characteristics			
3. Operations procedures			
4. Abnormal and emergency procedures			
5. Crew resource management			
6. Dangerous goods			
7. Security			
8. Differences training			
9. Qualification flight			
<b>B. RECURRENT TRAINING</b>			
Each flight operations officer receives recurrent training in the subjects above in sufficient detail to ensure competency in each specified area of training. Operators may choose to provide in-depth coverage of selected subjects on any one cycle of training. In such cases the operator’s training programme must cover all the subjects to the detail required for initial qualification within			

		✓	S/U
three years.			
1. Qualification flight within the preceding 12 months			
<b>C. AIRCRAFT DIFFERENCES TRAINING</b>			
1. Training on aircraft differences when the operator has aircraft variances within the same type			

Remarks:

<p><b>OVERALL RESULT:</b></p> <p>Satisfactory <input style="width:20px;" type="checkbox"/></p> <p>Unsatisfactory <input style="width:20px;" type="checkbox"/></p>	<p>Inspector's signature: <input style="width:95%;" type="text"/></p> <p><input style="width:95%;" type="text"/></p> <p><input style="width:95%;" type="text"/></p>
---	---



**Attachment G  
[STATE CAA]  
INSTRUCTOR TRAINING CHECKLIST/REPORT**

Company: <input style="width:95%;" type="text"/>	Date: <input style="width:95%;" type="text"/>
Location: <input style="width:95%;" type="text"/>	Inspector: <input style="width:95%;" type="text"/>
Type of training programme inspected: <input style="width:95%;" type="text"/>	

**S = Satisfactory; U = Unsatisfactory**

	✓	S/U
<b>A. FLIGHT CREW INSTRUCTOR TRAINING</b>		
<b>1. Initial ground training</b>		
a) Flight instructor duties, functions and responsibilities		
b) Applicable regulations and the operator's policies and procedures		
c)		
d) training to ensure the flight instructor is competent to: <ul style="list-style-type: none"> <li>• manage safety</li> <li>• prepare the training environment</li> <li>• manage the trainee</li> <li>• conduct training</li> <li>• perform trainee assessment</li> <li>• perform course evaluation</li> </ul>		
<b>2. Initial and transition flight training</b>		
a) Safety measures for emergency situations that are likely to develop during instruction		
b) Potential results of improper, untimely or non-execution of safety measures during instruction		
c) For pilot flight instructor (aircraft): <ul style="list-style-type: none"> <li>• in-flight training and practice in conducting flight instruction from the left and right pilot seats in the required normal, abnormal and emergency procedures to ensure competence as an instructor</li> <li>• the safety measures to be taken from either pilot seat for emergency situations that are likely to develop during instruction</li> </ul>		
d) For candidates not rated on the aircraft type, the programme shall include the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the aircraft to which the flight instructor is in transition training.		
e) Initial training for flight instructors (FSTD) shall include training in the operation of FSTDs, to ensure competence to conduct the flight instruction required		
<b>B. CABIN CREW INSTRUCTOR TRAINING</b>		
1. Cabin instructor duties, functions and responsibilities		
2. Applicable regulations and the operator's policies and procedures		
3. training to ensure the cabin crew instructor is competent to:		

	✓	S/U
<ul style="list-style-type: none"> <li>• manage safety</li> <li>• prepare the training environment</li> <li>• manage the trainee</li> <li>• conduct training</li> <li>• perform trainee assessment</li> <li>• perform course evaluation</li> </ul>		
4. For candidates not qualified to perform cabin duties on the aircraft, the training programme shall include the approved methods, procedures and limitations for performing the required normal, abnormal and emergency procedures applicable to the aircraft, as appropriate to which the cabin instructor is in transition.		
<b>C. FLIGHT OPERATIONS OFFICER INSTRUCTOR TRAINING</b>		
1. Flight operations officer instructor duties, functions and responsibilities		
2. Applicable regulations and the operator's policies and procedures		
3. training to ensure the flight operations officer instructor is competent to: <ul style="list-style-type: none"> <li>• manage safety</li> <li>• prepare the training environment</li> <li>• manage the trainee</li> <li>• conduct training</li> <li>• perform trainee assessment</li> <li>• perform course evaluation</li> </ul>		
4. Transition ground training for flight operations officer instructors shall include the approved methods, procedures and limitations for performing the required normal, abnormal and emergency procedures applicable to the position involved to which the flight operations officer instructor is in transition.		

Remarks:

**OVERALL RESULT:**

Satisfactory   
Unsatisfactory

Inspector's  
signature:

## **Chapter 5**

### **DEMONSTRATION (PROVING) FLIGHTS**

#### **5.1 BACKGROUND AND OBJECTIVES**

5.1.1 Refer to Volume I, 6.3.10 for how to determine whether or not demonstration flights will be required, and if such flights are required, their number and type. The plan for demonstration flights will have been prepared and approved by the [State CAA] during the document review phase of the certification process and is based on the [State CAA's] assessment of the capabilities of the operational and maintenance systems established by the applicant. The following procedures outline how [State CAA] will implement the plan if demonstration flights are required.

5.1.2 A team leader will be assigned to lead the demonstration flight and shall be one of the inspectors from the review team. He shall be responsible for the conduct, coordination and evaluation of the test. The team shall as a minimum include flight operation(s) and airworthiness inspector(s).

5.1.3 The demonstration flights are designed to determine prior to the issuance of the AOC that the applicant is capable of operating and maintaining each aircraft type which he proposes to use in accordance with [State CAA] requirements. During these inspections, [State CAA] staff will observe and evaluate the in flight operations within the total operational environment of the air transportation system. In the course of demonstration flights, paying passengers will not be carried. However, it is 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.

5.1.4 The applicant and the [State CAA] inspectors shall plan well in advance for the conduct of the demonstration 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. General objectives for pre certification demonstration flights shall 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 the operational control system 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.

5.1.5 Demonstration flights are operated exactly as though the applicant is conducting revenue operations. However, during the course of the flights the [State CAA] staff may introduce simulated situations which will require appropriate responses by crew members and ground personnel.

5.1.6 Provided that flights are conducted in accordance with the applicable commercial air transport regulations and air operator procedures, the types of flights that can be credited towards demonstration flight requirements are described in the following sub-paragraphs:

- a) *Representative en-route flights.* Before an applicant may conduct these flights, the test team must be satisfied that the document review phase has been completed.
- b) *Positioning or delivery flights.* Positioning or delivery flights approved by the [State CAA] may be credited towards demonstration flight requirements.
- c) *Training flights.* With the approval of the [State CAA] training flights may be credited towards demonstration test requirements, provided that a [State CAA] inspector observes each flight.

## **5.2 SPECIFIC PROCEDURES**

5.2.1 Well before the demonstration flights (during the pre-application phase of the certification process) the [State CAA] will have briefed the operator regarding the necessity for demonstration flights (if such flights are required), what must be accomplished and the areas which will be evaluated. Subsequently, during the document review phase the aircraft demonstration plan and schedule will have been submitted to the [State CAA] for approval.

5.2.2 Unsatisfactory conditions noted by the [State CAA] inspectors during any part of the demonstration inspection shall be brought to the attention of the applicant in writing for corrective action. The opportunity shall be provided for 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 need to be corrected or resolved, with acceptable records of the corrective actions taken being kept, to the satisfaction of the [State CAA] certification team prior to the inauguration of commercial service. Some examples of deficiencies requiring corrective action are:

- a) flight crew member not properly trained, e.g. assistance from applicant supervisors or a [State CAA] inspector required;
- b) flight crew member not familiar with aircraft, systems, procedures or performance;
- c) cabin crew member not properly trained in emergency evacuation procedures or in the use of emergency equipment or not familiar with the location of that equipment;
- d) numerous aircraft deficiencies and/or system malfunctions;
- e) inadequate mass and balance or load control;
- f) unsatisfactory operational control, e.g. improper flight planning and maintenance release procedures;
- g) unacceptable maintenance procedures or practices; and/or
- h) improper aircraft servicing and ground handling procedures.

5.2.3 After the demonstration flights are 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.

### **5.3 EVALUATION AND REPORTING**

The routine portion of the applicant's operational performance during the demonstration flights will be evaluated using the Inflight Cockpit Inspection Checklist form [CAA form # xx] along with the criteria contained in Volume II, Chapter 13 of this handbook; the Inflight Cabin Inspection Checklist form [CAA form # xx] along with criteria contained in Volume II, Chapter 14; and the Station Facility Inspection Checklist form [CAA form # xx] along with the criteria contained in Volume II, Chapter 12 (as applicable). These will be attached to the demonstration flight report form [CAA form # xx] which will also be completed.

DRAFT

Attachment

<b>AIR OPERATOR DEMONSTRATION FLIGHT REPORT</b>			
<b>1. Air operator:</b>			
<b>2. Aircraft type:</b>			
<b>3. Flight information:</b>			
Date	Route Segments (List 4-letter identifiers of origin and destination aerodromes)	Flight time	
		Day	Night
<b>5. Results:</b>	Satisfactory: <input type="checkbox"/>	Unsatisfactory: <input type="checkbox"/>	
<b>Remarks:</b> <i>(continue on back if necessary)</i>			
<i>Note.— Attach in-flight cockpit and in-flight cabin inspection 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.</i>			
<b>Inspector's signature:</b>			

## **Chapter 6**

### **CONTINUING SAFETY OVERSIGHT — SURVEILLANCE**

#### **6.1 GENERAL**

6.1.1 Continuing safety oversight of the air operator by [State CAA] is an on-going component of the certification system. It is essential to ensure that the required standard of operation is maintained in order to provide a safe and reliable commercial air transport service to the public.

6.1.2 Under [State regulations Part XX], [State CAA] inspectors have the authority and responsibility for exercising continuing safety oversight of commercial air transport operations to ensure that accepted safety practices and approved procedures for the promotion of safety in operations are maintained. To achieve this objective, the [State CAA] establishes an annual risk-based surveillance plan for continuously monitoring operations conducted by each operator. Such surveillance may result in the revision of operations specifications, the temporary suspension of an AOC or the revocation of an AOC.

6.1.3 Required surveillance and the related inspections are planned by [Flight Standards manager or as applicable] and conducted by inspectors responsible for the standard of conduct of a specific operator's operation. All inspectors authorized to conduct safety oversight will be in possession of credentials identifying them as inspectors appointed by the [State CAA]. The credentials identify the legislation under which they are empowered to inspect. In addition, each credential has an expiry date and a current photo of the inspector.

6.1.4 Surveillance is conducted on a continuous basis, and includes regular and random inspections of all aspects of the operation. The areas covered in the surveillance activities over a period of time are the same as those examined during the original certification process. The areas examined include at least a re-evaluation of the operator's organization, management effectiveness and control, facilities, equipment, ground handling, aircraft maintenance, operational control and supervision, flight and duty time records, maintenance of flight and cabin crew standards, passenger and cargo safety procedures, dangerous goods procedures, operational and personnel records, training, company manuals, financial viability and record of compliance with the provisions of the AOC, the associated operations specifications and pertinent operating regulations.

6.1.5 All safety oversight activity with respect to a particular operator are risk-based and carefully planned as it is not possible to cover all aspects of an operation during every inspection. Inspections are also planned on the basis of a risk assessment exercise so that aspects of the operation that involve the greatest risk receive more frequent attention. Where an air operator has established a Safety Management System (SMS) that has been assessed as effective and is achieving the agreed to performance measures, then safety oversight activities for that air operator may be reduced in some areas, while refocusing on verification of the assumptions made with respect to the performance of the SMS.

#### **6.2 SURVEILLANCE PROGRAMME**

6.2.1 In the first few months of a new operation, [State CAA] inspectors shall be particularly alert to any irregular procedures, evidence of inadequate facilities or equipment, or indications that management control of the operation may be ineffective. They shall also carefully examine any information that may indicate a significant deterioration in the operator's financial condition. Examples of trends which may indicate problems in an operator's financial condition are:

- a) significant lay-offs or turnover of personnel;
- b) delays in paying salaries;
- c) increase in the incident/accident rate;
- d) decreasing standards of training;
- e) withdrawal of credit by suppliers;
- f) inadequate maintenance of aircraft, as indicated by inspectors' maintenance findings, increases in the number of grounded aircraft events, uses of MEL/CDL, maintenance related flight delays, etc.;
- g) shortage of supplies and spare parts;
- h) curtailment or reduced frequency of revenue flights; and
- i) sale or repossession of aircraft or other major equipment items.

6.2.2 During the certification process, the [State CAA] inspector will have determined the methods, systems or procedures that the operator intended to use to ensure compliance with the applicable regulations, the AOC and its associated operations specifications and the operator's operations manual. A prime objective of the surveillance programme is to confirm that such methods, systems or procedures are being followed and are effective in the demonstration of operator compliance and achievement of safety objectives.

6.2.3 Aircraft leases and contractual arrangements entered into by the operator for training, etc. need to be thoroughly reviewed and a determination made of whether these arrangements are producing satisfactory results as far as the maintenance of safety standards and regulatory compliance are concerned.

6.2.4 The operator's training programme must be closely monitored during oversight to ensure that the training standards, which were demonstrated when the programme was initially approved, are being maintained. If there are indications that the training provided is not achieving the desired training objectives, or has resulted in a high failure rate on various tests or examinations, [State CAA inspectors] need to make certain that the operator revises the training programme to ensure that trainees will reach the required level of competence.

6.2.5 The performance of flight crew authorized as designated examiners needs to be observed and evaluated during the course of the surveillance programme. This evaluation should be conducted, where possible, by an inspector familiar with the specific type of aircraft utilized by the operator. The procedures for the approval and surveillance of designated examiners are contained in Chapter 18 of Volume II.

6.2.6 The oversight function will be accomplished on a continuing basis, planned and performed at specified times or intervals. Evaluate all significant aspects of the operator's procedures and practices and ensure that the inspections are commensurate with the scale and scope of the operator's activities.



## **6.3 PLANNING AND EXECUTING THE SURVEILLANCE PROGRAMME**

6.3.1 For surveillance plans to be effective, they must be carefully planned and executed. Four phases are utilized for planning and executing a surveillance plan:

- **Phase One.** Developing a risk-based surveillance plan by determining the types of inspections necessary and the frequency of those inspections;
- **Phase Two.** Accomplishing the surveillance plan by conducting the inspections;
- **Phase Three.** Analyzing surveillance data gathered from inspection reports and related information from other sources; and
- **Phase Four.** Resolution of safety deficiencies

6.3.1.1 *Phase One – Developing a risk-based surveillance plan.* Responsibility for the development of the annual operations surveillance plan rests with the [Flight Standards manager or office responsible for surveillance]. The surveillance plan shall recognize the need to conduct routine and ongoing surveillance and shall anticipate the possibility of special emphasis surveillance as a result of newly promulgated requirements, results of previous oversight activities or certain risk indicators such as accidents, incidents, repeated violations of [State CARS] and evidence of financial problems. When planning a surveillance plan, the [Flight Standards manager or office responsible for surveillance] must identify the plan objectives, evaluate the resources available and determine the specific types and numbers of inspections to be conducted in support of that plan. The numbers of inspections will be established taking into consideration the current operating environment which the [State CAA] oversees, such as number of aircraft and variety of aircraft types, number of crew members, routes, number and geographic location of transit stations, the volume of training being conducted and the assessment of risk as mentioned above. An operator's history of compliance with regulations and cooperation with the inspectorate may also be considered when developing a surveillance plan. In summary, the aspects of the operation or operator that involve the greatest risk will receive more frequent attention.

6.3.1.2 *Phase Two – Conducting surveillance plan inspections.* During the conduct of the surveillance plan inspections, accurate and qualitative inspection reporting is essential. The quality and standardization of inspection reporting requires the use of the inspection checklists and report forms contained in this handbook. These checklists and forms are not the only options that can be used and they may also be tailored to the particular inspection being conducted.

6.3.1.3 *Phase Three – Analyzing surveillance data.* When deficiencies are observed in the course of the safety oversight plan for a particular operator, the cause shall be determined, a corrective action plan developed by the operator, prompt action taken to rectify the deficiency and appropriate follow-up initiated to determine the effectiveness of the corrective action. Additional inspections shall be planned and conducted whenever problems in particular areas are repeated. Evaluation of inspection results is a key phase of any surveillance plan. The primary purpose of evaluating surveillance data is to identify trends as well as deficiencies which are not associated with an apparent trend. This evaluation of inspection results is also important in terms of redefining and implementing subsequent surveillance objectives and inspection activity. Additionally, other related information from incidents, accidents, enforcement actions and other sources may provide valuable trend information which may relate to the operator's safety and compliance status. For each air operator, summary information collected under the surveillance plan will be gathered and maintained current. In coordination with other departments such as airworthiness and personnel licensing departments, the [Flight Standards manager or as applicable] will evaluate the surveillance data on a quarterly basis and amend the surveillance plan as required.

6.3.1.4 *Phase Four – Resolution of safety deficiencies.* The [Flight Standards manager or as applicable] must use good judgment when determining the most effective course of action to be taken as a result of unsatisfactory inspection findings. The appropriate course of action often depends on many factors. Various options which may be considered are: informal discussion with the operator; formal written request for corrective action; withdrawal of [State CAA] approval for a programme, manual or document; and initiation of an investigation leading to formal enforcement action. The corrective actions which an operator takes independently of the [State CAA] should be taken into account. The process for resolving safety deficiencies should be defined and documented, including timelines for the response by the operator.

6.3.2 Should the safety oversight programme and related inspection reports reveal that an operator has failed to meet or is unable to meet or maintain the required standards for certification or the conditions specified in the AOC and its associated operations specifications, the [State CAA] inspector responsible for that air operator is to advise the operator of the deficiency observed and the air operator will be responsible to develop a corrective action plan which will normally be required within 30 days. If an operator does not correct a deficiency as required, the [Flight Standards manager or as applicable] shall inform the DGCA and, if necessary, make a recommendation that the AOC and its associated operations specifications be restricted, temporarily suspended or permanently revoked. When an AOC is suspended or revoked for any reason, the operator is required to promptly return the AOC to the [State CAA].

### **Frequency of inspections**

*[Note to States.— The frequency of inspection below is provided as an example. The frequency of inspection for your State should take into consideration the scope of aviation activity, the resources available and the assessment of risk as outlined above.]*

6.3.3 While the surveillance programme will be adjusted based on an assessment of risk as outlined above, the minimum numbers of the various types of inspections contained in this Handbook which should be accomplished are outlined below. Taking into account inspector resources and the demand for certification activities, additional inspections will be completed in areas of higher risk.

6.3.3.1 *Manual inspections.* A complete review of the operations manual, training manual, MEL, cabin crew manual, flight dispatch manual and other related manuals shall be accomplished once every [State CAA established interval].

6.3.3.2 Main base audit to include inspections of operations control, trip records, flight and duty time records, qualification and training records to be conducted at least every [State CAA established interval].

6.3.3.3 An assessment of an air operators SMS shall be conducted every [State CAA established interval].

6.3.3.4 For each air operator each training course will be observed over a period of [State CAA established interval] and will be combined with an inspection of the training facility and training devices (as applicable).

*Note.— Sampling of a portion of the course is satisfactory.*

6.3.3.5 *Cockpit en-route inspections.* Inspections per [State CAA established interval].

6.3.3.6 *Cabin en-route inspections.* Inspections per [State CAA established interval].

6.3.3.7 *Station facility inspections.* Inspection per [State CAA established interval].

6.3.3.8 *Ramp inspections.* Inspection per [State CAA established interval].

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## **Chapter 7**

### **MAIN BASE AUDIT**

#### **7.1 BACKGROUND AND OBJECTIVES**

A main base audit shall be performed at the operator's principal base of operations and the purpose of the inspection is to assess the suitability of the operator's organization, management, facilities, equipment, manuals, personnel and training records. The operations portion of main base audit will be accomplished in six increments as follows:

- operations manual;
- operational control;
- operations and flight (trip) records;
- flight and duty time records;
- training programme; and
- training and qualification records.

#### **7.2 GENERAL INSPECTION GUIDELINES**

7.2.1 Inspectors shall contact the operator well in advance to make appropriate arrangements for inspecting elements of the main base audit. Unlike many types of operations inspections which are most effective when conducted on short notice (such as ramp inspections and in-flight inspections) elements of the main base operation are not subject to rapid adjustments on the part of the operator in anticipation of the inspection and the inspections are most productive following adequate notice and coordination. Advance notice is important to ensure that key company personnel will be present during the course of the inspections to provide information and answer questions. The required company presence will vary according to the type of inspection. During the initial contact, the operator shall be briefed in detail regarding the scope of the audit, the areas to be inspected, and the approximate duration of the audit. For example, when evaluating operational control procedures and operations, the inspector will require almost constant contact with personnel who are responsible for each functional area. In contrast, the inspection of flight and duty time records requires very little company involvement except to make records available and answer any initial questions the inspector may have about the operator's record keeping system.

7.2.2 Before commencing each type of inspection listed in 7.1 above, inspectors should familiarize themselves to the maximum extent possible with the operator's manuals, policies and instructions regarding the area to be inspected. In developing an annual work programme, it is therefore sound practice to schedule an operations manual inspection in advance of the other types of inspections contained in this chapter. This will provide the inspector with an overview of the operator's instructions and policies prior to evaluating their effectiveness in day to day practice. Before performing the individual inspections contained in chapters which follow, inspectors should review for a second time and in greater depth those portions of the operator's manual which pertain to the specific area to be evaluated. In that sense, all inspections which are conducted by operations inspectors become an extension of the formal evaluation of the operator's manual, because unsatisfactory performance in operational areas can often be traced to inadequate planning, guidance, and training.

7.2.3 Upon arriving at the site where the inspection is to be conducted, inspectors shall introduce themselves and present their identification to the operator's representatives, if not personally known to them. The inspector shall review with the operator the scope of the audit to be conducted, and assemble key company personnel who are to be available to answer questions during the course of the audit. The inspector shall coordinate with the operator the time and place at the conclusion of the audit to review the findings. These will be reported in writing to the operator.

### **7.3 SPECIFIC INSPECTION PROCEDURES AND PRACTICES**

Detailed guidance regarding the conduct of the six types of inspections listed in 7.1 above, along with inspection checklists/report forms, are contained in Chapter 4, Part II and Chapters 8 through 12 of this volume.

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## **Chapter 8**

### **OPERATIONAL CONTROL INSPECTION**

*[Note to States.— This chapter assumes two options: 1) the approved method of control and supervision of flight operations assigns operational control responsibilities to a flight dispatcher/flight operations officer as part of the system for operational control; 2) the approved method of control and supervision of flight operations delegates responsibility for operational control to the pilot-in-command. When a paragraph or an item applies only to the first option, it will be indicated.]*

#### **8.1 BACKGROUND AND OBJECTIVES**

8.1.1 Operational control refers to the exercise, by the operator, of responsibility for the initiation, continuation, termination or diversion of a flight. [State Civil Aviation Regulations, Part ...] require air operators to have an approved system for the control and supervision of flight operations. Responsibility for operational control is delegated to the pilot-in-command, or jointly to the pilot-in-command and the flight dispatcher if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel.

8.1.2 To make an evaluation of the overall effectiveness of the operational control organization, the FOI must evaluate the following factors:

- responsibility for operational control is clearly defined;
- an adequate number of operational personnel are provided for the approved method of control and supervision;
- applicable manuals contain adequate policy and guidance for the method of control and supervision of flight operations to allow operational personnel to carry out their duties efficiently, effectively and with a high degree of safety;
- operational control personnel are adequately trained, knowledgeable and competent in the performance of their duties;
- operational control personnel have been provided with the necessary information for the safe planning, control and conduct of all flights;
- the operator provides adequate facilities for implementing the approved method of control and supervision of flight operations;
- the operator performs all operational control functions required by the regulations;
- the operator performs all functions necessary to provide adequate operational control in the environment in which operations are conducted;
- adequate emergency procedures and contingency plans have been formulated.

## **8.2 GENERAL INSPECTION PRACTICES AND PROCEDURES**

8.2.1 FOIs conduct operational control inspections through systematic manual reviews, records inspections, observations and interviews.

- a) *Inspector preparation and manual review.* Before starting an operational control inspection, the inspector must become familiar with the operational control provisions contained in the operations manual. This manual review is both the first step in the inspection process and preparation for subsequent steps. Its purpose is to examine operations control policy and guidance in depth in order to ensure that approved procedures are being followed. The operations manual shall specify the following:
  - 1) the responsibilities and functions assigned to operational personnel related to the approved method of control and supervision of flight operations; and
  - 2) the procedures for the provision of assistance to the pilot-in-command in flight preparation; completion of operational and ATS flight plans; liaison with the 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. It shall be understood that the pilot-in-command is the person ultimately responsible for the safety of the flight.
- b) *Observations, interviews and records checks.* The inspector shall establish with the operator a mutually convenient time for conducting the interviews and records checks and for observing operational control functions:
  - 1) inspectors shall conduct interviews with both management and working level personnel to meet inspection objectives. Inspectors shall plan these interviews so that the required information can be obtained without unduly distracting personnel from their duties and responsibilities;
  - 2) inspectors shall observe actual flight preparation. Before beginning these observations, an inspector should request a tour of the operator's facility for general orientation. During this time, he may observe operational control personnel performing a variety of job functions. If possible, these observations should be made during periods of peak activity, adverse weather, or during non-routine operations;

*Note.— Detailed guidance concerning operations (trip) records, fatigue management records and training and qualifications records is contained in Chapters 9, 10 and 11 of this volume. Each type of records inspection has its own checklist and report form. These areas may be examined separately or in conjunction with the remainder of the operational control inspection areas.*

## **8.3 SPECIFIC INSPECTION PRACTICES AND PROCEDURES**

8.3.1 The Air Operator Operational Control Checklist/Report form [CAA form # xx] attached at the end of this section contains a list of specific inspection items of the carrier's operations control organization, functions, and guidance. It will serve as both a checklist of items to be covered and as a means of recording the results of the inspection. The following inspection areas will be evaluated to verify compliance with [State regulations Part XX] and the air operators approve system for operational control.

8.3.1.1 **Policies and procedures**

a) ***Authorized operations:***

- 1) The type of operations that may and may not be conducted shall be clearly specified in manuals and other instructions (VFR, IFR, CAT II, etc.).
- 2) Applicable [State regulations] and the operator's policies applicable to each type of operation shall be clearly stated.
- 3) Geographic areas and destinations to which extended overwater flights or EDTO may be conducted shall be clearly specified.

b) ***Manuals:***

- 1) the operations manual shall contain the policy and guidance for operational control.
- 2) If the operator conducts extended overwater or EDTO, a section of the operations manual shall contain key considerations regarding these types of operations.
- 3) The applicable section(s) of the operations manual shall be readily available to operational control personnel while they perform their duties.

c) ***Pre-departure functions.*** The responsibility and procedures for accomplishing the following functions shall be clearly defined and properly executed:

- 1) crew assignment;
- 2) load planning;
- 3) aircraft routing;
- 4) flight planning;
- 5) release of the aircraft from maintenance;
- 6) control of MEL and CDL limitations. Required instruments and equipment shall be installed and operational;
- 7) compliance with flight operations limitations;
- 8) mass and balance;
- 9) performance planning, including consideration of mass, elevation, temperature, wind, obstacles, etc.;
- 10) the operator shall have a means for the PIC, and dispatcher if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel, to ensure that each of these functions has been satisfactorily accomplished before the aircraft departs.

d) ***Original operational flight plan:***

- 1) The conditions under which a flight may and may not be dispatched (type of operation, weather, crew compliment, load, etc.) shall be clearly defined.
- 2) The conditions under which a flight must be re-routed, delayed, or canceled shall be defined.
- 3) The operational flight plan shall contain all the necessary elements as required by [State Civil aviation regulation].
- 4) A written copy of weather reports, forecasts and NOTAMS shall be attached to the operational flight plan and available to the flight-crew.
- 5) Flight shall not commence unless it is ascertained by every reasonable means that aerodromes to be used are adequate for the operation.

e) ***Dispatcher briefing (only if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel):***



- 1) The operator's procedures shall provide for briefing of the PIC by the dispatcher.
  - 2) The minimum content of the briefing shall be specified and adequate.
- f) **Dual responsibility** (*only* if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel):
- 1) The signatures of both the PIC and the Dispatcher shall be required on the operational flight plan.
  - 2) The PIC's obligation to operate the flight according to the operational flight plan, or to obtain an amended release, shall be clearly stated.
- g) **Flight following** (*only* if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel):
- 1) The dispatcher's flight following requirements and procedures shall be clearly identified.
  - 2) Policy and guidance shall be provided to flight crews and dispatchers for monitoring fuel en-route.
  - 3) Flight-crew reporting requirements and procedures shall be clearly stated.
  - 4) There shall be specified procedures for dispatchers to follow when a required report is not received.
  - 5) The operator shall maintain a record of communications between the dispatcher and the flight.
  - 6) Procedures shall be established to notify flights en route concerning hazardous conditions relating to aerodromes, navigation aids, etc., and to report changes in forecast weather.
- i) **Inability to proceed as released** (*only* if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel):
- 1) Policy concerning the PIC's latitude to deviate from the operational flight plan without obtaining a new release shall be stated.
  - 2) Specific and adequate direction and guidance shall be provided to PIC's and dispatchers for the actions to take when a flight cannot be completed as planned (such as destinations or alternates below minimums, runways closed or restricted).
  - 3) Procedures to follow in case of diversion or holding shall be specifically and clearly stated.
  - 4) Procedures to be followed in case of an emergency procedure which results in deviation from local regulations or procedures shall be clearly stated.
- j) **Meteorology:**
- 1) If the applicant has established a meteorological department, determine that it will be provided with adequate staff and facilities.
  - 2) Determine whether adequate procedures have been established to ensure the availability of weather forecasts and reports needed by the operator for flight planning purposes.
  - 3) Determine that the operator has procedures to utilize all useful weather information pertinent to the area with which the operational control is concerned.
  - 4) Determine that the operator has provided the means whereby the pilots, and the flight dispatchers if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel, are provided with timely information pertaining to clear air turbulence, thunderstorms, icing conditions and volcanic ash, as well as to the best routes and altitudes for avoiding such occurrences.

- 5) Give particular attention to procedures to be employed for disseminating information pertaining to clear air turbulence, thunderstorms, volcanic ash, icing conditions and other significant weather phenomena.
- 6) Determine that the necessary procedures have been established for providing adequate weather information to the pilot-in-command at en-route stops.
- 7) Determine the adequacy of the procedures to be employed throughout the applicant's system with respect to in-flight meteorological reporting.

k) ***Aerodrome operating minima:***

- 1) IFR departure minimums shall be consistent with [State regulations] and specific [State CAA] approvals.
- 2) Take-off alternates shall be named in the operational flight plan when flights are released with the departure aerodrome below landing minimums, and shall meet the requirements of [State regulations].
- 3) Destination weather minimums shall be clearly defined.
- 4) Destination alternates shall be named in the operational flight plan.
- 5) Flights shall not be continued toward the aerodrome of intended landing unless the latest available information indicates that operating minima can be complied with.

- l) ***Minimum en-route altitudes.*** The operator shall establish minimum en-route altitudes for routes flown, which shall not be lower than those established by the [State regulations].

m) ***Selection of alternates:***

- 1) Policy, direction, and guidance shall be provided for the selection of takeoff, en-route, and destination alternates.
- 2) Terrain and engine out performance shall be considered in selecting an alternate.

n) ***NOTAMS:***

- 1) NOTAM information shall be available and utilized.

o) ***Information:***

- 1) The operator shall make adequate provisions for supplying aerodrome and navigation information to pilots and, if applicable, dispatchers.
- 2)

p) ***Fuel and oil supplies:***

- 1) All increments of fuel required by [State CAA] regulations (start and taxi, take-off to arrival at destination, approach and landing, missed approach, alternate fuel if applicable, final reserve and contingency) shall be provided.
- 2) If aircraft are dispatched without an alternate, adequate contingency fuel shall be carried for un-forecast winds, terminal area delays, runway closures, and other contingencies.
- 3) Minimum fuel procedures shall be specified and shall be adequate for the environment in which operations are conducted

q) ***Engine-out performance considerations:***

- 1) The operator shall take into account engine out performance rules when applicable to specific routes and types of operations.
  - 2) Engine out performance analysis shall be complete and accurate.
  - 3) When possible, multiple ETP's shall be provided for overwater flights and EDTO operations.
  - 4) Adequate guidance shall be available for drift down computations and fuel dump requirements.
- r) **Emergency procedures:**
- 1) Emergency action procedures and checklists shall be published and readily available for the following emergencies:
    - i) in-flight emergency;
    - ii) crash;
    - iii) overdue or missing aircraft;
    - iv) bomb threat;
    - v) hijacking.
  - 2) Operator shall have available lists containing information on the emergency and survival equipment carried aboard its airplanes.
- s) **Change-over procedures** (*only* if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel):
- 1) During shift changes, an adequate overlap shall be provided for dispatchers to brief their oncoming counterparts,
- t) **Communications and reports.** Provisions shall be made concerning the following:
- 1) the procedures to be used to notify the PIC regarding hazardous conditions relating to aerodromes or navigation aids, etc. are adequate;
  - 2) notices to airmen (NOTAMs) will be made available to flight crew personnel in a timely manner;
  - 3) emergency communications procedures and facilities are adequate;
  - 4) if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel, flight dispatchers are able to establish rapid and reliable voice communications with the flight crew at the gate;
  - 5) communications between the operational control centre and appropriate ATS facilities are adequate if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel;
  - 6) air-ground communications used for flight safety messages are adequate to ensure rapid and reliable communications throughout the geographical area of operations;
  - 7) if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel, flight dispatchers are familiar with all facets of operations within their geographical areas of responsibility and are properly authorized and qualified in the use of all communications channels required by the approved method of control and supervision of flight operations;
  - 8) if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel, the necessary emphasis is placed on the timely receipt of messages both in the aircraft and at the operational control centre or en-route stations; and

- 9) facilities for the communication of weather information to en-route stations and to aircraft are adequate.

8.3.1.2 **Dispatchers** (*only* if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel)

**Qualifications.** Dispatchers shall be current, qualified and if required, licensed in accordance with [State] regulations.

**Duty time.** Regulatory requirements shall be complied with.

*[Note to States.— This assumes you have such regulations. In the absence of regulatory requirements replace with: “Shifts should be of a reasonable length and adequate rest time should be provided between shifts”.]*

8.3.1.3 **Facilities and staff** (*only* if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel)

a) **Physical:**

- 1) Working space shall be adequate for the number of people working in the dispatch center.
- 2) Temperature, lighting, and noise levels shall be conducive to effective performance by operations personnel.
- 3) Access to the facilities shall be controlled.

b) **Information:**

- 1) Dispatchers shall be supplied with all the information they require (such as on flight status, maintenance status, load, weather, facilities).
- 2) Information shall be effectively disseminated and displayed; and it must be quickly and accurately located.
- 3) Timely weather information shall be available for adverse weather avoidance.

c) **Management:**

- 1) Overall responsibility for operations in progress shall be assigned by the operator to one individual who can coordinate the activities of dispatchers.
- 2) Adequate internal communications links to flow control type facilities and to high level management officials shall be established.

d) **Workload:**

- 1) The operator shall assign sufficient personnel to adequately handle the workload during periods of both normal and non-routine operations.
- 2) Dispatchers shall have sufficient time to effectively perform both dispatch and flight following duties. Dispatchers shall not be used to perform other functions such as clerks, maintenance officers, etc., to the detriment of their primary function.

8.3.1.4 **Facilities for flight preparation**

Appropriate facilities shall be provided to the flight crew for flight preparation.

**Attachment  
[STATE CAA]  
AIR OPERATOR OPERATIONAL CONTROL INSPECTION CHECKLIST/REPORT**

Operator: <input style="width:90%;" type="text"/>	Date: <input style="width:90%;" type="text"/>
Location: <input style="width:90%;" type="text"/>	Inspector: <input style="width:90%;" type="text"/>

**S = Satisfactory; U = Unsatisfactory; NA = Not applicable**

	✓	S	U	NA		✓	S	U	NA
<b>A. .POLICIES AND PROCEDURES</b>									
<b>1. Authorized operations</b>					<b>12. Minimum en-route altitude</b>				
<b>2. Manuals</b>					<b>13. Selection of alternates</b>				
<b>3. Pre-departure Functions</b>					<b>14. NOTAMs</b>				
Crew assignment					<b>15. Information</b>				
Load planning					<b>16. Fuel</b>				
Aircraft routing					<b>17. Engine-out performance</b>				
Flight planning					<b>18. Emergency procedures</b>				
Maintenance release of the aircraft					<b>19. Change-over procedures * (see remarks)</b>				
Control of MEL and CDL limitations					<b>20. Comm. And reports</b>				
Compliance with flight operations limitations					<b>B. DISPATCHERS * (see remarks)</b>				
Weight and balance					<b>1. Qualification</b>				
Adequate supervision					<b>2. Duty time</b>				
<b>4. Original operational flight plan</b>					<b>D. FACILITIES AND STAFF * (see remarks)</b>				
<b>5. Dispatcher briefing (if applicable)</b>					<b>1. Adequacy of facilities</b>				
<b>6. Dual responsibility * (see remarks)</b>					<b>2. Pertinent information</b>				
<b>7. Flight-following * (see remarks)</b>					Comprehensive				
<b>8. Reserved</b>					Available				
<b>9. Inability to proceed as released * (see remarks)</b>					Current				
<b>10. Weather</b>					<b>3. Management</b>				
<b>11. Aerodrome operation</b>					<b>4. Workload</b>				
					<b>5. Facilities for flight preparation</b>				

Remarks: \* means: *only* if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel.

<b>OVERALL RESULT:</b>		Inspector's signature: <input style="width:95%;" type="text"/>
Satisfactory <input type="checkbox"/>		<input style="width:95%;" type="text"/>
Unsatisfactory <input type="checkbox"/>		<input style="width:95%;" type="text"/>

## **Chapter 9**

### **OPERATIONS AND FLIGHT (TRIP) RECORDS INSPECTIONS**

#### **9.1 BACKGROUND AND OBJECTIVES**

9.1.1 [State regulations, Part XX] require that a flight shall not be commenced until flight preparation forms have been completed certifying that the pilot-in-command is satisfied that:

- a) the aeroplane is airworthy and maintenance release has been issued;
- b) the instruments and equipment for the particular type of operation to be undertaken, are installed and are sufficient for the flight;
- c) the mass of the aeroplane and centre of gravity location are such that the flight can be conducted safely, taking into account the flight conditions expected;
- d) any load carried is properly distributed and safely secured;
- e) a check has been completed indicating that the performance requirements of [State regulations, Part XX] can be complied with for the flight to be undertaken; and
- f) the operational flight plan and maintenance release requirements as required by [State regulation, Part XX and YY] have been complied with.

9.1.2 [State regulations Part XX ...] requires that completed flight preparation forms are retained by the operator for a period of at least three months, except for the maintenance release to be kept for at least one year. Examples of common flight preparation forms meeting these requirements are: the load manifest, , the operational flight plan including weather and NOTAMs and the maintenance release.

9.1.3 The primary objective of operations and flight records inspections is to ensure that operators comply with established procedures and [State] regulations. Inspectors can evaluate trip records to reconstruct a particular flight or a series of flights by the operational flight plan, maintenance release, loading and mass documents, weather documents, and other related flight information retained by the operator.

#### **9.2 INSPECTION PRACTICES AND PROCEDURES**

9.2.1 Trip records inspections are normally conducted at the operator's principal base of operations. Operators shall have established a system where transit stations forward all trip records information to one central location where the information is retained for the required time period. Subject to [State CAA] approval, operators may store some or all trip records in an electronic format.

9.2.2 Inspectors shall contact the appropriate air operator managers and advise them that an inspection shall be conducted. Upon arriving at the record keeping location, the inspector shall properly identify himself and request records for a specific series of trips completed within the past three months. This ensures that the operator has an effective means of storing records and is capable of retrieving

specific trip information at the [State CAA's] request. Inspectors shall also request space at the operator's facility to conduct the inspection. Inspectors should not remove trip records from the operator's facility.

9.2.3 Before conducting the actual inspection, inspectors shall familiarize themselves with the operator's trip records procedures, formats and means of disseminating information to flight crews.

9.2.4 During the conduct of the actual inspection, inspectors shall examine all of the available documents for each flight and cross check the information between the trip records. For example, the fuel load indicated on the load manifest, the operational flight plan and the fuel slip (if available) should agree.

9.2.5 Inspectors shall use the Operations and Flight Records Inspection Checklist/Report form [CAA form # xx] included at the end of this chapter to record the results of this inspection.

### **9.3 TRIP RECORDS INSPECTION AREAS**

Operations and flight (trip) records are divided into five inspection areas as follows:

9.3.1 **General inspection area.** This inspection area refers to those inspection elements that are common to all trip records. Inspectors shall evaluate such items as record availability, practicality, currency, legibility, completeness and security as they relate to required record keeping requirements. Inspectors shall ensure that each trip record package they examine contains all of the required information and that it is related to the actual flight it represents. Each document shall include a date, flight number and an aircraft registration marks which clearly identifies the applicable flight.

9.3.2 **Operational flight plan/flight release (if applicable) inspection area.** This inspection area refers to the operational flight planning requirements. Inspectors shall evaluate operational flight plan content. Many operators incorporate the operational flight plan and, if applicable, the flight release into one document. This is acceptable and reduces the duplication of information that may be required by both documents. The operational flight plan/flight release shall contain or have attached the following information:

- a) air operator name;
- b) make, model and registration marks of the aircraft being used;
- c) flight number and date of flight;
- d) name of the PIC and of each flight crew member;
- e) departure aerodrome, destination aerodrome, alternate aerodromes and route;
- f) minimum fuel quantity;
- g) a statement of the type of operation (e.g., IFR, VFR, EDTO);
- h) the latest available weather reports and forecasts for the destination aerodrome and alternate aerodromes – this may be on a separate document; and
- i) any additional available weather information that the PIC considers necessary.

9.3.3 **Fuel computation procedures inspection area.** The objective of this portion of the inspection is to determine whether the applicant's aircraft will be dispatched with adequate fuel loads calculated in accordance with [State] regulations and the operations manual.

9.3.3.1 To make this determination, inspectors shall review the fuel computation requirements and sample operational flight plans. The inspection sample selected must include a variety of flights dispatched from different bases on routes and route sectors calling for wide differences in fuel requirements. The sample shall include sectors on which aircraft fuel capacity is critical. The fuel carried shall be validated against expected aircraft performance, with appropriate corrections for wind conditions and flight levels en-route. The fuel carried shall consist of taxi, trip, destination alternate (as applicable), contingency, final reserve and additional (see next paragraph) fuel.

9.3.3.2 The inspection shall also consider the additional fuel necessary to proceed to an adequate aerodrome in the event of failure of one engine or loss of pressurization at the most critical point while en-route, whichever is higher, as required by the [State regulations].

9.3.4 **Load manifest inspection area.** Each trip records package shall contain aircraft mass and balance and loading information. Passenger and cargo weight information must be accurately reflected on the load manifest. Inspectors shall inspect and validate the operator's loading documents to verify their accuracy and compliance with the [State regulations] and the aircraft load data sheet. The inspection will ascertain that aircraft will be safely and correctly loaded in accordance with:

- a) the requirements for the computation of aircraft mass and balance in the operations manual;
- b) [State] regulations restricting mass to meet aircraft performance requirements;
- c) mass and centre of gravity limitations as specified in the aircraft flight manual and the operations manual;
- d) limitations on deck and bulkhead loading as specified in the aircraft flight manual and the operations manual; and,
- e) limitations regarding the transport of dangerous goods (if applicable).

9.3.4.1 Operators may have [State CAA] approved systems which result in the final figures for mass and balance being transmitted to the flight-crew via ACARS or company radio frequencies after the aircraft has departed the gate or ramp area. This information, which normally consists of adjusted take-off gross mass and trim settings, is critical to the crew members for accurately determining the take-off data. Inspectors shall ensure that the information contained on the load manifest accurately reflects the actual passenger and cargo masses.

9.3.4.2 In addition to the foregoing, another important feature of this evaluation is an investigation of the applicant's method of exercising overall mass control. The [State CAA] inspector shall examine the system and methods whereby aircraft mass is checked and maintained to ensure that mass fluctuations due to modifications and other causes are fully taken into account and that the mass statement is accurate. This determination may require coordination between [State CAA] flight operations and airworthiness inspectors.

9.3.5 **Airworthiness release area.** A maintenance release shall be prepared in accordance with the procedures described in the maintenance organization's procedures manual. Inspectors will:

- a) confirm that entries are up to date;
- b) confirm the validity of the maintenance release;



- c) check the number of deferred defects, and that defect deferments include time limits and comply with the stated time limits; and
- d) check compliance with the aircraft MEL to confirm that the aircraft was airworthy and equipment required for the proposed operation serviceable.

9.3.6 **Other required documents inspection area.** This inspection area refers to items such as pertinent weather forecasts, NOTAMs, fuel slips, special route or airspace requirements (if applicable), and other documents that are issued to flight crew members before each flight.

9.3.7 **Report procedures**

The Air Operator Operations and Flight Records Inspection Checklist/Report form [CAA form # xx] included at the end of this chapter shall be used for recording the results of these inspections.

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**Attachment  
[STATE CAA]  
AIR OPERATOR OPERATIONS AND FLIGHT RECORDS CHECKLIST/REPORT**

Operator: <input style="width: 90%;" type="text"/>	Date: <input style="width: 90%;" type="text"/>
Location: <input style="width: 90%;" type="text"/>	Inspector: <input style="width: 90%;" type="text"/>

**S = Satisfactory; U = Unsatisfactory; NA = Not applicable**

	✓	S/U/NA
<b>A. GENERAL</b>		
1. Availability		
2. Practicality		
3. Currency		
4. Legibility		
5. Completeness		
6. Secure		
<b>B. OPERATIONAL FLIGHT PLAN/FLIGHT RELEASE</b>		
<b>1. Contains the following elements:</b>		
Air operator name		
Type/model of aircraft		
Aircraft registration marks		
Flight No.		
Date		
Name of flight crew members and PIC		
Point of departure		
Proposed route		
Point of intended landing		
Amount of fuel on board		
Minimum fuel required		
Alternate aerodrome		
Appropriate signatures		
<b>C. FUEL COMPUTATIONS</b>		
1. Adequate fuel load		
2. Adequate fuel for en-route emergencies		
<b>D. LOAD MANIFEST</b>		
<b>1. Contains the following individual mass</b>		
Aircraft		

	✓	S/U/NA
Fuel and oil		
Cargo and baggage		
Passengers		
Crew		
<b>2. Contain maximum allowable mass in consideration of:</b>		
Runway limit		
Climb limits		
En-route performance		
Landing weight limits		
Overall mass control data		
<b>3. Mass and center of gravity limitations</b>		
<b>4. Limitations on load distribution</b>		
<b>5. Dangerous goods loading (if applicable)</b>		
<b>E. MAINTENANCE RELEASE</b>		
<b>1. Certify following conditions have been met</b>		
Maintenance release		
Defect deferral procedures		
MEL compliance		
Aircraft is airworthy and required equipment serviceable		
<b>F. OTHER REQUIRED DOCUMENTS</b>		
<b>1. Weather reports, forecasts, summaries and depictions</b>		
<b>2. Fuel slips</b>		
<b>3. NOTAMs</b>		
<b>4. Special route or airspace requirements</b>		
<b>5. Other</b>		

Remarks:

<b>OVERALL RESULT:</b>	Inspector's signature: <input style="width: 90%;" type="text"/>
Satisfactory <input type="checkbox"/>	<input style="width: 90%;" type="text"/>
Unsatisfactory <input type="checkbox"/>	<input style="width: 90%;" type="text"/>

## **Chapter 10**

### **FATIGUE MANAGEMENT RECORDS INSPECTIONS**

#### **10.1 BACKGROUND AND OBJECTIVES**

10.1.1 [State regulations, Part XX] require an air operator to manage fatigue through the establishment of flight time, flight duty period, duty period and rest period limitations that are within the limits prescribed.

10.1.2 [State regulations, Part XX] also permit [State CAA] to approve a special flight duty scheme for an operator on the basis of a risk assessment provided by the operator that provides an equivalent level of safety to what would be achieved through the prescribed limits.

10.1.3 [State regulations, Part XX] require an air operator to maintain records for all its flight and cabin crew members of flight time, flight duty periods, duty periods and rest periods for a two year period.

10.1.4 The primary objective of the inspection of fatigue management records is to ensure that operators comply with operations manual and appropriate [State] regulations relating to flight time, duty period, flight duty period and rest period limitations.

*Note.— Standards established in ICAO Annex 6 — Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes, paragraph 4.10, enable States to establish regulations for an air operator fatigue risk management system (FRMS). [State] is reviewing the implications and benefits of FRMS and at this time has not established regulations and/or procedures for approval of an FRMS.*

#### **10.2 GENERAL INSPECTION PRACTICES AND PROCEDURES**

10.2.1 Prior to arriving at the air operator facility, inspectors shall review in detail the specific fatigue management requirements as contained in the operations manual of the air operator. When reviewing the operations manual the inspector shall verify that it complies with [State fatigue management regulation, Part XX]. At the commencement of the inspection at the air operator's facility, the inspectors shall receive a briefing from operator's personnel regarding their fatigue management record keeping system in its entirety. The system must ensure that all limitations for management of fatigue as described in the operations manual are not exceeded.

10.2.2 The system shall also record as duty all tasks carried out at the behest of the operator. Persons are considered to be on duty if they are performing any tasks on behalf of the air operator, whether scheduled or requested.

10.2.3 [State CAA] regulations permit limitations to be exceeded due to circumstances such as adverse weather conditions or adverse situations beyond the control of the air operator. Inspectors shall review any such instances to ensure that the flight duty period was planned within the allowable limits and the circumstances were actually beyond the control of the operator.

10.2.4 The inspector shall then review a sufficient number of records for individual crew members to ensure that regulatory requirements are being met. Figures which are used in flight time summaries (cumulative totals) to track required time intervals shall be checked against original flight logs or similar records, to ensure that times for specific flights are being accurately recorded and totaled. Similarly, flight

times which appear on flight logs and summaries may be checked against maintenance or payroll records for consistency.

### **10.3 INSPECTION AREAS**

The record-keeping system shall have the following attributes:

10.3.1 **Adequacy.** The record-keeping system which the operator uses is adequate and practical for recording all essential information to demonstrate full compliance with [State CAA] requirements.

10.3.2 **Accessibility and security.** Data regarding flight and duty time shall be readily accessible to personnel who have responsibility for scheduling and monitoring compliance with various time intervals. Records shall be secure from tampering or other unauthorized access.

10.3.3 **Currency.** Data available to personnel responsible for ensuring that individual crew members do not exceed regulatory requirements shall be updated expeditiously. The system used by the operator shall provide that scheduling personnel are made aware in a timely manner when daily totals may be exceeded. Flight time totals from written crew logs must be expeditiously transmitted to the scheduling office, so that weekly and monthly totals, where required, may be promptly updated.

10.3.4 **Accuracy.** The system shall faithfully track daily flight and duty time and rest periods for crew members and accurately reflect totals for longer prescribed time intervals.

10.3.5 **Conformity.** The records shall reflect conformance with regulatory flight and duty time limitations.

### **10.4 INSPECTION REPORTING PROCEDURES**

The Air Operator Fatigue Management Inspection Checklist/Report [CAA form # xx] which appears at the end of this section reflects the areas discussed in paragraph 10.3 above and shall be used for all such inspections. Inspectors shall indicate in the comments section of the report form the scope of their records inspections (i.e. number of individual crew member records inspected, time interval covered, cross-checks with other records, etc.).

**Attachment**  
**[STATE CAA]**  
**AIR OPERATOR FATIGUE MANAGEMENT**  
**RECORDS INSPECTION CHECKLIST/REPORT**

Operator:	<input type="text"/>	Date:	<input type="text"/>
Location:	<input type="text"/>	Inspector:	<input type="text"/>

**S = Satisfactory; U = Unsatisfactory**

<b>1. Adequacy</b> Comments:	
<b>2. Practicality</b> Comments:	
<b>3. Accessibility and security</b> Comments:	
<b>4. Currency</b> Comments:	
<b>5. Accuracy</b> Comments:	
<b>6. Conformity</b> Comments:	
<b>OVERALL RESULT:</b>	Inspector's signature: <input type="text"/>
Satisfactory <input type="checkbox"/>	<input type="text"/>
Unsatisfactory <input type="checkbox"/>	<input type="text"/>

## **Chapter 11**

### **TRAINING AND QUALIFICATION RECORDS INSPECTION**

#### **11.1 BACKGROUND AND OBJECTIVES**

11.1.1 [State regulations, Part XX] requires an air operator to maintain records of the training and qualifications for each crew member, and flight dispatcher if applicable. The records shall have sufficient details to enable [State CAA] to determine that the personnel meet the experience and qualification for duties in commercial air transport operations. The air operator is required to retain such records for [State CAA established period] after the crew member or flight dispatcher has left the employment of the operator.

11.1.2 The primary objective of training and qualifications records inspections is to confirm that operators have a system in place to ensure that crew members, and flight dispatchers if applicable, are fully qualified in accordance with the [State] regulations, and that they have received the training required as approved in the operations manual.

#### **11.2 TRAINING AND QUALIFICATION REQUIREMENTS**

11.2.1 Each record of a training or qualification event in an individual file shall contain the following as a minimum:

- a) employee's name;
- b) employee's position;
- c) specific type of training or qualification conducted – the terminology employed shall reflect that contained in the operator's approved training programme, (e.g. "A-330 Pilot Recurrent Ground Training");
- d) total time and date(s) on which training was conducted;
- e) results of training or qualification – complete or incomplete, satisfactory or unsatisfactory;
- f) instructor or examiner's name and signature.

11.2.2 Specific information that must be contained in training and qualification records is as follows:

- a) flight crew member records:
  - 1) full name;
  - 2) current assignment;
  - 3) flight crew member licence – State issuing the licence and date of issue and, if appropriate, the validation or conversion, licence type, number and ratings, including instrument rating and the language proficiency endorsement – and, as applicable, any expiry date;
  - 4) medical assessment and date;
  - 5) company procedures indoctrination training;
  - 6) initial and recurrent emergency equipment and procedures training;

- 7) initial, recurrent, conversion training and/or upgrading (as appropriate);
- 8) records of proficiency and instrument rating checks;
- 9) initial and recurrent dangerous goods training;
- 10) initial and recurrent human factors training including threat and error management;
- 11) recency of experience (90 days);
- 12) area, route and aerodrome qualifications for pilot-in-command;
- 13) special authorizations training.

b) cabin crew member records:

- 1) full name;
- 2) current assignment;
- 3) qualification and expiry date;
- 4) initial training, including dangerous goods, general indoctrination and aircraft emergency equipment and procedures training;
- 5) annual recurrent training, including dangerous goods, emergency procedures training on specific aircraft; and
- 6) competency checks.

*[Note to States.— The following Section c) is needed only if your State regulations require that an operator's approved method of control and supervision of flight operations requires a flight dispatcher. If your State regulations do not require a flight dispatcher, delete the Section c).]*

c) flight dispatcher:

- 1) full name;
- 2) certification that the dispatcher is suitably qualified in accordance with ICAO Annex 1;
- 3) company procedures indoctrination;
- 4) aircraft qualifications;
- 5) initial route or area qualification;
- 6) maintenance of competency;
- 7) qualification flight every 12 months;
- 8) competency check.

### **11.3 GENERAL INSPECTION PRACTICES AND PROCEDURES**

11.3.1 While training and qualification requirements are generally outlined above, there will be some variations in the training requirements for each air operator. Prior to the inspection the inspector must review in detail the specific air operator's crew and, if applicable, flight dispatcher training and qualification requirements as contained in the operations manual.

11.3.2 Computer systems are often used to track qualifications and training events. If so, the data contained in these systems must be based on either hard copy documentation or electronic records containing the information outlined above. If hard copy documentation is used, the inspector conducting the records inspection must also verify the accuracy of computer-based records by comparison against a sample of the original written records.

11.3.3 Inspectors will randomly select a sample of files to review for each specialty and determine that the crew member, or flight dispatcher if applicable, has received the required training and was fully qualified. If an employee was unqualified for a specific period, the inspector should cross-check other

records such as fatigue management records or scheduling records, to ensure that the unqualified employee was not performing duties for which the employee was unqualified during that period.

#### **11.4 INSPECTION AREAS**

Records shall be examined to determine the following:

- **Adequacy.** The record-keeping forms which the operator uses are adequate for recording essential information which is required by the [State regulations].
- **Practicality.** The forms are easy to fill out and to understand.
- **Accessibility and Security.** Records are easily accessible to the operator's staff required to use them and secure from tampering by unauthorized individuals.
- **Accuracy.** Details of individual training events are properly recorded by instructors and examiners.
- **Currency.** Individual files have been expeditiously updated following completion of a training or qualification event.
- **Conformity.** Employees are properly licensed and rated, if applicable, have received all required training and checks, and were fully qualified to be performing duties in their specific positions.

#### **11.5 INSPECTION REPORTING PROCEDURES**

Specific training courses which meet the requirements listed in paragraph 11.3 above may vary widely between operators. The Air Operator Training Records Inspection Checklist/Report [form #XX] which appears at the end of this section contains the areas listed in paragraph 11.3 above, and will be used for all such inspections. Inspectors should clearly identify on the form the types of training and/or qualification records which were examined (e.g. "Cabin crew recurrent training", "B-737-400 initial training", etc.).



**Attachment**  
**[STATE CAA]**  
**AIR OPERATOR TRAINING AND**  
**QUALIFICATION RECORDS CHECKLIST/REPORT**

Operator: <input style="width: 90%;" type="text"/>	Date: <input style="width: 90%;" type="text"/>
Location: <input style="width: 90%;" type="text"/>	Inspector: <input style="width: 90%;" type="text"/>
Type of records inspected: <input style="width: 95%;" type="text"/>	

**S = Satisfactory; U = Unsatisfactory**

<b>1. Adequacy</b>	Comments:  
<b>2. Practicality</b>	Comments:  
<b>3. Accessibility and security</b>	Comments:  
<b>4. Currency</b>	Comments:  
<b>5. Accuracy</b>	Comments:  
<b>6. Conformity</b>	Comments:  
<b>OVERALL RESULT:</b>	Inspector's signature: <input style="width: 80%;" type="text"/>
Satisfactory <input type="checkbox"/>	<input style="width: 80%;" type="text"/>
Unsatisfactory <input type="checkbox"/>	<input style="width: 80%;" type="text"/>

## **Chapter 12**

### **STATION FACILITIES INSPECTION**

#### **12.1 BACKGROUND AND OBJECTIVES**

12.1.1 [State regulations] require air operators to arrange for ground handling facilities at each aerodrome to ensure the safe servicing and loading of its flights. Station facility operations are defined as those support activities required to originate, turn around, or terminate a flight. A station facilities inspection includes both the operations and the facilities required to conduct them. Approval of a particular aerodrome may be granted without inspection by the [State CAA] if the operator evaluates the facility as adequate for its operations, using an acceptable documented process and establishes operating minima and appropriate procedures.

12.1.2 Stations may vary from a large facility with a permanently assigned station manager, numerous employees, and various departments, to a facility consisting of one employee and a counter. Inspectors will encounter a wide range of situations and operational conditions. A station facilities inspection may be conducted to provide for an overall view of the operator's operation or it may be focused on a specific area of interest. Whenever possible, inspections should be conducted when actual departure or arrival operations are in progress, in order to assess the operation of the station and the effectiveness of the equipment, services, procedures and personnel utilized. The direction and guidance provided in this section is general in nature, not all of which may be appropriate in a given situation.

#### **12.2 GENERAL INSPECTION PRACTICES AND PROCEDURES**

12.2.1 When planning for a station facilities inspection, the inspector shall review previous inspection reports and review any previously identified discrepancies along with the corrective actions that were required. Inspectors should normally coordinate with the station manager ahead of time to establish a date and time for conducting the inspection. (*Note.— The normal practice of providing advance notification does not prevent a no-notice inspection if this is necessary to address a safety concern.*) Station facilities inspections at small or remote locations will normally be conducted in conjunction with in-flight inspections.

12.2.2 Before beginning the inspection, the inspector should request that the station manager provide a briefing on the facility operation, including assigned personnel and operational procedures. The inspector should explain the purpose and scope of the inspection to the manager and staff. This explanation should include:

- a) purpose of the facility inspection;
- b) the specific areas to be inspected;
- c) inspection authority [State regulation];
- d) the proposed time and place of the exit briefing.

12.2.3 The actual inspection should begin after the briefing with a tour of the facility. The tour should provide the inspector with an overview of the operation and the location of individual sections. The inspector should introduce himself to section supervisors and other employees during the facility tour

in order to become familiar with each section or unit. The tour shall include those areas of the facility that are used by the flight and cabin crews for flight preparation, briefing, and flight planning and also those areas used for passenger loading, cargo loading, mass and balance preparation and ramp areas.

### **12.3 SPECIFIC INSPECTION AREAS**

A station facility inspection includes eleven areas.

12.3.1 **Personnel.** The inspector shall review the staffing of the facility. During this review the inspector should determine if the station is adequately staffed and if the assigned personnel are competent in performing their duties. This may be accomplished by the inspector observing individuals as they perform their assigned job tasks. For example, the inspector may review recently completed forms for accuracy and may interview personnel regarding their job functions. Certificates should be sampled for appropriateness and currency for those personnel whose job functions require that they hold certificates. Duty time and length of shifts should be checked. Lengthy duty periods may indicate inadequate staffing.

12.3.2 **Manuals.** The inspector should review the operator's manual or system of manuals for the operation of the facility to determine if the necessary manuals are on hand, current, readily available to personnel and adequate in content.

- a) *Availability.* The inspector should determine prior to the inspection which manuals are supposed to be available. During the course of the inspection, the inspector shall determine whether the manuals are sufficient or if station personnel require additional information which was not available.
- b) *Currency.* The inspector should also ensure that the operator's manuals are current and that required revisions accurately posted. An inspector shall obtain information on the revision status of manuals from the supervising inspector and/or the operator before beginning the inspection.
- c) *Adequacy.* Manuals should be checked by the inspector to ensure that they include information and guidance necessary to allow the operator's personnel to perform their duties and responsibilities effectively and safely.

12.3.3 **Records.** Records which are required to be kept at the transit base or are kept at the discretion of the operator should be inspected. These may include:

- a) crew and duty time records; and
- b) trip records.

12.3.4 **Training.** The inspector shall review the training conducted for the various classifications of operator's station personnel. Personnel shall receive both initial and recurring training in assigned job functions. Depending on the specific air operator's training programme approved by [STATE CAA], this training may be formal classroom training and/or on the job training. Locally kept training records of personnel should be inspected.

12.3.5 **Facility/equipment/surface.** The operator's facilities must be adequate to provide safe operating conditions for both aircraft and personnel. The inspector shall conduct an evaluation to ensure the following:

- a) *ramp areas*. Ramp areas shall be clean and clear of foreign objects. In northern climates, adequate arrangements must be in place for snow removal.
- b) *passenger movement*. Employees and passengers must be protected from jet or prop blast. Inspectors should evaluate passenger handling procedures and facilities and give particular attention to the movement of passengers across ramps. The operator should have established procedures for assisting restricted mobility passengers, especially if boarding ramps are not used.
- c) *lighting*. To ensure that adequate lighting is available and is being used for safe ground operations, inspections should consider suitability for night operations.
- d) *hazards and obstacles*. Station manager responsibility usually includes surveillance of the aerodrome and reporting aerodrome hazards and any new obstructions. Inspectors should determine what responsibilities have been assigned to the station manager and how those responsibilities are being discharged.

12.3.6 **Conformance.** In each area to be inspected, inspectors should evaluate the operator's procedures for compliance with provisions of the applicable [State regulations]. In addition, the operator's employees must comply with the operator's procedures as provided for in the operator's manuals.

12.3.7 **Other functions.** The inspection of a station's other functions should be conducted at a time when actual arrival or departure operations are in progress. This allows the inspector to get an overall view of the effectiveness of the operation and assigned personnel.

- a) *Line station functions*. Operators often task the transit stations with related support functions, such as delivering flight plans to the flight crew. In this situation, inspectors shall determine which functions is the responsibility of the station staff. Inspectors shall evaluate station personnel in the performance of these functions.
- b) *Load planning*. Inspectors shall determine responsibilities for load planning and mass and balance control. Passenger and cargo masses must be accurate and reliably obtained, collected and transmitted. Personnel must be adequately trained. Procedures should be simple and effective. When computerized systems are used, there should be adequate back up provisions for computer failure. If station personnel are assigned to perform manual calculations in case of computer failure, there should be a means of ensuring continued proficiency of personnel in making these calculations. Inspectors should ask these individuals to perform a manual calculation and compare the individual's solution to the computer solution.
- c) *Weather information*. Inspectors shall determine the official source of weather information for the station, and whether or not this source is adequate for the operation.
- d) *NOTAMs information*. If the station is responsible for disseminating NOTAMs to flight crews, currency of NOTAMs and the method for updating shall be examined

12.3.8 **Servicing.** The servicing area of a station facilities inspection covers routine loading and servicing. This does not normally include maintenance activities. While operations inspectors should record and report observations they believe to be maintenance discrepancies, they are not assigned to inspect the maintenance area. Inspectors shall evaluate areas of concern to operations personnel, such as the manner in which logbooks are handled and MEL provisions are complied with. The inspector shall observe the operator's service operations to ensure that safe practices are conducted and that adequate

personnel are available for the required aircraft servicing. The operations that the inspectors should observe may include, but are not limited to, the following:

- a) fueling (ensuring that proper procedures are being followed);
- b) de-icing (ensuring the correct ratio of glycol/water is being used and that all snow and ice is removed), if applicable;
- c) marshaling (ensuring safe operation and correct procedures);
- d) parking: chocks/mooring (ensuring chocks are in place, the parking ramp is level, and brakes are set or released); and
- e) Loading/unloading of cargo compartments.

12.3.9 **Management.** Managers shall be thoroughly aware of their duties and responsibilities and those of the personnel they supervise. Areas that inspectors must observe and evaluate include the following:

- a) *communications.* Throughout the inspection, inspectors should observe managers and supervisors, and evaluate the organizational structure, particularly the effectiveness of vertical and horizontal communications.
- b) *contract services.* If the operator contracts with other companies for station services, the station manager should have established adequate controls over their performance. The manager must assure adequate training is provided to contractor personnel.
- c) *contingency planning.* The station management shall be prepared for contingencies. Action plans should be available in case of events such as accidents, injury, illness, fuel spills, bomb threats, hijacking, severe weather and dangerous goods spills. Station personnel shall know the location of these plans. Plans should contain emergency notification checklists and procedures for suspending or canceling operations. Emergency telephone listings should be posted in obvious locations and be clearly legible.

12.3.10 **Security.** Security procedures shall be observed with regard to passenger and cargo screening, integrity of sterile areas, and access to ramp and other restricted areas.

12.3.11 **Aerodrome.** Operations inspectors shall be alert for obvious deficiencies in aerodrome facilities and condition, such as rescue and firefighting equipment and services, availability of medical services and ramp and vehicle control. Other areas, such as marking, lighting, obstructions, navigation facilities, approach aids, etc. are more properly observed in the course of conducting other types of inspections such as in-flight cockpit inspections. Any findings should be notified to the State of the aerodrome.

## 12.4 STATION FACILITIES INSPECTION REPORT

The Air Operator Station Facilities Inspection Checklist/Report [CAA form # xx] at the end of this chapter shall be used. It is organized around the same inspection areas which are covered in paragraph 12.3 of this chapter. When completing the report form, discrepancies observed during the inspection shall be documented along with any on the spot corrective action taken by the operator and reported in writing to the operator.

**Attachment  
[STATE CAA]  
AIR OPERATOR  
STATION FACILITY INSPECTION CHECKLIST/REPORT**

Operator:		Date:	
Location:		Aircraft type:	
Management and supervisory personnel ( <i>List</i> ):			
Name:		Title:	
Name:		Title:	
Name:		Title:	
Inspector:			

**S = Satisfactory; U = Unsatisfactory; N/O = Not observed**

			✓ S/U/NO
<b>A. PERSONNEL</b>			
1. Adequacy of staffing			
2. Competence			
<b>B. MANUAL</b>			
1. Available			
2. Current			
3. Adequate information (as applicable)			
• Refueling procedure			
• Aircraft towing/ movement			
• Mass and balance			
• Operation of GSE			
• Training			
• Accident/incident procedures			
• Security			
• Severe weather			
• Carry-on baggage			
• Dangerous goods			
• Contract services			
• Trip records disposition			
<b>C. RECORDS</b>			
1. Trip			
2. Crew and duty time			
3. Communications			
<b>D. TRAINING</b>			
1. Initial training			
2. Recurrent training			
3. Training records			
<b>E. FACILITY EQUIPMENT AND SURFACE</b>			
1. Ramp area			
2. Passenger movement			
3. Lighting			
4. Hazards/obstructions			

			✓ S/U/NO
<b>F. CONFORMANCE</b>			
1. [State regulations]			
2. Operator's procedures			
<b>G. OTHER FUNCTIONS</b>			
1. Line station functions			
2. Load planning			
3. Weather information			
4. NOTAMs information			
<b>H. SERVICING</b>			
1. Fueling Loading			
2. De-icing			
3. Marshaling			
4. Parking			
5. Loading/unloading of cargo compartments			
<b>I. MANAGEMENT</b>			
1. Communications			
2. Contract services			
3. Contingency planning			
3.1 Emergency telephone list			
<b>J. SECURITY</b>			
1. Passenger screening			
2. Baggage and cargo screening			
3. Limited access areas			
<b>K. AERODROME</b>			
1. Fire fighting			
2. Ramp			
3. Runway			
4. Taxiway			

Remarks:

<b>OVERALL RESULT:</b>	Inspector's signature:	
Satisfactory <input type="checkbox"/>		
Unsatisfactory <input type="checkbox"/>		

## **Chapter 13**

### **IN-FLIGHT COCKPIT INSPECTION**

#### **13.1 BACKGROUND AND OBJECTIVES**

13.1.1 The primary objective of inflight cockpit inspections is to observe and evaluate the in-flight operations of a certificate holder within the total operational environment of the air transportation system. Inflight inspections are an effective method of accomplishing air transportation surveillance objectives and responsibilities. These inspections provide the [State CAA] with an opportunity to assess elements of the aviation system that are both internal and external to an operator.

13.1.2 Elements of the aviation system which are internal to the operator and can be observed during inflight cockpit inspection include:

- performance of crew members;
- operator manuals and checklists;
- use of MELs and CDLs;
- operational control functions (dispatch and flight-following);
- use of checklists, approved procedures and safe operating practices;
- crew coordination/cockpit resource management;
- cabin safety;
- aircraft condition and servicing; and
- training programme effectiveness.

13.1.3 Elements of the aviation system which are external to the operator and can be observed during in-flight inspections include:

- airport surface areas;
- ramp/gate activities;
- airport condition and construction;
- aircraft and vehicle movements;
- ATC and airway facilities;
- ATC and airspace procedures;
- instrument approach procedures (IAPs), SIDs and STARs;
- navigational aids; and
- communications.

#### **13.2 GENERAL IN-FLIGHT COCKPIT INSPECTION PRACTICES AND PROCEDURES**

13.2.1 When planning in-flight inspections, inspectors shall become familiar with the operating procedures and facilities used by the operator. This includes, but is not limited to:

- reviewing pertinent sections of the operator's manuals;
- obtaining briefings from other inspectors who are acquainted with the operator's procedures and facilities; and
- through training and briefing by the operator.

Inspector observations, both negative and positive, shall be recorded on the Air Operator In-flight Cockpit Inspection Checklist/Report [CAA form # xx] and inspectors shall provide a verbal debrief to the flight crew following the completion of the flight or series of flights.

13.2.2 [State CAA] regulations require that inspectors have free uninterrupted access to the cockpit observer's seat (jump seat) when allowed by the regulations of the State being overflown and operators shall have established procedures to be used by inspectors for scheduling cockpit inspections (i.e., access to the jump seat). Inspectors should make jump seat arrangements as far in advance as possible. Nevertheless, inspections without prior notice to the operator are part of the [State CAA] safety oversight system and operator's procedures shall accommodate use of an available jump seat on short notice.

13.2.3 Inspectors should plan in-flight cockpit inspections in a manner that will avoid unnecessary disruption of operator-scheduled check flights. Should an inspector arrive for a flight and find a line check or other type of check in progress, he must determine whether or not it is essential that the cockpit in-flight inspection be conducted on that flight. If it is essential, the operator should be so advised and shall make the jump seat available to the inspector. If the in-flight inspection can be rescheduled and the objectives of the inspection can still be met, the inspector shall make arrangements to conduct the inspection on another flight.

13.2.4 An inspector should begin an in-flight inspection by reporting at the operations area when the flight crew would normally report for duty. He should complete any necessary jumpseat paperwork for inclusion in the operator's passenger manifest and weight and balance documents. After the inspector introduces himself to the flight crew, including presentation of official credentials, he should inform the PIC of his intention to conduct an in-flight cockpit inspection. The inspector should review documentation with the flight crew prior to boarding the aircraft, including:

- crew licensing and qualification;
- operational flight plan;
- weather documents;
- NOTAMs;
- planned route of flight;
- flight dispatch procedures; and
- information concerning the airworthiness of the aircraft.

13.2.5 When it is not possible to meet and inform the PIC of the intention to conduct an in-flight inspection before boarding the aircraft, the inspector shall, as soon as possible after boarding the aircraft, introduce himself to the PIC, present his credentials, and inform the flight crew of his intention to conduct an in-flight cockpit inspection. An inspector should be prepared to present his identification and any applicable jumpseat paperwork to the flight attendant before entering the cockpit.

13.2.6 When boarding the aircraft, an inspector should also avoid impeding passenger flow or interrupting flight attendants during the performance of their duties. During this time an inspector may be able to observe and evaluate the operator's carry-on baggage procedures and the gate agent's or flight attendant's actions concerning oversized items. Once inside the cockpit, the inspector should request an inspection of the documentation noted in section 13.2.4 above if not already done. In conducting document inspection in the cockpit the inspector must avoid interfering with crew duties.

13.2.7 The inspector must wear a headset during the flight. During in-flight inspections, inspectors must try to avoid diverting the attention of flight crew members performing their duties during "critical phases of flight". Inspectors must be alert and point out to the flight crew any apparent hazards such as conflicting traffic. If during an in-flight inspection, an inspector becomes aware that the flight crew is



violating a regulation, or an ATC clearance, the inspector should immediately inform the PIC of the situation.

### **13.3 SPECIFIC IN-FLIGHT COCKPIT INSPECTION PROCEDURES**

13.3.1 Once situated in the cockpit, the PIC or a designated crew member should offer to give the inspector a safety briefing. If the PIC does not make such an offer, the inspector should request a briefing. The inspector shall check the jumpseat oxygen and emergency equipment (if applicable) and connect the headset to the appropriate interphone system. It is important that the inspector monitor all radio frequencies being used by the flight crew to properly evaluate ATC procedures, flight crew compliance, transmission clarity, and radio phraseology. The monitoring of these frequencies also ensures that the inspector does not inadvertently interfere with any flight crew communications.

13.3.2 The inspection is divided into four categories. Inspectors should consider all inspection areas, both internal and external to the operator, to be of equal importance:

- crew members;
- flight conduct;
- airport; and
- ATC/airspace.

The Air Operator In-flight Cockpit Inspection Checklist/Report form [CAA form # xx] which appears at the end of this chapter shall be used during the conduct of in-flight inspections.

13.3.2.1 **Crew members.** This inspection area applies primarily to flight crew members, but cabin crew members may also be observed in certain areas such as coordination with the flight crew. Inspectors should evaluate such items as flight crew member knowledge, ability and proficiency by directly observing crew members performing their duties and functions. The checklist/report form provides a list of items which should be observed in the crew member inspection area.

*Note.— The list provided on the checklist/report form is not all-inclusive but is representative of the types of items which are common to several phases of flight and which inspectors should evaluate during a typical cockpit in-flight inspection. Inspectors may also include other items that they observe.*

a) *Licences* – valid as follows:

- proper ratings and endorsements for the positions occupied; and
- medical assessment appropriate and current.

b) *Knowledge* – demonstrated knowledge in the following specific areas:

- AOM – Specific aircraft limits, systems, equipment, procedures, and flight profiles;
- OM or equivalent - General company policy and procedures related to crew conduct and type of operation;
- [State CAA] regulations appropriate to the type of operation conducted;
- route and aerodrome manual – Interpretation and application of approach plates, STARS, SIDS, airport and line station information, communications, etc.;
- MEL/CDL – Familiarization to the extent that specific items can be expeditiously located and information properly interpreted and applied;

- checklists – Cockpit flow and responses to challenges in normal checklists, knowledge of where to locate and an understanding of the philosophy behind abnormal and emergency procedures; and
  - general – body of aviation knowledge commensurate with assigned crew member position and experience: ATC, weather, aerodynamics, engines, etc.
- c) *Proficiency* – skill in applying the above knowledge to specific phases of flight and in manipulating aircraft controls and systems at the assigned crew member position.
- d) *Situational awareness* – related to proficiency but refers to apparent or demonstrated awareness (particularly in critical phases of flight) of such factors as traffic flow, weather, position and configuration of airplane, airspeed, altitude, rate of descent, etc.
- e) *Conformity* – to provisions of AOM, OM, other company bulletins and instructions, [State CAA] regulations, ATC practices and specific instructions, MEL/CDL, and route and aerodrome manual. Attention should be given to:
- Remaining at duty stations per regulatory guidance
  - Use of seatbelts and safety harnesses
  - Use of oxygen
  - Use of corrective lenses (glasses) when required by the medical assessment
- f) *Manuals* – available, current, and adequate (information regarding latest changes can be obtained from the operator prior to the inspection).
- g) *Coordination* – between cockpit crew members and between cockpit and cabin crew members (crew resource management).
- h) *Use of checklists* – prompt and consistent use of required checklists during appropriate phase of flight
- i) *Required equipment* – flashlight, cockpit key, additional pair of correcting lenses or spectacles as applicable and other such personal items which may be required by [State] regulations or company policy.

13.3.2.2 **Flight conduct.** This inspection area is the largest and most complex. It relates to specific phases of flight which can be observed during an in-flight inspection. The checklist/report form contains a list of the items that should be evaluated by inspectors during these phases of flight. These items are not all-inclusive and in some cases may not be applicable to the flight conducted. Inspectors are, however, encouraged to observe, evaluate, and report on as many of these items as possible. In all cases the inspector must be alert to assess the actions against the operator's SOPs.

- a) *Pre-flight.* Inspectors should determine that the flight crew has all the necessary flight information including the appropriate weather, flight dispatch information, operational flight plan, NOTAM's and weight and balance information. Aircraft defects should be resolved in accordance with the operator's MEL and appropriate maintenance procedures. If possible, the inspector should observe the flight crew performing appropriate exterior and interior pre-flight duties in accordance with the operator's procedures.
- b) *Pre-departure.* Inspectors should observe the flight crew accomplishing all pre-departure checklists, take-off performance calculations and required ATC communications. If a flight management system (FMS) is installed, setup and data entry should be observed. Flight crew

should verify fuel quantity indications against amount delivered. The flight crew should use coordinated communications (via hand signals or the aircraft interphone) with ground personnel. Crew should properly monitor engine starts.

c) *Taxi*. The following areas should be observed during taxi:

- adherence to taxi clearances;
- control of taxi speed and direction;
- observance of taxiway signs and markings;
- cockpit setup;
- conduct of a pre-take-off briefing in accordance with the operator's procedures;
- awareness of other ground movement (aircraft and vehicles); and
- use of appropriate checklists.

When weight and balance information is transmitted to the aircraft by company radio or ACARS during the outbound taxi, the flight crew should follow the operator's procedures specifying which crew member receives the information and completes the final take-off performance calculations and which crew member monitors the ATC frequency.

d) *Take-off*. Inspectors should observe and evaluate the following items or activities during the take-off phase:

- aircraft centerline alignment;
- application of power to all engines;
- take-off power settings;
- use of crosswind control techniques, as applicable;
- flight crew call-outs and coordination;
- adherence to appropriate take-off speeds;
- rate and degree of initial rotation;
- use of flight director, autopilot and auto-throttles (FMS if applicable);
- gear and flap retraction schedules and limiting airspeeds; and
- use of radar and weather avoidance if applicable.

e) *Climb*. Inspectors should observe and evaluate the following items and activities during the climb phase of flight:

- compliance with the ATC departure clearance or with the appropriate published departure;
- adherence to proper climb profile;
- airspeed/Mach control;
- navigational tracking/heading control;
- engine control;
- use of radar and weather avoidance, if applicable;
- use of auto-flight systems;
- pressurization procedures, if applicable;
- sterile cockpit procedures;
- cockpit vigilance and traffic awareness; and
- after-take-off checklist.

f) *Cruise*. Inspectors should observe and evaluate the following areas during the cruise phase of flight:

- adherence to RVSM procedures;

- cruise Mach/airspeed control;
- navigational tracking/heading control;
- use of radar, if applicable, and weather monitoring;
- turbulent air procedures, if applicable;
- monitoring operational flight plan (in-flight fuel management and flight time);
- awareness of Mach buffet and maximum performance ceilings;
- coordination with cabin crew;
- compliance with oxygen requirements, if applicable;
- vigilance – proper visual lookout and crew members at stations except to attend to physiological or operational needs; and
- compliance with ATC clearances and instructions.

g) *Descent*. Inspectors should observe and evaluate the following areas before and during the descent phase of flight:

- descent planning;
- weather/ATIS check;
- crossing restriction requirements;
- navigational tracking/heading control;
- use of radar, if applicable;
- Mach/airspeed control;
- awareness of Vmo/Mmo speeds and other speed restrictions;
- compliance with ATC clearance and instructions;
- use of auto-flight systems including FMS as applicable;
- pressurization control, if applicable;
- weather considerations;
- altimeter settings;
- approach briefings;
- coordination with cabin crew;
- sterile cockpit procedures;
- vigilance; and
- descent checklist.

h) *Approach*. Inspectors should observe and evaluate the following areas during the approach phase of flight:

- approach checklist(s);
- approach briefing revisions, as appropriate;
- compliance with ATC clearances and instructions;
- navigational tracking/heading and pitch control;
- airspeed control, Vref speeds;
- flap and gear configuration schedule;
- use of flight director, autopilot, auto-throttles and FMS if installed;
- compliance with approach procedure;
- stabilized approach in the full landing configuration;
- sink rates;
- flight crew call-outs and coordination; and
- transition to visual segment, if applicable.

- i) *Landing*. Inspectors should observe and evaluate the following areas during the landing phase of flight:
- before-landing checklist;
  - engine control and engine spool-up considerations;
  - threshold crossing height (TCH);
  - aircraft centerline alignment;
  - Use of crosswind control techniques, as applicable;
  - sink rates to touchdown;
  - touchdown and rollout;
  - thrust reversing and speedbrake procedures;
  - use of autobrakes, if applicable;
  - use of nosewheel steering;
  - braking techniques;
  - diverting attention inside the cockpit while still on the runway; and
  - after-landing checklist.
- j) *Arrival*. Inspectors should evaluate crew use of visual parking aids and/or parking directors, parking speed and accomplishment of after-landing checklists, engine shut-down and associated checklist, ground crew parking and passenger deplaning procedures.
- k) *Post-arrival*. Inspectors should observe and evaluate the flight crew complete post-flight duties such as post-flight checks, aircraft logbook entries and flight trip paperwork completion and disposition.

13.3.2.3 **Airports**. This inspection area pertains to the various elements of airports which may be observed during flights such as runways, taxiways, ramps and aircraft ground movements. Findings should be reported to the State of the aerodrome and the operator's related mitigating procedures should be evaluated. Inspectors should observe and evaluate as many of these elements as possible:

- a) condition of surface areas such as ramp and gate areas, runways, and taxiways (cracks, depressions, weeds, overgrowth, etc.);
- b) lighting of runways, taxiways, ramp and other traffic areas;
- c) taxiway signs, markers, sterile areas and hold lines;
- d) ramp vehicles, equipment, movement control;
- e) aircraft servicing, parking and taxi operations;
- f) obstructions, construction and surface contaminants (such as ice, slush, snow, fuel spills, rubber deposits);
- g) foreign object (FO);
- h) snow control, if applicable;
- i) security and public safety; and
- j) nav aids, approach lighting and communications.

13.3.2.4 **ATC/Airspace.** The ATC/airspace inspection area pertains to the various elements of air traffic control and national or international airspace systems. These elements should be observed and evaluated by inspectors during in-flight inspections. From an operational standpoint, these evaluations are a valuable information source which can be used not only to enhance safety with respect to air traffic control and the airspace system, but also to enhance the effectiveness of in-flight and terminal facilities and procedures. During cockpit in-flight inspections, inspectors have the opportunity to observe and evaluate ATC operations and airspace procedures from the vantage point of the aircraft cockpit. Findings should be reported to the State providing the ATS. Inspectors may observe and evaluate the following areas from the cockpit:

- a) radio frequency congestion, overlap or blackout areas;
- b) controller phraseology, clarity and transmission rate;
- c) ATIS validity, clarity, etc.;
- d) departure and approach instructions;
- e) clearance deliveries for responsiveness and acceptable, safe clearances;
- f) aircraft separation standards; and
- g) controller situational awareness – traffic flow, conflicts, aircraft flight characteristics, priorities, etc.

13.3.3 Although these four general inspection areas (13.3.2.1 to 4) cover a wide range of items, they are not the only areas that can be observed and evaluated during cockpit in-flight inspections. Inspectors may have the opportunity to evaluate many other areas, such as line station operations and flight control procedures. Such functions can often be observed before a flight begins, at in-flight stops, or at the termination of a flight. Inspectors should include any remarks regarding such areas in the comments section of the checklist.

13.3.4 Inspectors will advise the company chief pilot of the results of the in-flight cockpit inspection and follow-up to ensure that the corrective action is taken to rectify any of the findings from the inspection. For possible findings external to the air operator such as possible ATC and/or aerodrome deficiencies, the inspector will pass these to the appropriate [State CAA] inspectors for review and follow-up.

**Attachment  
[STATE CAA]  
AIR OPERATOR  
IN-FLIGHT COCKPIT INSPECTION CHECKLIST/REPORT**

Operator:		Flight No.:		Date:	
From:		To:			
Aircraft type:		Registration:			
Captain:		License No.:			
First officer:		License No.:			
Other flight crew:		License No.:			
Senior flight attendant:		Inspector:			

**S = Satisfactory; U = Unsatisfactory; NO = Not observed**

	✓	S/U/NO
<b>A. CREW MEMBERS</b>		
<b>1. Licences</b>		
<b>2. Knowledge</b>		
• AOM		
• OM		
• [State CAA] Regs		
• Route and aerodrome Manual		
• MEL/CDL		
• Checklists		
• General		
<b>3. Proficiency</b>		
<b>4. Situational Awareness</b>		
<b>5. Conformity</b>		
<b>6. Manuals</b>		
<b>7. Coordination</b>		
<b>8. Use of Checklists</b>		
<b>9. Required Equipment</b>		
<b>B. FLIGHT CONDUCT</b>		
<b>1. Pre-flight</b>		
• Flight plan		
• Dispatch release		
• Weather		
• NOTAMS		
• Load information		
• MEL items		
• Exterior and interior duties		
<b>2. Pre-departure</b>		
• Checklists		
• Performance calculations & FMS setup		
• ATC communications		
• Ground crew coordination		
• Pushback		
• Engine start		
<b>3. Taxi</b>		
• Taxi clearance compliance		
• Taxiway signs & markings observance		
• Cockpit setup/checklist		
• Pre-take-off briefing		
• Awareness of other traffic		
<b>4. Take-off</b>		
• Power application		
• Power settings		
• Callouts/coordination		
• V speeds monitoring		
• Gear/flap retraction		

	✓	S/U/NO
• Take-off techniques		
<b>5. Climb</b>		
• ATC compliance		
• Climb profile		
• Airspeed/Mach control		
• Navigation monitor		
• Engine control		
• Radar/weather avoidance		
• Pressurization procedures		
• Sterile cockpit		
• Vigilance		
• After take-off checks		
<b>6. Cruise</b>		
• RVSM procedures		
• Mach/airspeed control		
• Turbulence procedures		
• weather monitoring and avoidance		
• Flight plan/fuel monitoring		
• Performance awareness		
• Coordination with cabin		
• Vigilance		
• ATC compliance		
<b>7. Descent</b>		
• Planning		
• Weather and ATIS checks		
• Mach/airspeed control		
• ATC compliance		
• Pressurization control		
• Altimeter settings		
• Approach briefings		
• Weather considerations		
• Coordination with cabin		
• Sterile cockpit		
• Checklist		
• Vigilance		
<b>8. Approach</b>		
• Approach checklist		
• Approach briefing revisions		
• ATC compliance		
• Airspeed control & monitoring		
• Gear and flap extension		
• Approach procedure		
• Call-outs/coordination		
• Transition to landing		
<b>9. Landing</b>		
• Before-landing checklist		

	✓	S/U/NO
• Engine control		
• Standard call-out		
• Touchdown and rollout		
• Speedbrake/thrust reverse		
• Braking/monitoring		
• Nosewheel steering		
• Vigilance		
• After landing checklist		
<b>10. Arrival</b>		
• Taxi		
• Parking		
• Engine shut-down and checklist		
• Ground crew coordination		
<b>11. Post- arrival</b>		
• Post-flight checks		
• Logbooks/paperwork		
<b>C. AIRPORTS AWARENESS</b>		
<b>1. Surface condition</b>		

	✓	S/U/NO
<b>2. Lighting</b>		
<b>3. Signs/markings</b>		
<b>4. Ramp vehicle control</b>		
<b>5. Aircraft movement and servicing</b>		
<b>6. Obstructions/construction/contaminants</b>		
<b>7. Foreign objects</b>		
<b>8. Snow control (as applicable)</b>		
<b>9. Security and public safety</b>		
<b>10. Nav aids/approach lighting and communications</b>		
<b>D. AIR TRAFFIC CONTROL</b>		
<b>1. Radio Frequencies</b>		
<b>2. ATIS</b>		
• Clarity		
• Currency		
<b>3. Departure and approach instructions</b>		

Remarks:

<b>OVERALL RESULT:</b>	Inspector's signature:	<div style="border: 1px solid black; height: 20px;"></div>
Satisfactory <input type="checkbox"/>		<div style="border: 1px solid black; height: 20px;"></div>
Unsatisfactory <input type="checkbox"/>		<div style="border: 1px solid black; height: 20px;"></div>



## **Chapter 14**

### **IN-FLIGHT CABIN INSPECTION**

#### **14.1 BACKGROUND AND OBJECTIVES**

14.1.1 In-flight cabin inspections are conducted to assess the effectiveness of cabin safety procedures by the direct observation and evaluation of operations conducted in the aircraft cabin. Cabin inspections provide the [State CAA] with information concerning the effectiveness of cabin crew training programmes, operator procedures and the condition and maintenance of aircraft emergency equipment and furnishings. The inspection does not apply to the on-board commercial service provided to passengers.

14.1.2 Inspectors must have a good understanding of the specific operator's safety procedures, which are to be designed to ensure that cabin in-flight operations are conducted in accordance with [State regulations]. A wide variation may exist, however, in the manner in which different operators meet these requirements. The [State CAA] inspector shall review the operator's [Cabin Crew Manual or other similar document] prior to the inspection in order that he is aware of the particular procedures.

#### **14.2 CABIN INSPECTION AREAS**

Areas which are examined during cabin inspections may be grouped into three broad categories as follows:

14.2.1 **Aircraft.** The aircraft inspection area applies to the general airworthiness and cleanliness of the aircraft cabin, and the condition, required complement, serviceability and accessibility of aircraft cabin safety equipment.

14.2.2 **Crew member.** The crew member inspection will be applicable to all cabin crew carried on board the aircraft during the inspection. Inspectors shall evaluate crew member knowledge, ability and proficiency by directly observing cabin crews performing their respective safety duties and functions including coordination with the flight deck.

14.2.3 **Flight conduct.** The flight conduct inspection area refers to items which relate to a particular phase of the flight such as passenger briefings, turbulent air procedures and stowage of carry-on baggage.

#### **14.3 GENERAL IN-FLIGHT CABIN INSPECTION PRACTICES AND PROCEDURES**

14.3.1 The inspector should meet the cabin crew in the cabin crew flight preparation meeting area to observe the pre-flight briefing and to be able to question cabin crew as outlined below. If this is not possible, the inspector should board the aircraft before passengers are boarded in order to allow adequate time to inspect the aircraft's emergency equipment, furnishings, cabin crew manuals and to discuss duties, responsibilities and normal and emergency procedures with cabin crew members as time permits. The inspector should first introduce himself using official credentials to both the captain and the cabin crew in-charge person to inform them that an in-flight cabin inspection is being conducted.

14.3.2 Cabin crew should be questioned regarding their familiarity with the location and use of various types of emergency equipment (e.g., life rafts, ELT, medical kits and first aid kits) and their specific duties in the event of an emergency such as a ditching or an emergency evacuation. The

interviews with cabin crew members provide an opportunity for the [State CAA] inspector to assess the effectiveness of their training. Inspectors should make a careful distinction between inadequate knowledge on the part of the crew member and a deficient operator procedure. Inadequate knowledge may reflect a deficiency in training. Some examples for assessing knowledge and procedures include:

- a) how to remove a fire extinguisher or portable oxygen bottle, its method of operation, how to determine its maintenance and inspection status and how to stow the extinguisher or oxygen bottle correctly into its restraint mechanism;
- b) the procedure for dealing with lavatory or galley fires;
- c) the type of fire extinguisher that should be used on galley (grease/electrical) fires, cabin furnishings fires (seats or floor), lavatory or galley waste container fires (paper or plastic);
- d) the procedures for documenting (in aircraft or cabin logbooks, when available) the need for items of cabin equipment to be repaired, adjusted or replaced;
- e) how to manually deploy a passenger service unit, including how to ensure adequate oxygen flow;
- f) normal and emergency procedures for communications with the flight deck;
- g) normal and emergency procedures for opening/deploying exit doors and slides or sliderafts, including how to deal with adverse conditions such as wind, fire, or an unlevelled aircraft (for example, in a collapsed landing gear situation);
- h) the procedures in the event of a rapid depressurization;
- i) the “brace for impact” position and the appropriate flight deck signal to assume the position;
- j) the procedures during operations in turbulent air, including securing galley service carts, keeping passengers seated and flight deck coordination;
- k) knowledge on dangerous goods including emergency drills; and
- l) the procedures during a hijacking, bomb threat, or other potential security problem including the company’s specific procedures for notifying the flight deck.

14.3.3 An inspector shall be cordial and non-confrontational with the crew members being evaluated. Inspectors shall avoid interfering with the crew member’s assigned duties, particularly during passenger loading. Inspectors may make useful observations, such as evaluating the gate agent’s or cabin crew’s actions concerning carry-on baggage and oversized items.

14.3.4 Operators require cabin crews to accomplish a pre-flight check of at least some of the safety equipment in the cabin. The inspector shall observe the cabin crew checking the equipment. Inspectors shall not examine items such as exits, slide pressure gauges, fire extinguishers, or portable oxygen bottles etc. in view of passengers as this may cause alarm.

14.3.5 Inspectors shall evaluate cabin crew performance of safety duties and the fulfillment of responsibilities for requiring passengers to comply with their instructions and the [State] regulations. When the flight has ended, the inspector shall thoroughly debrief the cabin crew in-charge person and, if possible, the captain of all pertinent observations and of any deficiencies noted during the inspection.

## **14.4 SPECIFIC IN-FLIGHT CABIN INSPECTION PRACTICES AND PROCEDURES**

14.4.1 **Aircraft.** The aircraft emergency equipment and furnishings shall be inspected before passenger boarding as time permits, including:

- a) cabin logbooks (for open discrepancies, carry-over items and items of cabin equipment needing repair or replacement);
- b) required placards and signs (exit signs; seat belt/no smoking signs; emergency/safety equipment placards; seatbelt/flotation equipment placards at seats; weight restriction placards; no-smoking placards; door-opening instruction placards; etc.);
- c) fire extinguishers (for correct type, number and location; if properly serviced, tagged, and stowed);
- d) portable oxygen bottles (for correct number and location; if properly serviced, tagged, and stowed; for condition of mask, tubing, and connectors);
- e) protective breathing equipment (if installed) for correct location, properly stowed and sealed;
- f) first aid kits, universal precaution kits and emergency medical kits (for correct number and location; if properly tagged and stowed);
- g) megaphones (for correct number and location; if operable and properly stowed);
- h) passenger briefing cards (if available at each passenger seat position; if appropriate to aircraft; if they contain the necessary information including emergency exit location and operation, slides, oxygen use, seatbelt use, brace positions, flotation devices; appropriate pictorials for extended overwater operations including ditching exits, life preservers, and liferaft or slideraft location);
- i) passenger seats (if not blocking emergency exits; if seat cushions are intact; for latching mechanism of tray tables; if seat belts are operational – not frayed or twisted; presence and condition of life preservers if required);
- j) passenger oxygen service units (if closed and latched);
- k) cabin crew station (for seat retraction/restraint system operation – if seat retracts and is properly secured; if seatbelts are not frayed or twisted and inertial reel retracts; seat cushions intact; for correct position of headrest; if PA system and interphone are operable; for aircraft-installed portable light holders);
- l) galleys (for latching mechanisms (primary and secondary); tie-downs; condition of restraints; padding; proper fit of cover and lining of trash receptacles; hot liquid restraint systems; accessibility and identification of circuit breakers and water shut-off valves; non-skid floor; debris or corrosion of girt bar; "clean" stationary cart tie-downs (mushrooms); if galley carts in good condition and properly stowed; lower lobe galley (if applicable) emergency cabin floor exits should be passable and not covered by carpeting);
- m) galley personnel lift (if applicable) (should not move up or down with doors open; for safety interlock system; for proper operation of activation switches);

- n) lavatories (for smoke alarm, no-smoking placards; for proper fit of cover and lining of trash receptacles; for automatic fire extinguisher system);
- o) stowage compartments (for weight restriction placards; for restraints and secondary latching mechanisms; for compliance with stowage requirements; for accessibility to emergency equipment; for carry-on baggage provision);
- p) crew baggage (if properly stowed);
- q) emergency lighting system (for independence from main system; if operable; for floor proximity escape path system); and
- r) exits (for general condition; door seals; girt bar and brackets; handle mechanisms; signs and placards; slide or slideraft connections and pressure indications; lights).

14.4.2 **Crew members.** The inspector shall determine if the required number of cabin crew are aboard. When evaluating cabin crew knowledge and competency, inspectors should ask clear and concise questions that are related primarily to the use of emergency equipment and operational duties and responsibilities. At least one [cabin crew manual] should be reviewed for currency and for determining the manual's accessibility when cabin crews are performing assigned duties.

14.4.3 **Flight conduct.** Inspectors shall evaluate the cabin crew during each phase of flight. This evaluation shall include noting the cabin crew's adherence to the safety procedures outlined in the [cabin crew manual] as well as adherence to [State] regulations. The evaluation of the various phases of flight will be accomplished as follows.

- a) *Pre-departure.* An inspector shall observe cabin crews accomplishing tasks such as supervising the boarding of passengers and properly stowing carry-on baggage. As required by [State regulations], the passenger-loading door shall not be closed until a required crewmember verifies that each piece of carry-on luggage is properly stowed. Items that cannot be stowed shall be processed as checked baggage. Additionally, carry-on baggage shall not cover, or in any way interfere with, aircraft emergency equipment in the overhead compartments. Persons seated at emergency exits would be able to understand and perform the functions necessary to open an exit and to exit rapidly.

The departure briefing may be given any time before take-off, provided the cabin crew have sufficient time to take their assigned positions and to secure their restraint systems. The quality, clarity and volume level of the PA system shall be evaluated by the inspector during the briefing. Passenger briefings shall contain the following areas of information:

- 1) *smoking.* No smoking when the no-smoking signs are illuminated; requirement for passenger compliance with lighted signs and posted placards; prohibited in lavatories including a statement regarding prohibition against tampering with, disabling, or destroying any smoke detector in an airplane lavatory;
- 2) *exit locations.* The preferred method is to physically point out exits in a meaningful way;
- 3) *seatbelt use.* Including instructions on how to fasten and unfasten seatbelts;
- 4) *flotation devices.* Including the location and use of the means of flotation;
- 5) *tray tables and seatbacks.* Position for takeoff and landing;
- 6) *baggage.* How to be properly stowed for takeoff and landing;
- 7) *oxygen use.* Shall point out the location of and demonstrate the use of the oxygen mask (if applicable);

- 8) *overwater operations*. Including the location, donning and use of life preservers, life rafts (or slide rafts) and other means of flotation;
  - 9) *passenger briefing card*; and
  - 10) *special passenger briefings* (if applicable) for persons who have restricted mobility or who otherwise require special attention and for the individuals assisting them. If someone requires the assistance of another person in an emergency evacuation, both persons shall be briefed by a cabin crew on the location and path to the exits and on the most appropriate manner for assisting the person so as to prevent pain or injury. Inspectors shall refer to the cabin crew manual for company policy and procedures for the handling of these persons.
- b) *Taxi and take-off*. During taxi operations and before take-off, cabin crews should remain seated and shall perform only those duties that are safety-related and that require movement around the cabin. Items or activities which should be evaluated during taxi and take-off include:
- 1) each exit is closed and locked with the girt bars properly attached (if applicable);
  - 2) carry-on baggage is stowed, all seat backs and tray tables are upright and stowed respectively and all stowage compartments are properly secured and latched closed;
  - 3) the galley is secured with no loose items; all serving carts are properly restrained in the proper floor attachment points; the flight deck door is secure;
  - 4) passenger seat belts and shoulder harnesses, if installed, are secured;
  - 5) compliance with operator procedures for ensuring passengers are seated before the aircraft is moved;
  - 6) compliance with operator procedures concerning the use of portable electronic devices (PEDs);
  - 7) during the actual take-off, each cabin crew is seated with restraint systems properly fastened; any unoccupied cabin crew seat is properly secured for takeoff; signal from flight deck to cabin crews is properly given;
  - 8) after take-off, and either before or immediately after the seat belt illumination is shut off, it is recommended that an announcement is made that passengers should keep their seatbelts fastened, even when the seat belt sign is turned off;
- c) *En-route/cruise procedures*. During the en-route phase of flight, several areas may be evaluated by the inspector to note whether they conform to regulations and to safe operating practices:
- 1) signs (monitoring of seat belt and no-smoking signs to ensure passenger compliance);
  - 2) crew coordination (for flight crew and cabin crew member communications – routine and/or emergency);
  - 3) turbulent air procedures (including the proper restraint of serving carts, galley furnishings and equipment, passenger seat belts fastened, and instructions from the flight deck being followed); and
  - 4) passenger handling (including not serving alcoholic beverages to intoxicated passengers; handling abusive or disruptive passengers; handling handicapped or ill passengers; and handling those passengers who for other reasons require special attention).
- d) *Approach and landing*. During the approach and landing phases of flight, cabin crews shall prepare the cabin for arrival by performing at least the following actions:
- 1) ensuring carry-on baggage is stowed and all seat backs and tray tables are upright and stowed respectively;
  - 2) removing all food, beverages, or tableware from each passenger seat location;
  - 3) observing "sterile flight deck" procedures;
  - 4) ensuring that passenger seat belts are fastened; and

- 5) being seated before landing at assigned duty positions, with appropriate restraint systems fastened, for a uniform distribution among the floor level exits to provide the most effective egress of passengers in the event of an emergency evacuation.
- e) *Landing/arrival.* After landing, the cabin crew shall prepare the aircraft for arrival by performing duties such as the following:
  - 1) before the captain has turned off the seatbelt sign, observing operator procedures for ensuring passengers remain in their seats with seat belts fastened;
  - 2) upon arrival at the gate and after the seat belt sign has been turned off, preparing the exits for deplaning; and
  - 3) ensuring the appropriate complement of cabin crews remain onboard the aircraft at en route stops (when passengers remain onboard the aircraft to proceed to another destination).

## **14.5 REPORTING PROCEDURES**

14.5.1 The Air Operator In-flight Cabin Inspection Checklist/Report [CAA form # xx] included at the end of this chapter contains a list of reminder items for the specific inspection areas which should be observed and evaluated. This form follows the format of this chapter. It is necessarily general in nature and intended to cover all aircraft types and conditions of flight, thus, every item may not apply to a particular flight.

**Attachment  
[STATE CAA]  
AIR OPERATOR  
IN-FLIGHT CABIN INSPECTION CHECKLIST/REPORT**

Operator:	Flight No.:	Date:
From:	To:	
Aircraft type:	Registration marks:	
Captain:	In-charge cabin crew:	
Inspector:		

**S = Satisfactory; U = Unsatisfactory; NO = Not observed**

	✓	S/U/NO
<b>A. AIRCRAFT EQUIPMENT</b>		
<b>1. Required signs and placards</b>		
<b>2. Logbooks</b>		
• Open items		
• Carryovers		
• Cabin items		
<b>3. Fire extinguishers</b>		
• Correct type		
• Number		
• Location		
• Serviced		
<b>4. Megaphones</b>		
• Number		
• Location		
• Tested		
<b>5. Portable Oxygen bottles</b>		
• Number		
• Serviced and tagged		
• Location		
• Condition of mask/hoses		
<b>6. PBE</b>		
• Properly stowed		
• Sealed		
<b>7. PAX briefing cards</b>		
• At each seat		
• Required information		
<b>8. PAX seats</b>		
• Not blocking emergency exits		
• Condition		
• Seatbelts/tray tables condition		
• Life preservers		
<b>9. PAX Oxygen service units</b>		
• Operational		
<b>10. Cabin crew station</b>		
• seat retracts		
• Seat belts/inertial locks		
• Portable light for each station		
• PA and interphone		
<b>11. Galleys</b>		
• Latch mechanisms		
• Restraints, tie-downs, covers		
• Cleanliness/corrosion		
• Lifts/elevators		
<b>12. Lavatories</b>		
• Signs/lights		
• Smoke alarms		
• Trash containers		
• Extinguishers		
<b>13. Stowage areas</b>		
• Latch mechanisms		

	✓	S/U/NO
• Access to equipment		
<b>14. Emergency lighting</b>		
• Tested/operable		
• Floor/escape path		
<b>15. Exits</b>		
• Controls/seals		
• Girt bar and brackets		
• Signs/symbols		
• Slide/slideraft and pressure		
<b>B. FLIGHT ATTENDANTS</b>		
<b>1. Crew complement</b>		
• Initial boarding		
• En-route stops		
<b>2. Coordination with flight deck</b>		
<b>3. Knowledge</b>		
• PIC authority		
• Cabin fires		
• PSU		
• Emergency communications with flight deck		
• Location and use of emergency equipment		
• Decompression		
• Turbulent air		
• Unruly PAX		
• Hijacking		
• Contents of cabin crew manual		
<b>4. Ability/proficiency</b>		
• Remove/demo use of oxygen bottles and fire extinguishers		
• Demo emergency exit procedures		
• Demo "brace for impact" position		
• Demo donning of life vests		
<b>5. Manual</b>		
• Available		
• Current		
<b>C. FLIGHT CONDUCT</b>		
<b>1. Pre-departure</b>		
• PAX boarding		
• Carry-on baggage		
• PAX count		
• Door arming		
• Report to flight deck		
• Emergency exit row passenger		
<b>2. Pre-departure briefings</b>		
• Smoking		
• Exit locations		
• Seat belt use		
• Tray/tables position for take-off		

	✓	S/U/NO
• Flotation devices		
• Stowage of baggage		
• Use of oxygen		
• Passenger briefing card		
• Special PAX		
<b>3. Taxi/take-off</b>		
• Cabin secured		
• Cabin crew position		
• Taken-off signal		
• PED policy adherence		
• Announcement		
<b>4. Cruise</b>		

	✓	S/U/NO
• Monitor signs		
• Crew coordination		
• Passenger handling		
• Turbulent air procedures		
<b>5. Approach/landing/arrival</b>		
• Announcement		
• Cabin secured		
• Passenger seat belts		
• Cabin crew position		
• Monitoring		
• Doors disarmed		

Remarks:

<p><b>OVERALL RESULT:</b></p> <p>Satisfactory <input type="checkbox"/></p> <p>Unsatisfactory <input type="checkbox"/></p>	<p>Inspector's signature:</p>	<div style="border: 1px solid black; height: 30px; width: 100%;"></div> <div style="border: 1px solid black; height: 30px; width: 100%;"></div> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>
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## **Chapter 15**

### **RAMP INSPECTIONS OF [STATE] OPERATORS**

#### **15.1 BACKGROUND AND OBJECTIVES**

15.1.1 Ramp inspections provide an opportunity for an overall evaluation of the effectiveness of air operator's procedures during actual operations. Ramp inspections allow inspectors to observe and evaluate the routine methods and procedures used by an operator's personnel during the period immediately before or after a flight and to determine the operator's compliance with regulations and safe operating practices.

#### **15.2 GENERAL RAMP INSPECTION PRACTICES AND PROCEDURES**

15.2.1 A ramp inspection may be conducted any time an aircraft is at a gate or a fixed ramp location, provided the inspection is conducted when the crew and ground personnel are performing the necessary preparations for a flight or when they are performing post-flight tasks and procedures.

15.2.2 The operator does not have to be given advance notice that a ramp inspection is going to be conducted. In fact, most ramp inspections shall be conducted as no-notice inspections. Inspectors must conduct inspections in a manner that does not unnecessarily delay crew members and/or ground personnel in the performance of their duties.

15.2.3 Inspection activities should be timed so that they do not delay or interfere with passenger boarding or deplaning and with servicing or catering. In addition, inspectors should be aware of the aircraft departure time and the time when passenger boarding will take place.

#### **15.3 RAMP INSPECTION AREAS**

15.3.1 During a ramp inspection an inspector may observe, in a short period of time, many of the areas which are also examined during the more time-consuming station facility inspections, in-flight cockpit inspection and in-flight cabin inspection. Ramp inspections customarily involve the aircraft and its crew, line station operations, servicing and maintenance and the ramp and gate area condition and activity. Areas which may be observed and evaluated during ramp inspections fall into five different categories:

- a) *crew member*. Refers to the evaluation of crew member preparation for flight and compliance with post-flight procedures as applicable. This area includes evaluations of crew member manuals and any required flight equipment, flight crew flight planning, flight crew licences, crew member disposition of trip paperwork and other items that relate to crew member responsibilities;
- b) *station operations*. Refers to the various methods and procedures used by the operator to support the flight such as flight planning material, passenger handling, boarding procedures and carry-on baggage screening;
- c) *aircraft*. Refers to the aircraft's general airworthiness, logbook entries, MEL compliance, defect deferrals and required items of emergency and cabin safety equipment;

- d) *ground handling, servicing and maintenance*. Applies to any ongoing maintenance and servicing, such as fueling, de-icing or catering;
- e) *ramp and gate condition and activity*. Refers to taxi and marshaling operations, ramp or parking area surfaces, any apparent contamination or debris, vehicle operations and the condition and use of support equipment. Findings should be reported to the State of the aerodrome and the operator's related mitigating procedures should be evaluated.

## **15.4 CONDUCTING RAMP INSPECTIONS**

15.4.1 While ramp inspections may be conducted by one inspector, it is desirable to conduct them with a team of inspectors. Normally, this would consist of one operations and one airworthiness inspector. For large aircraft, a third inspector could be utilized to conduct the cabin safety inspection. Prior to the inspection, a determination is to be made on the distribution of tasks and the time to be allocated to each task.

15.4.2 Where a team of inspectors cannot be utilized it might not be possible to cover all the desired elements in the time available. Also, the inspector may not have the expertise to conduct inspections in all areas. For this reason, the inspector should vary the areas of emphasis over several inspections and describe in the reports how the inspection was limited in scope. The elements of the checklist in Attachment B and C marked with an asterisk (\*) are minimum items that should be addressed in a ramp inspection.

15.4.3 When an inspector makes direct contact with a crew member, the inspector shall provide an official but courteous introduction, offer appropriate identification for the crew member to inspect and inform the crew member that a ramp inspection is being conducted. Upon completion of the inspection, the inspector shall provide a verbal debriefing of the results of the inspection to the aircraft captain or, if he is not available, another crew member.

15.4.4 All ramp inspections will be conducted with reference to the Guidance for Ramp Inspections found in Attachment A of this chapter and recorded in the appropriate checklist contained in Attachment B and C and/or D of this chapter.

15.4.5 Special-purpose ramp inspections focused on a particular air operator may be conducted where previous inspections have indicated a high level of non-conformances to requirements. In addition, reports from air traffic services, aerodrome staff and/or incident reports may also result in a requirement for special-purpose ramp inspections.

## **15.5 RESOLUTION OF SAFETY DEFICIENCIES**

15.5.1 Inspector action resulting from deficiencies noted during ramp inspections will depend on the seriousness of the safety finding. In the case of a serious deficiency such as aircraft not being airworthy or unqualified flight crew, the inspector is authorized, in accordance with the [Civil Aviation Safety Act, section XX], to take such steps as are necessary to detain the aircraft.

15.5.2 In the other cases where there is not an immediate threat to safety, the air operator will be advised of the results of the ramp inspection in writing and requested to advise [State CAA] within 30 days of the corrective action that has been or is to be taken to rectify any deficiencies noted. Inspectors will follow up as required to ensure that corrective action is both effective and has been completed.

15.5.3 Further disposition and analysis of the ramp inspections findings shall be in accordance with Volume II, Chapter 6 – *Continuing Safety Oversight – Surveillance* of this handbook.

DRAFT

**Attachment A**

**GUIDANCE FOR RAMP INSPECTIONS OF [STATE] AIR OPERATORS**

**1. GENERAL**

The items to be checked during a ramp check are summarized below:

- a) Flight deck;
- b) Cabin/safety;
- c) Aircraft external condition;
- d) Cargo; and
- e) General.

**2. DETAILED LIST**

The detailed list contains information on the items to be checked. For each item, guidance is provided on how to perform the check. Each item is also provided with the applicable reference [State Civil Aviation Regulations] where available.

*[Note to States.— The references to items in the checklist below are to ICAO SARPs. State air operators have been certificated in accordance with specific State [civil aviation regulations] which implements ICAO SARPs. References to ICAO SARPs below should be replaced by references to the pertinent State regulations. In addition the guidance can be amended to be more specific to the [State] requirements.]*

**3. SCOPE**

It is not possible to cover all items on the list at every ramp inspection. Inspections should be planned to cover high-risk items and to cover all other items over a series of inspections. It is essential that adequate records be kept and that there is complete coordination between all inspectors involved in ramp inspections of any one operator.

**4. ITEMS TO BE CHECKED**

<b>A. FLIGHT DECK</b>	
<b>GENERAL</b>	
<b>A.1 General condition</b>	
<i>Instructions:</i>	Check cleanliness, tidiness and general condition
<i>References:</i>	Nil
<b>A.2 Emergency exit</b>	
<i>Instructions:</i>	Check if in compliance with ICAO Standards and Recommended Practices
<i>References:</i>	Annex 8, 4.1.7 – Emergency landing provisions
<b>A.3 Equipment</b>	
<i>Instructions:</i>	<p>Check for the presence of the following equipment where required:</p> <ul style="list-style-type: none"> <li>a) two sensitive pressure altimeters with counter drumpointer or equivalent presentation (IFR operations);</li> <li>b) airborne collision avoidance system (ACAS);</li> <li>c) cockpit voice recorder (CVR) and flight data recorder (FDR);</li> <li>d) emergency locator transmitter (ELT);</li> <li>e) ground proximity warning system (GPWS); and</li> <li>f) where a flight management computer (FMC) is provided – valid database</li> </ul>
<i>References:</i>	<p><u>Altimeters:</u> Annex 6, Part I, 6.9.1. c)  <u>ACAS II:</u> Annex 6, Part I, 6.18  <u>CVR and FDR:</u> Annex 6, Part I, 6.3; and Part III, Section II, 4.3  <u>GPWS:</u> Annex 6, Part I, 6.15  <u>ELT:</u> Annex 6, Part I, 6.17 and Part III, Section II, 4.7  <u>Database:</u> Annex 6, Part I, 7.4.2</p>
<b>DOCUMENTATION</b>	
<b>A.4 Manuals. All required manuals</b>	
<i>Instructions:</i>	Check for presence. Check if manuals are up-to-date and accepted or approved as required. Flight manual data may be included in the operations manual which may itself be in several parts, some of which are dealt with in A5, 6 and 7 below.
<i>References:</i>	<p><u>Flight manual:</u> Annex 6, Part I, 6.2.3, 11.1; and Part III, Section II, 4.2.3, 9.1  <u>Operations manual:</u> Annex 6, Part I, 4.2.2, 6.2.3 and Appendix 2; and Part III, Section II, 2.2.2, 4.2.3 and Attachment H  <u>Aircraft operating manual:</u> Annex 6, Part I, 6.1.4 and Appendix 2, 2.2; and Part III, Section II, 4.1.4 and Attachment H, 2.2.</p>
<b>A.5 Checklists</b>	
<i>Instructions:</i>	a) Confirm checklists are available and up to date. Check if their content is in compliance with the requirement. Normal, non-normal and emergency checklists are

- sometimes combined in a “Quick Reference Handbook”
- b) Check the availability of an aircraft search procedure checklist; and
  - c) Confirm availability of the checklist of emergency and safety equipment.

*References:* Flight crew checklists: Annex 6, Part I, 4.2.5, 6.1.4 and Appendix 2, 2.2.2; and Part III, Section II, 2.2.5, 4.1.4 and Attachment H, 2.2.10  
Aircraft search procedure checklist: Annex 6, Part I, 13.3; and Part III, Section II, 11.1  
Checklist of emergency and safety equipment: Annex 6, Part I, Appendix 2, 2.2.10; and Part III, Attachment H, 2.2.8

#### **A.6 Route guide**

*Instructions:* Check if a route guide, including charts, is available, suitable and up-to-date.

*References:* Annex 6, Part I, 6.2.3 and Appendix 2, 2.3.1; and Annex 6, Part III, Section II, 4.2.3 and Attachment H, 2.3.1

#### **A.7 Minimum equipment list (MEL)**

*Instructions:* Check if the MEL is available, up-to-date and approved.

*References:* Annex 6, Part I, 6.1.3, Appendix 2, 2.2.9 and Attachment G; and Annex 6, Part III, Section II, 4.1.3, Attachment E and Attachment H, 2.2.7

#### **A.8 Documents required to be carried on board**

##### **a) Certificate of registration:**

*Instructions:* Check for presence and accuracy and format.

*References:* Convention on International Civil Aviation, Article 29  
Annex 7, 7

##### **b) Identification plate:**

*Instructions:* Check presence and location.

*References:* Annexes 7 and 8

##### **c) Certificate of Airworthiness:**

*Instructions:* Check that the Certificate of Airworthiness of the aircraft is on board and valid.

*References:* Convention on International Civil Aviation, Articles 29 and 31  
Annex 8, Part II, Chapter 3

##### **d) Crew member licenses:**

*Instructions:* Check valid in: date; type rating; instrument rating; competency check; language proficiency endorsement; medical assessment; and format (see also item E 3 below).

*References:* Convention on International Civil Aviation, Article 29  
Annex 1, 1.2.1, 1.2.5.1, 1.2.9, 2.1.3, 2.1.7 and Chapter 5;  
Annex 6, Part I, 9.4.4; and  
Annex 6, Part III, Section II, 7.4.4

##### **e) Journey log book or technical log and voyage report:**

*Instructions:* Check entries up to date, validity of maintenance release. Check number of deferred

defects (specify in the report where necessary). Check that defect deferrals include time limits and comply with the stated time limits. Where applicable, check compliance with the aircraft MEL

*References:* Convention on International Civil Aviation, Article 29  
Annex 6, Part I, 4.3.1 and 11.4; and  
Annex 6, Part III, Section II, 2.3.1 and 9.4

**f) Radio station licence:**

*Instructions:* Check available and up to date.  
*References:* Convention on International Civil Aviation, Articles 29 and 30  
Annex 6, Part I, 7.1; and  
Annex 6, Part III, Section II, 5.1

**g) Noise certification document or statement, where applicable:**

*Instructions:* Check available and valid.  
*References:* Annex 6, Part I, 6.13; Part III, Section II, 4.11; and  
Annex 16, Volume I, Parts I and II

**h) Air Operator Certificate (certified true copy) and Operations Specifications (copy):**

*Instructions:* Check available, applicable and valid.  
*References:* Annex 6, Part I, 4.2.1, 6.1.2, Appendix 5, 7 and Appendix 6; and  
Annex 6, Part III, Section II, 2.2.1, 4.1.2, Appendix 1, 7 and Appendix 3

**FLIGHT PREPARATION**

**A.9 Operational flight plan**

*Instructions:* Check for presence, accuracy and signature(s) and for adequate fuel and oil reserve planning and supply on-board.  
*References:* Annex 6, Part I, 4.3.3 and Appendix 2, 2.1.16; and  
Annex 6, Part III, Section II, 2.3.3 and Attachment H, 2.1.15

**A.10 Mass and balance sheet**

*Instructions:* Check for presence of load sheet and accuracy.  
*References:* Annex 6, Part I, 4.3.1 and Appendix 2, 2.1.14; and  
Annex 6, Part III, Section II, 2.3.1 and Attachment H, 2.1.13

**A.11 Aircraft performance limitations using current route, airport obstacles and runway analysis data**

*Instructions:* Check for availability of aircraft performance information including limitations and runway performance analysis based on current airport data.  
*References:* Annex 6, Part I, 5.1, 5.2 and 5.3; and  
Annex 6, Part III, Section II, 3.1 and 3.2

**A.12 Cargo manifest and, if applicable, passenger manifest**

*Instructions:* Check for availability of completed cargo manifest and, if required, passenger manifest.  
*References:* Annex 9, 2.12, 2.13 and 4.12 and Appendices 2 and 3

**A.13 Pre-flight inspection**

*Instructions:* Check for presence of pre-flight inspection or preparation forms (landing documents, air traffic service flight plan).

*References:* Annex 6, Part I, 4.3; and  
Annex 6, Part III, Section II, 2.3

**A.14 Weather reports and forecasts**

*Instructions:* Check for availability of weather reports and forecasts adequate for the flight.

*References:* Annex 6, Part I, 4.3.5.2; and  
Annex 6, Part III, Section II, 2.3.5.2

**A.15 NOTAM (Notice to Airman)**

*Instructions:* Check for availability of NOTAMs for the route of flight.

*References:* Annex 15, Chapter 1 – Definitions

**SAFETY EQUIPMENT**

**A.16 Portable fire extinguishers**

*Instructions:* Check for presence, number, condition and expiry date.

*References:* Annex 6, Part I, 6.2.2 b); and  
Annex 6, Part III, Section II, 4.2.2 b)

**A.17 Life jackets/flotation devices**

*Instructions:* Check for presence, condition and where applicable expiry date.

*References:* Annex 6, Part I, 6.5; and  
Annex 6, Part III, Section II, 4.3

**A.18 Safety harness**

*Instructions:* Check for presence, condition and quantity.

*References:* Annex 6, Part I, 6.2.2; and  
Annex 6, Part III, Section II, 4.2.2

**A.19 Oxygen equipment**

*Instructions:* Check for presence, quantity and condition.

*References:* Annex 6, Part I, 4.3.8; and  
Annex 6, Part III, Section II, 2.3.8

**A.20 Emergency flashlight**

*Instructions:* Check for appropriate quantities of emergency flashlight. Check their condition if possible.

*References:* Annex 6, Part I, 6.10; and  
Annex 6, Part III, Section II, 4.4.2



<b>B. CABIN/SAFETY</b>	
<b>B.1 General condition</b>	
<i>Instructions:</i>	Check for cleanliness, tidiness and general condition.
<i>References:</i>	Annex 8, Part III, 8.3
<b>B.2 Cabin crew seats and safety harness</b>	
<i>Instructions:</i>	Check for presence and compliance with the requirement.
<i>References:</i>	Annex 6, Part I, 6.16; and Annex 6, Part III, Section II, 4.12
<b>B.3 First aid kit/emergency medical kit</b>	
<i>Instructions:</i>	Check for presence, condition, location and expiry date if available.
<i>References:</i>	Annex 6, 6.2.2.; and Annex 6, Part III, Section II, 4.2.2
<b>B.4 Portable fire extinguishers</b>	
<i>Instructions:</i>	Check for presence, number, condition and expiry date if available.
<i>References:</i>	Annex 6, Part I, 6.2.2; and Annex 6, Part III, Section II, 4.2.2
<b>B.5 Life jackets/flotation devices</b>	
<i>Instructions:</i>	Check for presence, condition and expiry date as applicable.
<i>References:</i>	Annex 6, Part I, 6.5; and Annex 6, Part III, Section II, 4.5
<b>B.6 Seat belts</b>	
<i>Instructions:</i>	Check for presence and condition.
<i>References:</i>	Annex 6, Part I, 6.2.2; and Annex 6, Part III, Section II, 4.2.2
<b>B.7 Emergency exit lighting and marking, emergency flashlights</b>	
<i>Instructions:</i>	Check for presence of emergency exit signs, lighting and marking and emergency flashlights (one per cabin crew member). Where possible, check condition of floor path lighting/markling and of flashlights.
<i>References:</i>	Annex 6, Part I, 6.10; Annex 6, Part III, Section II, 4.4.2; Annex 8, Part III A, 4.1.7.3 and Part IIIB, D.6.3
<b>B.8 Slides/life rafts and pyrotechnical distress signalling devices (as required)</b>	
<i>Instructions:</i>	Check bottle gauge, slide bar and slide expiry date. Check presence of life raft, when required.
<i>References:</i>	Annex 6, Part I, 6.5 and 6.6; Annex 6, Part III, Section II, 4.5.and 4.6; Annex 8, Part III A, 4.1.7 (and Part III D.6.2 to D.6.4)

**B.9 Oxygen supply – cabin crew and passengers**

*Instructions:* Check for presence and condition where applicable.

*References:* Annex 6, Part I, 4.3.8 and 6.7; and  
Annex 6, Part III, Section II, 2.3.8 and 4.8 and Section III, 2.9 and 4.5

**B.10 Emergency briefing cards**

*Instructions:* Check for presence and accuracy.

*References:* Annex 6, Part I, 4.2.11.1 and 6.2.2; and  
Annex 6, Part III, Section II, 2.2.10 and Section III, 2.3

**B.11 Cabin crew members**

*Instructions:* Check that the number of cabin crew is appropriate. Check whenever possible that the location of cabin crew members allows to effect a safe and expeditious evacuation of the aircraft.

*References:* Annex 6, Part I, 12.1; and  
Annex 6, Part III, Section II, 10.1

**B.12 Access to emergency exits**

*Instructions:* Check that appropriate access to emergency exits is provided and that it is not impeded.

*References:* Annex 8, Part III A, 4.1.7 (and Part III D.6.2 and D.6.3)

**B.13 Safety of cabin baggage**

*Instructions:* Check that the crew and the passengers do not carry oversized hand baggage for the storage capacity of the aircraft. Check proper stowage of cabin baggage.

*References:* Annex 6, Part I, 4.8; and  
Annex 6, Part III, Section II, 2.7

**B.14 Seating capacity**

*Instructions:* Check that the number of persons boarding does not exceed the number permitted (number of seats normally, except specific circumstances).

*References:* Annex 6, Part I, 6.2.2; and  
Annex 6, Part III, Section II, 4.2.2

**B.15 Security of the flight crew compartment door (if applicable)**

*Instructions:* Check that the flight crew compartment door, if provided, is lockable. Where applicable, check that the flight crew compartment door is penetration resistant.

*References:* Annex 6, Part I, 13.2

<b>C. AIRCRAFT EXTERNAL CONDITION</b>	
<b>C.1 General condition</b>	
<i>Instructions:</i>	Check general condition of the airframe: apparent corrosion; cleanliness; presence of ice, snow, frost; legibility of markings, etc.
<i>References:</i>	For markings: Annexes 7, 3, 4 and 5
<b>C.2 Doors and hatches</b>	
<i>Instructions:</i>	Check for passenger and cargo door condition, external markings, seals, operating instructions and condition of hatches.
<i>References:</i>	Nil
<b>C.3 Wings and tail</b>	
<i>Instructions:</i>	Check wings, vertical and horizontal stabilizers, including all flight control surfaces. Check for obvious damage, corrosion, disbanding, evidence of lightning strikes, dents, looseness of fittings, missing static discharges, etc.
<i>References:</i>	Nil
<b>C.4 Wheels, brakes and tires</b>	
<i>Instructions:</i>	Inspect for damage, wear and signs of tire under inflation.
<i>References:</i>	Nil
<b>C.5 Undercarriage</b>	
<i>Instructions:</i>	Visual inspection. Focus on lubrication, leakage & corrosion and wear on door fittings and hinges.
<i>References:</i>	Nil
<b>C.6 Wheel well</b>	
<i>Instructions:</i>	Visual inspection. Focus on cleanliness, leakage and corrosion.
<i>References:</i>	Nil
<b>C.7 Intake and exhaust nozzle</b>	
<i>Instructions:</i>	Visual inspection. Focus on damage, cracking, dents and loose/missing fasteners (intake) and LPT blades (where visible), obvious damage to sensors, jet pipe nozzle, exhaust, thrust reversers, etc.
<i>References:</i>	Nil
<b>C.8 Fan blades (if applicable)</b>	
<i>Instructions:</i>	Visual inspection. Check for foreign object damage, cracks, cuts, corrosion, erosion etc.
<i>References:</i>	Nil
<b>C.9 Propellers (if applicable)</b>	
<i>Instructions:</i>	Visual inspection. Check for corrosion, looseness of blades in hub, erosion, stone damage, anti/de-icing system, etc.

*References:* Nil

**C.10 Previous structural repairs**

*Instructions:* Visual inspection. Note any previous repairs – check condition and verify compliance to standard practices.

*References:* Nil

**C.11 Obvious damage**

*Instructions:* Visual inspection. Note unassessed and unrecorded damage including corrosion, lightning strike damage and bird strikes etc.

*References:* Annex 8, Part II, 3.6

**C.12 Leakage**

*Instructions:* Visual inspection: fuel, oil, hydraulic leaks. Inspect for toilet leaks at service locations.

*References:* Nil

**D. CARGO**

**D.1 General condition of cargo compartment and containers**

*Instructions:* Check for cleanliness and general condition of cargo compartment and containers. Check damage to compartment liners and condition of fire protection, detection and extinguishing system (if appropriate). Check condition of container locking devices.

*References:* Nil

**D.2 Dangerous goods**

*Instructions:* If dangerous goods are on board, check that the pilot has received appropriate notification. Check that the operations manual includes relevant information as required by ICAO Annex 18.

*References:* Annex 6, Part I, Appendix 2, 2.1.35;  
Annex 6, Part III, Attachment H, 2.1.28; and  
Annex 18, 9.1 and 9.2

**D.3 Safety of cargo on board**

*Instructions:* Check that loads are properly distributed and safely secured.

*References:* Annex 6, Part I, 4.3.1; and  
Annex 6, Part III, Section II, 2.3.1

**E. GENERAL**

**E.1 Additional remarks**

*Instructions:* Record and report any items of significant nature that may be observed which are not covered by this guidance.

*References:* Nil

**E.2 Refuelling**

*Instructions:* Check that the procedures relating to refuelling with passengers on board are complied with.  
*References:* Annex 6, Part I, 4.3.7; and  
Annex 6, Part III, Section II, 2.3.7

**E.3 Language for communication**

*Instructions:* Check that all pilots [and those flight navigators required to use the radio telephone] are fluent in the language used for radiotelephony communications or in the English language.  
*References:* Annex 1, 1.2.9

DRAFT

**Attachment B**

**RAMP INSPECTION  
AIRWORTHINESS CHECKLIST**

[CAA Logo]	[State CAA]
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Date:		Aircraft make and model:		Handling agent:	
Operator:		Airframe serial no.:		Maintenance support:	
Route from:		Reg. marks:		Station:	
Route to:		Flight no:			

**S = Satisfactory U = Unsatisfactory N = Not check**

	ITEM	CHECK (S/U/N)	REMARK(S)
<b>A.</b>	<b>Aircraft interior condition ( Flight deck and passenger cabin)</b>		
1	General condition		
2	Emergency exits		
3	Equipment (GPWS, ACAS, ELT, CVR/FDR, etc.)		
4	Documents and certificates to include:		
	MEL and deferred defect rectification		
	Journey log book		
	AFM		
	Certificates (Cof R, Cof A, Noise)		
5	Emergency and safety equipment to include :		
	Portable fire extinguishers		
	Life jackets/flotation devices		
	Safety harness		
	Oxygen equipment		
	Emergency equipment		
6	Placards (unserviceable and emergency equipment)		
<b>C.</b>	<b>Aircraft external condition</b>		
1	General condition		
2	Doors and hatches		
3	Wings and tail		
4	Wheels, brakes and tires		
5	Undercarriage		
6	Wheel well		
7	Intake and exhaust nozzle		
8	Fan blades (if applicable)		
9	Propellers (if applicable)		
10	Previous structural repairs / modifications		
11	Obvious damage		
12	Fluid leakage		
<b>D.</b>	<b>Cargo</b>		
1	General condition of cargo compartment		
<b>E.</b>	<b>General</b>		
	Any other areas to be inspected (Please state)		
<b>Inspected by:</b>		<b>Report no.:</b>	

**Note 1:** If the inspection is carried out as a team (airworthiness, cabin safety and flight operations), coordination between the inspectors is required to avoid duplication.

**Note 2:** If a cabin safety inspector is not available during the ramp inspection, the cabin safety checklist for cabin items is to be used by either airworthiness inspector or flight operations inspector as appropriate.

Attachment C

**RAMP INSPECTION  
FLIGHT OPERATIONS CHECKLIST**

[CAA Logo]	[State CAA]
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Date:		Aircraft make and model:		Captain:	
Operator:		Airframe serial no.:		F/O:	
Route from:		Reg. marks:		Other:	
Route to:		Handling agent:			
Flight no:		Station:			

**S = Satisfactory    U = Unsatisfactory    N = Not check**

ITEM		CHECK (S/U/N)	REMARK(S)
<b>A.</b>	<b>Flight deck</b>		
1	General condition		
2	Emergency exit		
3	Equipment (GPWS, ACAS, ELT, cockpit door, FDR/CVR, etc.)		
4	Manuals		
5	Checklists		
6*	Route guide		
7*	Minimum equipment list and deferred defect rectification		
8	Documents		
9*	Operational flight plan		
10*	Mass and balance		
11*	Aircraft performance data		
12	Cargo/passenger manifest		
13	Pre-flight forms (operational flight plan, etc.)		
14	Weather reports and forecasts		
15	NOTAM information		
16	Portable fire extinguishers		
17	Life jackets/flotation devices		
18	Safety harness		
19	Oxygen equipment		
20	Emergency flashlight		
<b>E.</b>	<b>General</b>		
<b>Inspected by:</b>		<b>Report no.:</b>	
Revision date July 2013			

Attachment D

**RAMP INSPECTION  
CABIN SAFETY CHECKLIST**

[CAA Logo]

[State CAA]

Date:		Aircraft make and model:		In-charge cabin crew:	
Operator:		Airframe serial no.:			
Route from:		Reg. marks:		Station:	
Route to:		Flight no:			

**S = Satisfactory    U = Unsatisfactory    N = Not check**

ITEM		CHECK (S/U/N)	REMARK(S)
<b>B.</b>	<b>Cabin/safety</b>		
1	General condition		
2	Cabin crew's seats and harnesses		
3	First aid kit/emergency medical kit (as applicable)		
4	Portable fire extinguishers		
5	Life jackets/flotation device		
6	Passenger seat belts		
7	Emergency exit lighting and marking, emergency flashlights		
8	Slides/life-rafts and pyrotechnical signalling devices (as required)		
9	Oxygen supply (cabin crew and passengers)		
10	Emergency briefing cards		
11	Cabin crew members		
12	Access to emergency exits		
13	Safety of cabin baggage		
14	Seating capacity		
15	Security of flight crew compartment door		
<b>Inspected by:</b>		<b>Report no.:</b>	
Revision date July 2013			



## **Chapter 16**

### **PERFORMANCE-BASED NAVIGATION APPROVAL**

#### **16.1 BACKGROUND**

16.1.1 [State Civil aviation regulations, Part XX,] require operators to be authorized prior to conducting flights in defined portions of airspace or any routes where a navigation specification for performance-based navigation is prescribed. In addition, the aircraft must be equipped with navigation equipment in accordance with the navigation specification and flight crews provided with appropriate training. This chapter outlines the [States CAA] procedures for providing authorization where a navigation specification is prescribed.

16.1.2 Conventional navigation is dependent upon ground-based radio navigation aids. It has been the mainstay of aviation for the last seventy years and pilots, operators, manufacturers and air navigation service providers are all familiar with the associated technology, avionics, instrumentation, operations, training and performance.

16.1.3 Performance-based navigation (PBN) detailed in the ICAO *Performance-based Navigation (PBN) Manual* (Doc 9613) is based upon area navigation principles. While various methods of area navigation have been in existence for many years, the widespread use of area navigation as a primary navigation function is a more recent phenomenon. The PBN concept is intended to better define the use of area navigation systems and is expected to replace much of the existing conventional navigation routes within the next twenty years.

16.1.4 The fundamentals of PBN operations are relatively straightforward and operational approval need not be a complicated process for either applicant or [State CAA]. However, the transition to new technology, new navigation and new operational concepts and the dependence on data driven operations requires careful management. Concerning this matter, ICAO has developed the *Performance-based Navigation (PBN) Operational Approval Manual* (Doc 9997) to provide guidance on the operational approval process in the context of performance-based navigation (PBN). It is intended for inspectors and others involved in the regulation of PBN operations.

#### **16.2 PBN OVERVIEW**

16.2.1 Area navigation systems evolved in a manner similar to conventional ground-based routes and procedures. The early systems used very high-frequency omnidirectional radio range (VOR) and distance measuring equipment (DME) for estimating their position in domestic operations and inertial navigation systems (INS) were employed in oceanic operations. In most cases, a specific area navigation system was identified and its performance was evaluated through a combination of analysis and flight testing. In some cases, it was necessary to identify the individual models of equipment that could be operated within the airspace concerned. Such prescriptive requirements resulted in delays to the introduction of new area navigation system capabilities and higher costs for maintaining appropriate certification. The PBN concept was developed with globally-applicable performance requirements, detailed in accompanying navigation specifications, in order to avoid these high costs and delays.

16.2.2 The PBN concept requires that the aircraft area navigation system performance is defined in terms of the accuracy, integrity, availability, continuity and functionality necessary to operate in the

context of a particular airspace concept. Appropriate positioning sensors are also identified. These may include VOR/DME, DME/DME, GNSS and/or INS. The performance is detailed in a navigation specification at sufficient a level of detail to facilitate global harmonization. The navigation specification not only lays out the aircraft system performance requirements but also the requirements in terms of flight crew procedures and training, as well as any appropriate maintenance requirements, such as the provision of navigation databases.

### **16.3 RNAV AND RNP**

16.3.1 RNAV specifications have been developed to support existing capabilities in aircraft equipped with area navigation systems which, in the general case, were not designed to provide on-board performance monitoring and alerting. RNAV specifications are similar to RNP specifications but do not require an on-board performance monitoring and alerting capability.

16.3.2 RNP specifications have been developed from a need to support operations that require greater integrity assurance, where the pilot is able to detect when the navigation system is not achieving, or cannot guarantee with appropriate integrity, the navigation performance required for the operation. Such systems are known as RNP systems. RNP systems provide greater assurance of integrity and, hence, can offer safety, efficiency, capacity and other operational benefits.

### **16.4 [STATE CAA] PBN OPERATIONAL APPROVAL PROCESS**

16.4.1 [State CAA] will issue authorization to operators, where a navigation specification for performance-based navigation is prescribed, provided that the operator can demonstrate compliance with the applicable requirements. A list of available navigation specifications is outlined in Attachment A to this chapter.

16.4.2 The requirements and guidance provided in Doc 9997 will be utilized by [State CAA] staff for the review of PBN applications by [State] air operators and subsequent issuance of PBN approvals as follows:

- a) air operators requesting authorization for a particular performance-based navigation specification shall make application providing the information as outlined in Annex D of Doc 9997;
- b) the job aid for the requested navigation specification(s) as contained in Doc 9997, Chapter 4 will be completed by the air operator and [State CAA] inspector as appropriate. The actions recommended for the inspector and the operator contained in the job aid will be mandatory for [State CAA] inspectors and operators; and
- c) upon completion of the job aid confirming that all requirements have been met for the particular navigation specification, [State CAA] will issue the appropriate operations specification. Examples of operations specification entries as outlined in Annex B of Doc 9997 will be utilized.

Attachment A

NAVIGATION SPECIFICATIONS

The navigation specifications in Table 16-1 have been published to date.

Table 16-1. Navigation specifications published to date

Navigation specification <sup>h</sup>	Flight Phase							Departure
	En-route oceanic/ remote	En-route continental	Arrival	Approach				
				Initial	Intermediate	Final	Missed	
RNAV 10	10							
RNAV 5 <sup>a</sup>		5	5					
RNAV 2		2	2					2
RNAV 1		1	1	1	1		1 <sup>b</sup>	1
RNP 4	4							
RNP 2	2	2						
Advanced RNP <sup>f</sup>	2	2 or 1	1	1	1	0.3	1 <sup>b</sup>	1
RNP 1			1 <sup>d</sup>	1	1		1 <sup>b</sup>	1 <sup>d</sup>
RNP 0.3 <sup>e</sup>		0.3	0.3	0.3	0.3	—	0.3 <sup>b</sup>	0.3
RNP APCH				1	1	0.3 <sup>g</sup>	1 <sup>b</sup> or 0.3 <sup>c</sup>	
RNP AR APCH				1-0.1	1-0.1	0.3-0.1	1-0.1 <sup>f</sup>	

Notes:

- a) RNAV 5 is an en-route navigation specification which may be used for the initial part of a STAR outside 30 NM and above MSA.
- b) Applies only once 50 m (40 m Cat H) obstacle clearance has been achieved after the start of climb.
- c) RNP APCH is divided into two parts. This value applies during the initial straight ahead segment in RNP APCH Part B (SBAS LPV) approaches.
- d) Beyond 30 NM from the airport reference point (ARP), the accuracy value for alerting becomes 2 NM.
- e) The RNP 0.3 specification is primarily intended for helicopter operations.
- f) If <RNP 1 is required in the missed approach, the reliance on inertial to cater for loss of GNSS in final means that accuracy will slowly deteriorate and any accuracy value equal to that used in final can be applied only for a limited distance.
- g) RNP APCH is divided into two parts. RNP 0.3 is applicable to RNP APCH Part A. Different angular performance requirements are applicable to RNP APCH Part B only.
- h) The navigation specifications RNP2, Advanced RNP and RNP 0.3 are new additions to Doc 9613 and not yet supported by Doc 9997. Until Doc 9997 is updated to support those navigations specifications no approval for those navigations specifications will be issued by [State CAA].

## Chapter 17

### LOW VISIBILITY TAKE-OFF, CATEGORY II AND III APPROVAL

#### 17.1 BACKGROUND AND OBJECTIVES

17.1.1 [State Civil aviation regulations, Part XX,] require air operators to be authorized prior to conducting low visibility take-off (LVTO) and Category II and III operations. Furthermore, the regulations prescribe requirements for ground and aircraft equipment, crew training and authorization, and the establishment of Category II and/or Category III operating procedures. Operating procedures should be contained in the operations manual. This chapter outlines the [States CAA] procedures for providing authorization to air operators for LVTO; Category II and/or Category III operations.

17.1.2 Depending on a variety of factors, an operator may be granted approval to conduct the following categories of approaches to the limits specified:

Category	Decision Height (DH)	Runway Visual Range (Meters)
CAT II	30 m (100 ft)	300 m
CAT III a	No DH or <30m (100 ft)	175 m
CAT III b	No DH or <15m (50 ft)	175 m to ≥ 50 m

17.1.3 Low visibility take-off requirements are outlined in 17.4 of this chapter.

#### 17.2 GENERAL APPROVAL REQUIREMENTS

17.2.1 There are five elements involved in the approval of an operation by [State CAA] as follows:

- a) authorization of the aeroplane and its equipment;
- b) authorization of the use of the aerodrome;
- c) authorization of the flight crew;
- d) authorization of the operation; and
- e) authorization of minima.

17.2.1.1 **Authorization of the aeroplane and its equipment.** These are indicated by appropriate entries in the aircraft flight manual.

*Note.— Detailed requirements outlined in 17.3.*

17.2.1.2 **Authorization of the use of the aerodrome.** Air operators are responsible for determining the facilities available at the aerodrome meet the requirements of [State regulations] and shall ensure the following:

- a) the State of the Aerodrome authorizes use of the facilities and services;
- b) the appropriate Obstacle Clearance Altitude/Height (OCA/H) is published by the State of the Aerodrome; and
- c) where the State of the Aerodrome has established an aerodrome operating minima policy and published landing and take-off minima in the AIP, the minima authorized for the use of an operator by [State CAA] will not be lower than the former, except where specifically authorized by the State of the Aerodrome.

17.2.1.3 **Authorization of the flight crew.** Flight crews will be qualified to operate to the applicable aerodrome operating minima as follows:

- a) the pilot-in-command and co-pilot each hold a valid instrument rating and meet the requirements for recent experience established by [State regulations];
- b) flight crew members are qualified and trained for take-off, instrument approaches and operations for low visibility take-off, Category II and/or Category III operations, as applicable;
- c) flight crew members have completed all required proficiency checks, including demonstration of proficiency for low visibility take-off and using the relevant types of instrument approaches; and
- d) the pilot-in-command has the necessary experience in the aeroplane type with restricted (higher) minima before being authorized to use the lowest approved minima;
- e) the operator maintains a system of records to ensure that the necessary qualifications of the flight crew members are being met on a continuing basis.

*Note.— Detailed requirements outlined in 17.3.*

17.2.1.4 **Authorization of the operation.** Before granting such an authorization, inspectors shall ensure that the operator has established a system to ensure that:

- a) applicable aerodrome operating minima for the use of flight crews for all types of approaches to all aerodromes to be used in the operations have been determined;
- b) the proficiency of flight crews has been determined;
- c) required operating procedures have been established;
- d) an operations manual with instructions appropriate to the intended operation and that reflect the mandatory procedures and/or limitations contained in the aircraft flight manual; and
- e) sufficient experience has been gained by the air operator in operational service in weather minima higher than those proposed.

*Note.— Detailed requirements outlined in 17.3.*

17.2.1.5 **Authorization of minima.** [State Civil aviation regulations, Part XX,] require an air operator establishing aerodrome-operating minima to have its method for determining such minima approved by the [State CAA]. Approval may be granted provided the operator's method for determining aerodrome-operating minima accurately accounts for:

- a) the type, performance and handling characteristics of the aircraft;
- b) the composition and experience of the flight crew;
- c) the dimensions and characteristics of the runways selected for use;
- d) aircraft equipment used for navigation and aircraft control during the approach to landing and the missed approach;
- e) obstacles in the approach and missed approach areas and the obstacle clearance altitude/height for the intended instrument approach procedures;
- f) the means used to determine and report meteorological conditions;
- g) the obstacles in the climb out areas and the necessary clearance margins; and
- h) the adequacy and performance of the available visual and non-visual ground aids.

### **17.3 SPECIFIC APPROVAL REQUIREMENTS CATEGORY II/III**

#### **17.3.1 Aeroplane and its equipment**

17.3.1.1 The instruments and equipment for Category II and III operations shall comply with the airworthiness requirements of the State of Registry of the aeroplane. In addition, aeroplane performance shall enable a missed approach to be carried out with an engine inoperative and without outside visual reference, from any height down to the decision height in Category II operations and down to touchdown in Category III operations, while remaining clear of obstacles. The instruments and equipment appropriate to various precision approach operations are outlined in [State regulations Part XX]. The MEL shall reflect the equipment required for low visibility operations.

17.3.1.2 The target level of safety and the acceptable frequency of missed approaches due to airborne equipment performance, in conjunction with the intended operating minima, determine the airborne equipment design requirements with regard to:

- a) system accuracy;
- b) reliability;
- c) characteristics in case of failures;
- d) monitoring procedures and equipment; and
- e) degree of redundancy.

17.3.1.3 A reporting system shall be implemented to enable continual checks and periodic reviews during the operational evaluation period before the operator is authorized to conduct Category II and III

operations. Furthermore, the reporting system will be used for a (State CAA defined period) after the authorization has been given to ensure that the required standards of performance are maintained. The reporting system shall cover all successful and unsuccessful approaches, with reasons for the latter, and include a record of system component failures.

17.3.1.4 For Category II operations, air operators will differentiate between successful and unsuccessful approaches and provide a questionnaire to be completed by the flight crew to obtain data on actual or practice approaches which were not successful. As a minimum, the following data will be gathered to evaluate a Category II operation:

- a) the aerodrome and runway used;
- b) weather conditions;
- c) time;
- d) reason for failure leading to an aborted approach;
- e) adequacy of speed control;
- f) trim at time of automatic flight control system disengagement;
- g) compatibility of automatic flight control system;
- h) flight director and raw data; and
- i) an indication of the aeroplane's position relative to the ILS centre line and glide path when descending through 30 m (100 ft).

The number of approaches made during initial operational evaluation will vary depending on the capabilities of the aircraft and the operator's experience. A minimum of [State CAA established numbers] simulated approaches shall be completed to demonstrate that the performance of the system in commercial service is such that an adequate approach success rate will result. When determining the success rate, failures due to external factors, such as ATC instructions or ground equipment faults, should be taken into account.

17.3.1.5 For Category III similar but more stringent demonstration procedures will be followed. Use may be made of recording equipment such as a sophisticated flight data recorder to obtain the necessary data. Any landing irregularity will be fully investigated using all available data to determine its cause. Failure to positively identify and correct the cause of any landing reported to be unsatisfactory may jeopardize the future of the particular operation. A minimum of [State CAA established numbers] simulated approaches will be conducted prior to approval being granted.

17.3.1.6 Aircraft manufacturer's design and certificate aircraft having CAT II and III operational capability. The automatic systems concept is described in type-certification requirements, including requirements for minimum system performance and failure conditions, flight demonstration during certification and information to be included in the aeroplane flight manual. Inspectors will confirm that the authorization being sought by the air operator is within the operational capability as outlined in the aircraft flight manual. Additional considerations for the certification of the aeroplane as a whole for approach and landing in restricted visibility must be included in the operators programme (e.g. experience and operational demonstration of performance).

17.3.1.7 The operator shall establish a maintenance programme to ensure that the airborne equipment continues to operate in service to the required performance level. This programme shall be capable of detecting any deterioration in the overall level of performance as described in 17.3.1.3 to 17.3.1.6.

17.3.1.8 Maintenance programmes shall be established consistent with the aeroplane manufacturer's recommendations. Aeroplane system design and architecture and the manufacturer's maintenance philosophy can introduce significant variation between aeroplane types for failure detection, annunciation and return-to-service methods.

### **17.3.2 Operating procedures**

17.3.2.1 Low weather minima operations require special procedures and instructions to be included in the operations manual, but it is desirable that any such procedures should also be used as the basis for all operations in order to provide the same operating philosophy for all categories of operations. These procedures cover all foreseeable circumstances so that flight crews are fully informed as to the correct course of action which should be followed. This is particularly true for the last part of the approach and landing where limited time is available for decision making. Possible modes of operation include:

- a) manual take-off;
- b) manual approach and landing;
- c) coupled approach down to DA/H, manual landing thereafter;
- d) coupled approach to below DA/H, but manual flare and landing;
- e) coupled approach followed by auto-flare and auto-landing; and
- f) coupled approach followed by auto-flare, auto-landing and auto-roll-out.

17.3.2.2 The precise nature and scope of procedures and instructions shall be a function of the airborne equipment used and the flight deck procedure applied. The duties of flight crew members during take-off, approach, flare, roll-out and missed approach are to be clearly delineated in the operations manual. Particular emphasis shall be placed on flight crew responsibilities when transitioning from non-visual conditions to visual conditions and on procedures to be used in deteriorating visibility or when failures occur. Special attention should be paid to the distribution of flight deck duties to ensure that the workload of the pilot making the decision to land or to execute a missed approach enables the pilot to concentrate on flight management and decision-making.

17.3.2.3 The following areas are to be addressed in the operations manual:

- a) checks for satisfactory functioning of equipment, both on the ground and in flight;
- b) effects on minima caused by changes in the status of the ground installations;
- c) use and application of RVR reports from multiple runway positions and sensors;
- d) pilot assessment of aircraft position and monitoring of the performance of the automatic flight control system, the effects of the failure of any required portion of the automatic flight control



system or instruments used with the system and action to be taken in the event of inadequate performance or failure of any portion of either the system or the associated instruments;

- e) actions to be taken in the case of failures, such as engines, electrical systems, hydraulics and flight control systems;
- f) allowable aeroplane equipment deficiencies;
- g) precautions necessary when making practice approaches where full ATC procedures to support Category III operations are not in force;
- h) operating limitations resulting from airworthiness certification; and
- i) information on the maximum deviation allowed from the ILS glide path and/or localizer from the region of the DA/H down to touchdown, as well as guidance regarding the visual reference required.

17.3.2.4 Air operators will establish procedures for the gradual introduction of low weather minima operations. The procedures shall implement reduced visibility operations through a gradual reduction in meteorological criteria commensurate with experience. Such procedures will ensure the following:

- a) the practical evaluation of airborne equipment before commencing actual operations as outlined in 17.3.1.5 and 17.3.1.6;
- b) accumulation of experience with the procedures discussed above before commencing actual operations and, if necessary, the adjustment of those procedures;
- c) accumulation of operating experience before proceeding to Category III operations minima;
- d) providing, for analysis purposes, a means of pilot reporting on ground and airborne system performance;
- e) accumulation of flight crew experience; and
- f) accumulation of experience in the maintenance of particular equipment.

*Note.— Procedures and limitations for all weather operations are contained in the operations manual.*

### **17.3.3 Flight crew qualification and training**

17.3.3.1 Before conducting Category II or III operations, the flight crew shall complete an approved programme of training and education. The approved programme of training will be related to the aeroplane type and the operating procedures adopted, as outlined in 17.3.2. For modern transport aircraft and operators, this is typically incorporated as part of the operator's approved flight crew training programme.

17.3.3.2 The increased dependence on the use of automatic systems highlights the role of the flight crew in safely and effectively operating these systems and the need for this role to be addressed in training and qualification processes. This emphasis should include pilot assessment of the position of the

aeroplane and monitoring of the automatic flight control system performance throughout all phases of the approach, flare, touchdown and roll-out.

17.3.3.3 Flight crews shall be required to demonstrate their competency to the designated examiner or [CAA] inspector. The captain will have at least 500 hours as pilot-in-command in turbo-jet and 100 hours of pilot-in-command on the aeroplane type before being authorized by the air operator to apply Category II or III operations minima under actual conditions.

17.3.3.4 Flight crews shall make full use of ground and airborne equipment intended for use during Category II and III operations. They shall therefore be instructed in how to obtain maximum benefit from redundancy provided in the airborne equipment and to fully understand the limitations of the total system, including both ground and airborne elements. The ground instruction shall cover at least the following:

- a) the characteristics, capabilities and limitations of the NAVAIDs involved (e.g. ILS, GLS) including the effect on aeroplane system performance of interference to the ILS signal caused by other landing, departing or overflying aeroplanes and the effect of the infringement of ILS critical and sensitive areas by aeroplanes or vehicles in the manoeuvring area;
- b) the characteristics of the visual aids (e.g. approach lighting, touchdown zone lighting, centre line lighting) and the limitations on their use as visual cues in reduced visibility with various glide path angles and cockpit cut-off angles, and the heights at which various cues may be expected to become visible in actual operations;
- c) the operation, capabilities and limitations of the airborne systems (e.g. the automatic flight control systems, monitoring and warning devices, flight instruments including altimetry systems and the means the pilot has to assess the position of the aeroplane during the approach, touchdown and rollout);
- d) approach, including missed approach procedures and techniques, along with descriptions of the factors affecting height loss during missed approach in normal and abnormal aeroplane configurations;
- e) the use and limitations of RVR, including the applicability of RVR readings from different positions on the runway, the different methods of assessing RVR, the conversion method of visibility into an RVR in some States and the limitations associated with each method;
- f) the basic understanding of obstacle limitation and the obstacle-free zone, including missed approach design criteria and obstacle clearance for Category II and III operations;
- g) the effects of low-level wind shear, turbulence and precipitation;
- h) pilot tasks at decision height, and procedures and techniques for transition from instrument to visual flight in low visibility conditions, including the geometry of eye, wheel and antenna positions with reference to ILS reference datum height;
- i) action to be taken if the visual reference becomes inadequate when the aeroplane is below decision height and the technique to be adopted for transition from visual to instrument flight should a go around become necessary at these low heights;
- j) use of alert height and appropriate actions;

- k) action to be taken in the event of failure of approach and landing equipment above and below decision height;
- l) recognition of and action to be taken in the event of failure of ground equipment;
- m) significant factors in the determination of decision height;
- n) effect of specific aeroplane malfunctions (e.g. engine failure) on auto-throttle, auto-pilot performance;
- o) procedures and precautions to be followed while taxiing during limited visibility conditions; and
- p) the existence and effects of visual illusions.

17.3.3.5 Each member of the flight crew shall be trained to carry out the duties appropriate to the particular airborne system and subsequently demonstrate their ability to carry out the duties, as a member of the flight crew, to an acceptable level of competency before being authorized to engage in the particular category of operations. Additionally, before a pilot is authorized to operate to Category II or III minima, the pilot shall have gained experience as outlined in 17.3.2.4 in using the appropriate procedures in meteorological conditions above the relevant minima. Flight crews shall be given practical training and tests in the use of applicable systems and associated procedures in conditions of the lowest minima to be authorized.

17.3.3.6 Training may only be carried out in an approved FSTD with a suitable visual system qualified for LVTO, CAT II and/or CAT III as applicable. It is important that the visibility simulated for both static and dynamic visual scenes is a correct reflection of the RVR intended. The specific type of training will depend upon the particular airborne system and on the operating procedures adopted. The initial training shall at least include:

- a) approaches with all engines operating, and with an engine inoperative, using the appropriate flight guidance and control systems installed in the aeroplane down to the appropriate minimum height, without external visual reference, followed by transition to visual reference and landings;
- b) approaches with all engines operating, and with an engine inoperative, using the appropriate flight guidance and control systems installed in the aeroplane down to the appropriate minimum height, followed by missed approaches, all without external visual reference;
- c) approaches utilizing the automatic flight control and landing system, followed by reversion to manual control for flare and landing after disconnecting the automatic system at low level, if appropriate;
- d) approaches utilizing the automatic flight control and landing system with automatic flare, automatic landing and, where appropriate, automatic roll-out;
- e) procedures and techniques for reversion to instrument flight and the execution of a missed approach from DA/H, including obstacle clearance aspects; and
- f) go-around from a height below decision height which may result in a touchdown on the runway in cases of a go-around initiated from a very low altitude, e.g. such as to simulate failures or loss of visual reference prior to touchdown.

17.3.3.7 The flight training programme shall provide practice in handling system faults, particularly those which have an effect on the operating minima and/or subsequent conduct of the operation. However, the frequency of system malfunctions introduced shall not be such so as to undermine the confidence of flight crews in the overall integrity and reliability of the systems used in low minima operations.

17.3.3.8 In conjunction with normal pilot proficiency checks at regular intervals, a pilot shall demonstrate the knowledge and ability necessary to perform the tasks associated with the authorized category of operation. The use of an approved FSTD for recurrent training, proficiency checking and renewal of authorizations is mandatory.

17.3.3.9 Air operators shall ensure that pilots use procedures developed for Category II or III operations during normal service, regardless of the weather conditions, when the necessary ground facilities are available and traffic conditions permit. This practice ensures flight crew familiarity with the procedures, builds confidence with the equipment and ensures appropriate maintenance of the Category II and III related systems.

17.3.3.9 When a flight crew member becomes fully qualified for Category II or III operations, the operator shall document these qualifications by either an endorsement in the pilot logbook or the issuance of a qualification card which shall contain evidence of recurrent checks.

#### **17.4 SPECIFIC APPROVAL REQUIREMENTS LOW VISIBILITY TAKE-OFF**

17.4.1 Take-off minima are usually stated as visibility or RVR limits. Where there is a specific need to see and avoid obstacles on departure, take-off minima may include cloud base limits. Where avoidance of such obstacles may be accomplished by alternate procedural means, such as use of climb gradients or specified departure paths, cloud base restrictions need not be applied.

17.4.2 While the State of the Aerodrome may establish standard take-off minima, low visibility take-off (LVTO) minima may also be established for aerodromes based on the availability of specified facilities and aerodrome procedures. [State CAA] may authorize the use of LVTO minima based on the following factors:

- a) flight characteristics and cockpit instrumentation typical of multi-engine turbine aircraft;
- b) comprehensive programmes for crew qualification which address use of the specified minima;
- c) comprehensive programmes for airworthiness, with any necessary equipment operational (MEL);
- d) availability of specified facilities for the respective minima, including programmes for assurance of the necessary reliability and integrity;
- e) availability of air traffic services to ensure separation of aircraft and timely and accurate provision of weather, NOTAM and other safety information;
- f) standard runway and airport configurations, obstruction clearance, surrounding terrain, and other characteristics typical of major facilities serving scheduled international operations;
- g) routine low visibility weather conditions (e.g. fog, precipitation, haze, wind components) which do not require special consideration; and

h) availability of alternate courses of action in the event of emergency situations.

17.4.3 Air operators requesting authorization for LVTO at aerodromes where these may be available may make application to [State CAA]. The application will be approved provided the air operator can adequately demonstrate that each of the factors outlined above has been addressed.

17.4.4 The air operator may be authorized to the LVTO minima outlined in 17.4.5 below provided these minima are authorized by the State of the Aerodrome for that particular aerodrome.

17.4.5 Approved take-off minima for commercial air transport aeroplanes:

FACILITIES	RVR/VIS <sup>1</sup>
Adequate visual reference (day only) <sup>2</sup>	500 m/1 600 ft
Runway edge lights or runway centre line markings <sup>3</sup>	400 m/1 200 ft
Runway edge lights and runway centre line markings <sup>3</sup>	300 m/1 000 ft
Runway edge lights and runway centre line lights	200 m/600 ft
Runway edge lights and runway centre line lights and relevant RVR information <sup>4</sup>	TDZ 150 m/500 ft MID 150 m/500 ft Stop-end 150
High intensity runway edge lights and runway centre line lights (spacing 15 m or less) and relevant RVR information <sup>4</sup>	TDZ 125 m/400 ft MID 125 m/400 ft Stop-end 125
High intensity runway edge lights and runway centre line lights (spacing 15 m or less), approved lateral guidance system and relevant RVR information <sup>4</sup>	TDZ 75 m/300 ft MID 75 m/300 ft Stop-end 75 m/300

<sup>1</sup> The TDZ RVR/VIS may be assessed by the pilot.

<sup>2</sup> Adequate visual reference means that a pilot is able to continuously identify the take-off surface and maintain directional control.

<sup>3</sup> For night operations at least runway edge lights or centre line lights and runway end lights are available.

<sup>4</sup> The required RVR is achieved for all relevant RVRs.

17.4.5 Take-off minima, which are relevant to the take-off manoeuvre itself, should not be confused with weather minima required for flight initiation. For flight initiation, departure weather minima at an aerodrome shall not be less than the applicable minima for landing at that aerodrome unless a suitable take-off alternate aerodrome is available. The take-off alternate aerodrome shall be located within the following distances of the aerodrome of departure:

- a) aeroplanes with two engines: one hour of flight time at a one-engine-inoperative cruising speed, determined from the aircraft operating manual, calculated in ISA and still-air conditions using the actual take-off mass; or

- b) aeroplanes with three or more engines: two hours of flight time at an all-engine operating cruising speed, determined from the aircraft operating manual, calculated in ISA and still-air conditions using the actual take-off mass; or
- c) aeroplanes engaged in extended diversion time operations (EDTO): where an alternate aerodrome meeting the distance criteria of a) or b) is not available, the first available alternate aerodrome located within the distance of the operator's approved maximum diversion time considering the actual take-off mass.

## **17.5 ISSUANCE OF OPERATIONS SPECIFICATION**

17.5.1 Operations and airworthiness inspectors will review the air operator's submission utilizing Job Aid – Low Visibility Operations. Once all requirements of this chapter have been met for the authorization requested, inspectors shall authorize the operations through the issue of operations specifications for low visibility operations. The operations specification will include the applicable precision approach category (CAT II, IIIA, or IIIB) and minimum RVR in metres and decision height in feet. For low visibility take-off the operations specification will include the approved minimum take-off RVR in metres.

Attachment

Job Aid – Low Visibility Operations				
SUBJECT	FOI OR AWI SIGNATURE (AS APPLICABLE)	DATE SUBMITTED	DATE APPROVED/ACCEPTED	REFERENCE DOCUMENT
<b>A. Low Visibility Take-off (LVTO)</b>				
1. Air operator training programme				
2. LVTO procedures				
3. Pilot proficiency check to include LVTO				
4. LVTO Operations Specification Issued				
<b>B. CAT II</b>				
1. Aircraft instruments and equipment				
2. Maintenance programme				
3. Reporting System and proving				
4. Operating procedures				
5. Flight crew training and proficiency check				
<b>C. CAT III</b>				
1. Aircraft instruments and equipment				
2. Maintenance programme				
3. Reporting System and proving				
4. Operating procedures				
5. Flight Crew training and proficiency check				
<b>Remarks:</b>				
<b>Acknowledgement/signature</b> (as applicable)				
Date:				
		Flight Operations Inspector (FOI)		Airworthiness Inspector (AWI)

## **Chapter 18**

### **DESIGNATED EXAMINER APPROVAL**

*[Note to States.— Many States may have established a separate manual/handbook for the designation of examiners. If this is the case in your State, then this chapter should be deleted and replaced with a cross-referencing to this manual/handbook.]*

#### **18.1 BACKGROUND AND OBJECTIVES**

18.1.1 [State regulations] permit [State CAA] to approve air operator's personnel as designated examiners to conduct type rating, pilot proficiency/instrument rating and line checks. The designated examiner will be approved in writing once they have completed the examiner training course and have demonstrated, initially and at least biennially to an [State CAA] inspector, the ability to conduct a check for which he or she is approved.

18.1.2 The designated examiner programme has been instituted to allow an operator to develop and maintain a programme of flight crew checks independent of the availability of inspectors. Examiners must, however, be constantly aware that they perform their checking duties as delegates of the [State CAA] under the [State regulations]. The number of examiners and their conduct of checks are closely monitored by and at the option of [State CAA].

18.1.3 All designated examiners are held to be in a "perceived conflict of interest" in that they are simultaneously employees of the company and delegates of the [State CAA] when performing their checking duties. To avoid a real conflict of interest, it is imperative that designated examiners strictly adhere to the policy and guidelines contained in this chapter. Lack of adherence to these policies and procedures may result in a suspension or cancellation of an examiner delegation. The final authority for deciding whether there is any conflict of interest which might affect the examiner's ability to conduct checks in an impartial manner rests with the issuing authority.

#### **18.2 ELIGIBILITY REQUIREMENTS FOR DESIGNATED EXAMINER**

18.2.1 Operator personnel who are to serve as designated examiners must meet the following requirements:

- a) hold the required certificate and ratings to serve as a PIC of the specific aircraft in revenue service and have 1,000 hours on type;

*Note.— The hours on type may be reduced for introduction of a new aircraft type.*

- b) have completed the operator's approved designated examiner qualification training programme;
- c) meet the training and currency requirements to serve as PIC, including ground and flight training, proficiency check and 90-day landing currency;
- d) maintain line currency as a crew member in the position(s) for which checks are authorized;
- e) personal ability and integrity should be exemplary and their requirement for the prescribed standard of performance from flight crew being tested should not be in doubt; and



- f) satisfactorily demonstrate to the [State CAA] the ability to conduct the category of checks for which he/she seeks approval.

### **18.3 CLASSIFICATION OF DESIGNATED EXAMINER**

18.3.1 Designated examiners may be approved to conduct type rating, pilot proficiency/instrument rating checks or they may be approved to conduct line checks. Approval for each examiner pilot 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 approved examiner pilot training programme for the specific designation and having demonstrated to the [State CAA] the ability to conduct and accurately evaluate a pilot's performance on the checks authorized for that designation.

18.3.1.1 **Designated examiner pilot proficiency.** This designation authorizes the examiner to conduct type rating, pilot proficiency checks and instrument rating checks from either seat; supervise the re-establishment of landing currency; and conduct special checks such as CAT II or CAT III qualifications in either the aircraft or a flight simulation training device approved for the purpose.

18.3.1.2 **Designated examiner line.** This designation permits the examiner to conduct annual pilot line checks from either pilot seat or the jump-seat; to act as a supervisory pilot from either seat for route training/qualification of new line pilots and to conduct training and checks in special operations, provided the examiner is qualified in the activity being conducted.

*Note.— Examiners may be approved to hold both types of examiner designations.*

### **18.4 DESIGNATED EXAMINER APPROVAL PROCESS**

The following process will be followed for [State CAA] approval of designated examiners:

18.4.1 The operator will submit a letter requesting a specific examiner designation for the proposed candidate. This letter will include a brief resume of the pilot's background and experience and copies of his license(s) and medical assessment (a licence and medical assessment are not required for examiner duties restricted to FSTDs). Copies of training records which document that the prospective examiner has completed the operator's approved courses of training for examiner duties must also be included.

18.4.2 The [State CAA] will review the letter of request and attached documentation to ensure that the prospective examiner meets all applicable requirements. Following this review, the applicant will be interviewed to ensure that he has an understanding of the duties of an examiner and the proper attitude to carry out those duties.

18.4.3 Following a successful document review and interview, the prospective examiner will be observed conducting the entire type of check or checks for which he seeks approval.

18.4.4 Provided that steps 18.4.1 through 18.4.3 above are satisfactorily accomplished, the pilot will be issued an approval letter which contains the following information:

- a) examiner name and licence number, if applicable;
- b) specified examiner designation(s);

- c) specified aircraft type designation;
- d) operator or operators for which the examiner may conduct the required checks; and
- e) effective date of designation and expiry date.

18.4.5 In the event that the prospective examiner is not found to be satisfactory during any of steps above, the [State CAA] will write a letter to the operator explaining the reason for the disapproval.

## **18.5 CONDUCT OF AN EXAMINER EVALUATION**

18.5.1 The purpose of the examiner evaluation is to ensure that the candidate has achieved the required skills for briefing, evaluating and debriefing the pilot being checked. An examiner evaluation does not normally entail an evaluation of the candidate's proficiency in the basic crew position. An operator should not request designation of an individual as an examiner when there is any question about the candidate's skills in the basic crew position. Should the [State CAA] inspector have reason to question the pilot's basic qualifications, the examiner evaluation shall not be conducted until the candidate's qualifications are definitely and thoroughly verified and accepted. An acceptable means of establishing the candidate's basic qualifications is for an inspector to conduct a proficiency or line check of the examiner candidate on a separate occasion before the examiner evaluation. Such checks, however, are not routinely required.

18.5.2 The following general guidance applies to all examiner evaluations:

- a) Inspectors assigned to conduct examiner evaluations would normally be familiar with the aircraft type and must become thoroughly familiar with the operator's methods and procedures. Inspectors shall also be familiar with the regulatory requirements for the check to be conducted by the examiner candidate. This familiarity is necessary if the inspector is to make a determination as to whether or not the examiner has the ability to conduct a check consistent with the operator's approved procedures and regulatory requirements.
- b) An inspector conducting an examiner evaluation must arrange to meet with the 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 examiner designation. During the briefing, the inspector shall also ask questions of the candidate to determine if the candidate has a thorough knowledge and understanding of applicable [State CAA] regulations, operator policies, methods and procedures, and of the actions to be taken when acceptable standards are not met. Inspectors should not ask questions of this nature while the check is actually being conducted.
- c) While the check is in progress, the inspector must observe, but should not interrupt or interfere with the techniques and actions taken by the 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 flight crew must be accurate, complete and constructive.

*Note.— Check requirements are outlined in [State regulation, Part XX or AC-XX].*

- d) If the inspector determines that an examiner candidate does qualify for the requested examiner designation, the inspector shall inform the candidate that a recommendation of approval will be reported to [State CAA]. In this case, the examiner candidate shall complete the necessary records

and the inspector shall certify to the proficiency of the pilot being given the check. An approval letter as outlined in 18.4.4 will subsequently be issued.

- e) If the inspector determines a candidate does not qualify for the requested examiner designation, the inspector shall inform the candidate of the unsatisfactory performance and of not being approved as an examiner. In this case, the inspector must determine whether the pilot that received the check performed satisfactorily, and must certify to the proficiency of the pilot who was checked for the purpose of examiner evaluation (satisfactory or otherwise) and complete the necessary records. The operator shall be informed by letter of the reason for the disapproval.
- f) The Designated Examiner Monitor Report at the end of this chapter will be utilized and completed by the inspector. A copy of the check report form will be attached to the monitor report.

## **18.6 PERIODIC RENEWAL OF EXAMINER DESIGNATIONS**

18.6.1 Inspectors shall monitor the activities of each examiner to ensure:

- a) reports are complete, accurate and meaningful;
- b) checks cover the required sequences;
- c) conduct of checks is fair and in conformance with the standards and procedures described in this chapter;
- d) examiner is acting within the limits of the authority.

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

18.6.2.1 At least one month prior to the expiration date of a particular designation, the operator must submit to the [State CAA] 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 examiner has conducted during the preceding 12 months, along with a copy of the examiner current licence(s) and medical assessment (a current licence and medical assessment are not required for examiner duties restricted to FSTDs). The letter should also advise the [State CAA] as to when the 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.

18.6.2.2 The [State CAA] will review the letter and attached documentation, giving particular attention to the number of checks which the examiner has conducted within the designation sought over the previous year. This is to ensure that he is being well-utilized by the operator so as to justify his continued designation.

18.6.2.3 Following a satisfactory review of the documents, the [State CAA] will schedule an inspector to observe the examiner conduct the type of check for which renewal is sought.

18.6.2.4 Provided that the evaluation of the examiner's performance was found to continue to be satisfactory, an updated examiner letter of approval will be sent to the operator.

18.6.2.5 If the renewal evaluation of the examiner's performance is found to be unsatisfactory for any reason, the 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 examiner designation, the [State CAA] inspector must then approve or disapprove the actual check which was in progress for the purpose of evaluating the examiner.

18.7 Training center or aircraft manufacturer's examiners may be authorized by the [State CAA] to conduct required checks as an examiner or checks/monitoring on behalf of the [State CAA]. The authority may be granted on a one-time basis or a continuing basis. The checks are required to be undertaken in accordance with [State regulations] and this chapter. Requirements of this chapter must be met although the [State CAA] may give recognition for experience and/or training that is at least equivalent to the requirements outlined here.

Attachment

**DESIGNATED EXAMINER MONITORING REPORT**

<input type="checkbox"/>	Pilot proficiency check
<input type="checkbox"/>	Instrument rating check
<input type="checkbox"/>	Line check monitor

Date:	
Flight time:	
Aircraft type:	
Registration/FSTD:	

<b>Operator Examiner Pilot:</b>		<b>Licence (if applicable):</b>		<b>Medical valid until (if applicable):</b>	
<b>Company:</b>		<b>Base:</b>		<b>Candidate:</b>	
<b>Inspector:</b>		<b>Candidate:</b>		<b>Licence:</b>	
<b>MARKING GUIDE:</b>	S = Satisfactory U = Unsatisfactory		SB = Satisfactory with briefing	NA = Not applicable	N/O = Not observed
<b>Comments required for each "SB" and "U" assessment</b>					
<b>PRE-FLIGHT BRIEFING</b>	a) Content Adequacy		Comments:		
	b) Clarity				
	c) Rapport with candidate				
<b>SCOPE OF FLIGHT</b>	a) Use of questions		Comments:		
	b) Required items covered				
	c) Relative to briefing				
<b>CONDUCT OF FLIGHT CHECK</b>	a) Standard procedures		Comments:		
	b) Relative to briefing				
	c) Rapport with candidate				
<b>POST FLIGHT BRIEFING</b>	a) Content adequacy		Comments:		
	b) Relative to flight check				

	c) Coverage – Errors/weaknesses		
<b>FLIGHT CHECK REPORT</b>	a) Coverage – Errors/weaknesses		Comments:
	b) Content – General		
	c) Assessment – Validity		
<b>GENERAL COMMENTS:</b>			<b>GENERAL ASSESSMENT:</b>
			S      SB      U
			Inspector's signature

## **Chapter 19**

### **TRANSPORTATION OF DANGEROUS GOODS APPROVALS**

#### **19.1 BACKGROUND AND OBJECTIVES**

19.1.1 [State regulations, Part XX] require that air operators need to be authorized by [State CAA] to carry dangerous goods. In addition, [State regulations] require that the carriage of dangerous goods be in accordance with the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) issued by ICAO and with any variations to those instructions that [State CAA] may mandate.

19.1.2 While the requirements for air operators to be authorized to carry dangerous goods are extensive, air operators which do not carry dangerous goods are also required by [State Civil Aviation regulations] to meet certain requirements.

#### **19.2 INSPECTION PRACTICES AND PROCEDURES**

##### **19.2.1 Air operators not authorized to transport dangerous goods as cargo**

19.2.1.1 Air operators not transporting dangerous goods are required by [State regulations] to:

- a) establish an approved dangerous goods training programme that meets the requirements of [State regulations Part XX];
- b) establish dangerous goods policies and procedures in its operations manual which would allow the operator's personnel to:
  - 1) identify, reject and report undeclared dangerous goods, including company material (COMAT) classified as dangerous goods within 72 hours of the discovery; and
  - 2) report dangerous goods accidents and incidents to the [State CAA] and the State in which the accident or incident occurred within 72 hours of the discovery.

19.2.1.2 The training programme as outlined in 19.2.1.1 shall ensure that:

- a) staff who are engaged in general cargo handling have received training to carry out their duties in respect of dangerous goods which covers, as a minimum, the areas identified in Column I of Table 19-1 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and how to identify such goods; and
- b) crew members, passenger handling staff and security staff employed by the air operator who deal with the screening of a passengers and their baggage have received training which covers, as a minimum, the areas identified in Column 2 of Table 1 to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify them and what requirements apply to the carriage of such goods by passengers.

<b>AREAS OF DANGEROUS GOODS TRAINING</b>	<b>1</b>	<b>2</b>
General philosophy	X	X
Limitations on dangerous goods in air transport	X	X
Package marking and labelling	X	X
Dangerous goods in passenger baggage		X
Emergency procedures		X

*Table 19-1.*

**19.2.2 Operators authorized to transport dangerous goods as cargo**

19.2.3.1 The requirements for the initial approval and continuing safety oversight of air operators authorized to carry dangerous goods are extensive. Therefore, the [insert name of the Dangerous Goods Inspector Handbook] has been established as a separate handbook and the procedures and job aids/checklist in this document will be utilized by [State CAA] inspectors for the approval and oversight of air operators who may wish to carry dangerous goods.

*[Note to States.— Many air operators may not wish to carry dangerous goods due to the costs incurred for training of staff. If air operators in your State do not carry dangerous goods, there is no need then to develop the separate handbook mentioned above.]*



## **Chapter 20**

### **REDUCED VERTICAL SEPARATION MINIMA (RVSM) OPERATOR APPROVAL**

#### **20.1 BACKGROUND AND OBJECTIVE**

20.1.1 [State regulations, Part XX...] prohibits the operation of an aircraft within RVSM airspace unless authorization has been received from [State CAA]. The [State regulations] prescribe the requirements that must be met prior to issuing such authorization. Further guidance to operators is provided in [insert if applicable State Advisory Circular or Directive].

20.1.2 RVSM refers to a vertical separation minimum of 300 m (1 000 ft) between FL 290 and FL 410 inclusive. This chapter provides guidance for evaluating an application by an operator to conduct flights in airspace where RVSM is applied and, once applicable requirements are met, for issuing operations specifications. Guidance is also provided on the on-going monitoring of the RVSM approval such as reports from incidents and from the Regional Monitoring Agency (RMA).

#### **20.2 RVSM APPROVAL GENERAL**

20.2.1 Where RVSM is applied for, the specific aircraft type or types that the operator intends to use will need to be approved by [State CAA]. RVSM approval will encompass the following elements:

- a) *airworthiness approval (including continued airworthiness)*. Airworthiness inspectors shall ensure the aircraft is approved as meeting the requirements for operation in RVSM airspace and that the aircraft altimetry and height-keeping equipment is maintained in accordance with approved procedures and servicing schedules; and
- b) *operational approval*. Air operators will be required to establish procedures for operations in RVSM airspace and incorporate these procedures into their training programme for flight crew.

20.2.2 RVSM approval issued for one region is valid globally provided that operating procedures specific to a given region are outlined in the operations manual. If the air operator wishes to conduct RVSM flights outside of [insert ICAO region of State], they shall ensure that information for RVSM procedures in other applicable regions is made available to flight crews.

20.2.3 [State CAA, XXXX Division] shall be responsible for confirmation of the approval status of an aircraft/operator and shall apply the following measures:

- a) maintaining a comprehensive record of all approvals granted for operations in RVSM airspace for each registered aircraft;
- b) providing the approvals records in 20.2.3, a) to the Regional Monitoring Agency (RMA) for inclusion in its regional RVSM-approvals database;
- c) reviewing the RVSM approval status of aircraft/operators when conducting routine inflight cockpit inspections; and
- d) reviewing the RVSM approval status of aircraft identified in reports received from the RMA as not complying with required height-keeping performance or having had damage that may affect the height-keeping performance.

20.2.4 All approvals will be applicable to an individual aircraft or to a group of aircraft, as defined in 20.2.5, that are nominally identical in aerodynamic design and items of equipment contributing to height-keeping accuracy.

20.2.5 For aircraft to be considered as part of a group for the purposes of airworthiness approval, the following conditions shall be satisfied:

- a) the aircraft shall have been constructed to a nominally identical design and shall be approved on the same Type Certificate (TC), TC amendment or Supplemental TC, as applicable;
- b) the static system of each aircraft shall be nominally identical. The static source error (SSE) corrections shall be the same for all aircraft of the group; and
- c) the avionics units installed on each aircraft to meet the minimum RVSM equipment criteria shall comply with the manufacturer's same specification and have the same part number.

*Note.— Aircraft that have avionics units which are of a different manufacturer or part number may be considered part of the group if it can be demonstrated that this standard of avionics equipment provides equivalent system performance.*

### **20.3 CONTENT OF THE OPERATOR'S RVSM APPLICATION**

20.3.1 The following information is required to be provided to the [State CAA] by an air operator applying for RVSM approval at least 60 days prior to the intended start of RVSM operations.

- a) *Airworthiness documents and a maintenance programme.* The applicant shall provide documentation to confirm that each aircraft is certificated for RVSM operations. An RVSM maintenance programme shall be submitted to [State CAA] for approval.
- b) *Description of aircraft equipment.* The applicant shall provide a configuration list that details all components and equipment relevant to RVSM operations.
- c) *Operations manuals and checklist.* The appropriate manuals and checklists shall be revised to include information/guidance on standard operating procedures as outlined in Chapter 4, Section 4.2 of the ICAO's *Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive* (Doc 9574).
- d) *Operations training programmes.* The air operator shall submit training syllabi to [State CAA] to show that the RVSM operating and contingency procedures, and any items related to RVSM operations are incorporated in initial and, where warranted, recurrent training programmes. Training for flight dispatchers shall also be included if the operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel.

*Note.— Certain items may already be adequately standardized in existing operator training programmes and operating practices. If this is found to be the case, then the intent of this 20.3.1 c) and d) can be considered to be met.*

- e) *Minimum equipment list (MEL).* A MEL amendment to include items pertinent to operating in RVSM airspace. *Note.— The MEL may already include this information.*

- f) *Plan for participation in monitoring programmes.* The operator shall provide a plan for participation in the regional monitoring programme.

## **20.4 MONITORING PROGRAMMES**

20.4.1 As outlined in [State regulation Part XX], a programme to monitor or verify aircraft height-keeping performance is a necessary element of RVSM approval. Monitoring programmes have the primary objective of observing and evaluating aircraft height-keeping performance to validate crew procedures, aircraft performance and maintenance procedures. Each aircraft or group of aircraft is required to conduct height-keeping performance monitoring as soon as possible, but no later than six months after receiving the approval. Subsequently, a minimum of two aeroplanes of each aircraft type grouping of the operator will have their height-keeping performance monitored, at least once every two years or within intervals of 1 000 flight hours per aeroplane, whichever period is longer. If an operator aircraft type grouping consists of a single aeroplane, monitoring of that aeroplane shall be accomplished within the specified period.

20.4.2 The Regional Monitoring Agency will provide other information concerning aircraft grouping and monitoring requirements.

## **20.5 ISSUANCE OF OPERATIONS SPECIFICATION**

20.5.1 Operations and airworthiness inspectors will review the air operator's submission utilizing Job Aid RVSM-001. If all requirements have been met the operations specification for RVSM shall be issued. In the operations specification specific approval column, list the aircraft group or specific aircraft type as applicable.

20.5.2 [State CAA] shall provide the Regional Monitoring Agency with information concerning the aircraft RVSM approval by completion of the Record of Approval to Operate in RVSM Airspace form (available on the Regional Monitoring Agency website [www.xxxx.xxx.xx]). [State CAA] operations inspectors will follow-up to ensure that within six months the height-keeping performance monitoring requirements have been completed by the air operator and subsequently as outlined in 20.4.1 above.

## **20.6 REMOVAL OF RVSM APPROVAL**

20.6.1 The operator shall report any altitude errors when operating in RVSM airspace to the [State CAA] within 72 hours with initial analysis of causal factors and measures to prevent further events. Errors that shall be reported and investigated are any vertical deviation equal to or greater than 90 m (300 ft), for any reason, from cleared levels whether the deviation causes an incident or not.

20.6.2 Height-keeping errors fall into two broad categories: errors caused by malfunction of aircraft equipment and operational errors. An operator who consistently commits errors of either variety may lose its approval for RVSM operations. If a problem is identified that is related to one specific aircraft, then RVSM approval may be removed from the operator for that specific aircraft.

**20.7 ENFORCEMENT**

20.7.1 Where [State CAA] is advised that an air operator has operated in RSVM airspace without approval, enforcement action will be taken in accordance with [Part X of the Civil Aviation Regulations] and [State CAA] enforcement policy.

Attachment

Job Aid RVSM-001				
SUBJECT	FOI OR AWI SIGNATURE (AS APPLICABLE)	DATE SUBMITTED	DATE APPROVED/ACCEPTED	REFERENCE DOCUMENT
<b>A. Airworthiness documentation review</b>				
1. Aircraft or group of aircraft certified for RVSM and inspected as required				
2. Maintenance programme for RVSM				
3. List of RVSM Equipment and Components				
4. Review of MEL				
<b>B. Operations Documentation Review</b>				
1. Operations manuals and checklists appropriate for RVSM				
2. For operators conducting RVSM flights outside the [insert region of State] operational procedures for other applicable regions are made available to flight crew in the operations manual				
3. Initial and recurrent RVSM training programme for flight crew				
4. RVSM training provided to flight crews				
5. RVSM flight dispatcher training programme (if applicable)				
6. RVSM training provided to flight dispatchers (if applicable)				
7. MEL appropriate for RVSM operations				
8. Procedures established by operator for reporting altitude errors				
9. Operations specifications include RVSM approval				
10. RMA provided with information concerning the aircraft approval				
11. Plan for participation in height-keeping performance monitoring (HKPM)				
12. If HKPM not completed within six months from the approval date, then operations specification for RVSM to be withdrawn				
<b>Remarks:</b>				
<b>Acknowledgement/signature</b> (as applicable)				
Project Manager (PM) (if applicable)		Flight Operations Inspector (FOI)		Airworthiness Inspector (AWI)

## **Chapter 21**

### **EXTENDED DIVERSION TIME OPERATIONS (EDTO)**

#### **21.1 BACKGROUND AND OBJECTIVES**

21.1.1 [State Regulations] require an operator to be specifically approved by [ State CAA] when it operates, an aeroplane(s) with two or more turbine engines on a route(s) where the diversion time to an en-route alternate aerodrome from any point on the route is beyond a distance expressed as a threshold time established by [State regulations] and must remain within a distance expressed as a maximum diversion time established by the [State CAA].

21.1.1.1 The conversion to distance for threshold times and maximum diversion times are calculated in international standard atmosphere (ISA) and still-air conditions at the one-engine-inoperative cruise speed for aeroplanes with two turbine engines and at the all engines operating cruise speed for aeroplanes with more than two turbine engines.

21.1.2 In order to be approved to conduct operations beyond the threshold distance as outlined in 21.1.1, the air operator shall meet the following requirements.

##### **21.1.2.1 Aeroplanes**

- a) For all aeroplanes:
  - i) the most limiting EDTO significant system time limitation, if any indicated in the aeroplane flight manual (directly or by reference) and relevant to that particular operation is not exceeded; and
  - ii) the additional fuel required by [State regulation, sub-section XX] shall include the fuel necessary to comply with the EDTO critical fuel scenario as established by [State CAA].
- b) For aeroplanes with two turbine engines, the aeroplane is EDTO certified and the following has been verified:
  - i) reliability of the propulsion system;
  - ii) airworthiness certification for EDTO of the aeroplane type; and
  - iii) EDTO maintenance programme.

21.1.2.2 A safety risk assessment has been completed which demonstrates how an equivalent level of safety will be maintained, taking into account the following:

- a) capabilities of the operator;
- b) overall reliability of the aeroplane;
- c) reliability of each time limited system;
- d) relevant information from the aeroplane manufacturer; and

- e) specific mitigation measures.

*Note 1.— EDTO may be referred to as ETOPS in some documents.*

*Note 2.— The new provisions for EDTO are based on best practices and lessons learned from extended range operations by twin-engined aeroplanes (ETOPS) to ensure that all operators and new entrants operate at the same level of safety in order to maintain the current track record of long-range operations. The EDTO requirements established by ICAO through Amendment 36 to Annex 6 are being implemented through amendment to [State regulation]. Guidance material to establish an acceptable means of compliance for implementation of these requirements will be developed at a later date.*

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**VOLUME III — AIRWORTHINESS DEMONSTRATIONS,  
INSPECTIONS, APPROVALS AND**



## **Chapter 1**

### **GENERAL**

1.1 [State CAA] exercises the necessary control of its air operators through the issuance of an Air Operator Certificate (AOC). The award of an AOC constitutes certification by [State CAA] that specified operations as authorized are in compliance with [State regulations].

1.2 A major consideration in the airworthiness review during the AOC certification process is the determination of the capability of the applicant to adequately maintain its aircraft in an airworthy condition. [State CAA] shall conduct detailed evaluation and inspection of the applicant's maintenance organization, maintenance control manual, maintenance programme, staffing, facilities, training and ability to carry out day-to-day operations. The airworthiness inspections and evaluations shall be carried out by qualified airworthiness inspectors under the overall coordination of an inspector in charge of the certification team of the air operator.

1.3 Some inspections and evaluations in the AOC certification process may require airworthiness and flight operations inspectors to work together. All findings or discrepancies noted during the inspections and evaluations must be notified to the applicant in writing. The applicant shall address all findings and discrepancies to the satisfaction of [State CAA] before the issue of the AOC.

1.4 Operators may have an Approved Maintenance Organization (AMO) as part of their organization or the maintenance of its aircraft may be contracted to an AMO approved for the purpose. In issuing the AOC, [State CAA] will have to be satisfied as to the actions in granting the approval of the maintenance organization, maintenance programme and setting the standards for the continuing airworthiness of the operator's aircraft. *[For States which have ratified Article 83 bis, the State of Registry may transfer some or all of its responsibilities for the airworthiness aspects.]*

1.5 In making the maintenance arrangements, the applicant is required to demonstrate and ensure that the aircraft and its operation are maintained in an airworthy condition. An aircraft should not be operated unless it is maintained and released to service by an AMO or under an equivalent system acceptable to the [State CAA].

1.6 [State CAA] shall conduct a detailed evaluation and inspection of the applicant's maintenance organization, maintenance control manual, maintenance programme, staffing, facilities, training and ability to carry out day-to-day operations. The maintenance inspections and evaluations shall be carried out by qualified airworthiness inspectors under the overall coordination of an inspector in charge of the certification team of the potential air operator.

1.7 Subsequent to the issuance of an AOC, [State CAA] will continue to monitor the operation through a systematic programme of safety oversight inspections.

## **Chapter 2**

### **MAINTENANCE CONTROL MANUAL**

#### **2.1 GENERAL**

2.1.1 [State CAA] shall [accept / approve] the operator's maintenance control manual (MCM) as required in [State Regulation]. The MCM sets out the applicant's intentions and procedures with regard to maintaining the airworthiness its aircraft during its operational life. This applies whether or not the applicant for an AOC also intends to apply for approval as an AMO or intends to contract out maintenance to an AMO.

2.1.2 The MCM, which may be issued in separate parts, shall be provided for use and guidance for maintenance and operational personnel as applicable. The operator is accountable for the manual and is required to ensure that it is amended and revised as necessary. This is achieved by means of establishing a revision control system and ensuring that copies of any changes made be distributed to all holders of the manual. The design of the manual shall observe human factor principles including the proper use of written language, size of fonts and proper layout, use of diagrams, tables and charts where applicable. The manual shall contain the information described in 2.3 below.

#### **2.2 REFERENCES**

The following references apply to this procedure:

- a) [State Regulations] (specific)
- b) Other corresponding State Regulations / standards / requirements

#### **2.3 CONTENTS OF THE MAINTENANCE CONTROL MANUAL**

2.3.1 [State Regulation] requires that the operator's maintenance control manual contain, at a minimum, the following information:

- a) a description of the procedures including, when applicable:
  - i) a description of the administrative arrangements, including a contract, between the operator and the approved maintenance organization;
  - ii) a description of the maintenance procedures and the procedures for completing and signing a maintenance release when maintenance is based on a system other than that of an approved maintenance organization.;
- b) names and duties of the person or persons required that will ensure that all maintenance is carried out in accordance with the maintenance control manual;
- c) a reference to the maintenance programme approved by [State CAA];

- d) a description of the methods used for the completion and retention of the operator's maintenance records. The operator shall ensure that the following records are kept for the periods mentioned:
- i) the total time in service (hours, calendar time and cycles, as appropriate) of the aeroplane and all life-limited components;
  - ii) the current status of compliance with all mandatory continuing airworthiness information;
  - iii) appropriate details of modifications and repairs;
  - iv) the time in service (hours, calendar time and cycles, as appropriate) since the last overhaul of the aircraft or its components subject to a mandatory overhaul life;
  - v) the current status of the aircraft's compliance with the maintenance programme; and
  - vi) the detailed maintenance records to show that all requirements for the signing of a maintenance release have been met.

The records in i) to v) shall be kept for a minimum period of 90 days after the unit to which they refer has been permanently withdrawn from service, and the records in vi) for a minimum period of one year after the signing of the maintenance release.;

- e) a description of the procedures for monitoring, assessing and reporting to the organization responsible for the type design maintenance and operational experience information on faults, malfunctions, defects and other occurrences that cause or might cause adverse effects on the continuing airworthiness of the aircraft\*
- f) a description of the procedures for service information reporting to [State CAA]\*;
- g) a description of procedures for assessing continuing airworthiness information received from the organization responsible for the type design maintenance and implementing any resulting actions\*;
- h) a description of the procedures for implementing action resulting from mandatory continuing airworthiness information;
- i) a description of establishing and maintaining a system of analysis and continued monitoring of the performance and efficiency of the maintenance programme, in order to correct any deficiency in that programme;

- j) a description of aircraft types and models to which the manual applies; and
- k) a description of procedures for ensuring that unserviceabilities affecting airworthiness are recorded and rectified.

*\* For aircraft over 5 700kgs maximum certificated take-off mass*

## **2.4 ADMINISTRATIVE PROCEDURES**

2.4.1 The assigned airworthiness inspector (AWI) shall complete the job aid in Attachment 1 for the evaluation and approval of the MCM

2.4.2 The assigned AWI shall inform the applicant, in writing, of all discrepancies that will require follow-up. Discrepancies should be noted on Attachment 1 and forwarded to the applicant together with a cover letter (see Attachment 11).

2.4.3 All discrepancies must be addressed or actioned by the applicant to the satisfaction of the assigned AWI.

2.4.4 The MCM shall only be approved with the completion of the job aid and any discrepancy reports that were raised. The assigned AWI will inform the applicant in writing (See Attachment 11) when the MCM is approved

2.4.5 The completed job aid, all completed discrepancy reports, any correspondence with the applicant and any relevant documents in submitted conjunction with the application should be appropriately filed.

2.4.6 A copy of the approved MCM shall be retained by [State CAA].

## Chapter 3

### MAINTENANCE PROGRAMME

#### 3.1 GENERAL

3.1.1 [State CAA] shall approve the operator's maintenance programme for each aircraft type operated on its fleet as required by [State Regulation]. The maintenance programme should be based on information made available by the State of Design or by the organization responsible for the type design, and any additional applicable experience. The maintenance programme establishes the maintenance tasks and intervals for the aircraft, engines, propellers and parts. A reliability programme, if applicable, can be approved as part of the maintenance programme or as a separate document.

*Note: Chapter 4 of this Volume details the evaluation and approval of a reliability programme if required.*

3.1.2 The maintenance programme shall be provided for use and guidance for maintenance and operational personnel as applicable. The operator is accountable for the programme and is required to ensure that it is amended and revised as necessary. This is achieved by means of establishing a revision control system and ensuring that copies of all amendments to the maintenance programme be furnished promptly to all organizations( Operator(s) and AMO) or persons to whom the maintenance programme has been issued. The design and application of the operator's maintenance programme shall observe human factor principals including the proper use of written language, size of fonts and proper layout, use of diagrams, tables and charts where applicable. and The manual shall contain the information described in 3.3 below.

#### 3.2 REFERENCES

The following references apply to this procedure:

- a) [State Regulations] (specific)
- b) Other corresponding State Regulations / standards / requirements

#### 3.3 CONTENTS OF A MAINTENANCE PROGRAMME

3.3.1 [State Regulation] requires that the operator's maintenance programme contain, at a minimum, the following information:

- a) maintenance tasks and the intervals at which these are to be performed;
- b) a continuing structural integrity programme\* (SIP) which at least includes:
  - i) supplemental inspections;
  - ii) corrosion prevention and control;

- iii) structural modification and associated inspections;
- iv) repair assessment methodology; and
- v) widespread fatigue damage review;

*\* applicable for aeroplanes over 5 700 kg maximum certificated take-off mass*

- c) procedures for changing or deviating from a) and b) above for tasks that do not have mandatory designations from the State of Design; and
- d) when applicable, condition monitoring and reliability programme descriptions for aircraft systems, components and engines.

### **3.4 ADMINISTRATIVE PROCEDURES**

3.4.1 The assigned airworthiness inspector (AWI) shall complete the job aid in Attachment 2 for the evaluation and approval of the maintenance programme.

3.4.2 The assigned AWI shall inform the applicant, in writing, of all discrepancies that will require follow-up. Discrepancies should be noted on Attachment 2 and forwarded to the applicant together with a cover letter (see Attachment 11).

3.4.3 All discrepancies must be addressed or actioned by the applicant to the satisfaction of the assigned AWI.

3.4.4 The maintenance programme shall only be approved with the completion of the job aid and any discrepancy reports that were raised. The assigned AWI will inform the applicant in writing (see attachment 11) when the maintenance programme is approved.

3.4.5 The completed job aid, all completed discrepancy reports, any correspondence with the applicant and any relevant documents in submitted conjunction with the application should be appropriately filed.

3.4.6 A copy of the approved maintenance programme shall be retained by [State CAA].

## **Chapter 4**

### **RELIABILITY PROGRAMME**

#### **4.1 GENERAL**

4.1.1 When a maintenance programme requires a reliability programme [State CAA] shall approve the operator's reliability programme for each aircraft type operated on its fleet as required in [State Regulation]. The purpose of a reliability programme is to ensure that the aircraft maintenance programme tasks are effective and their recurrence at regular intervals are adequate. A reliability programme allows the operator to recognize, assess and act upon symptoms of deterioration before malfunction or failure occurs.

4.1.2 A reliability programme is approved as part of the maintenance programme or as a separate document (reliability manual).

#### **4.2 REFERENCES**

The following references applies to this procedure:

- a) [State Regulations] (specific)
- b) Other corresponding State Regulations / standards / requirements
- c) Applicant's maintenance programme

#### **4.3 CONTENTS OF A RELIABILITY PROGRAMME**

4.3.1 The reliability programme should contain the following elements:

- a) an organizational structure;
- b) a data collection system;
- c) a method of data analysis and display;
- d) procedures for establishing performance standards or levels;
- e) procedures for programme revision;
- f) procedures for time control; and
- g) a paragraph containing definitions of terms used in the programme.

**4.4 ADMINISTRATIVE PROCEDURES**

4.4.1 The assigned airworthiness inspector (AWI) shall complete the job aid in Attachment 3 for the evaluation of the reliability programme.

4.4.2 The assigned AWI shall inform the applicant, in writing, of all discrepancies that will require follow-up. Discrepancies should be noted on Attachment 3 and forwarded to the applicant together with a cover letter (see Attachment 11).

4.4.3 All discrepancies must be addressed or actioned by the applicant to the satisfaction of the assigned AWI.

4.4.4 The reliability programme shall only be approved with the completion of the job aid and any discrepancy reports that were raised. The assigned AWI will inform the applicant in writing (see Attachment 11) when the reliability programme is approved.

4.4.5 The completed job aid, all completed discrepancy reports, any correspondence with the applicant and any relevant documents in submitted conjunction with the application should be appropriately filed.

4.4.6 A copy of the approved reliability programme shall be retained by [State CAA].



## Chapter 5

### MAINTENANCE ARRANGEMENTS

#### 5.1 GENERAL

5.1.1 [State CAA regulations] requires that each aircraft operated is maintained in an airworthy condition. All maintenance must be performed by an approved maintenance organization (AMO) or under an equivalent system acceptable to [State CAA]. The operator may perform maintenance on its own aircraft or contract the maintenance of its aircraft to an appropriately rated AMO. Where the AMO is part of the operator's own organization, it should be subjected to the same approval procedure as for independent organizations.

5.1.2 The applicant is required to demonstrate that an organization, with the necessary qualified staff, equipment and facilities, is set-up and responsible for ensuring that the aircraft remain in an airworthy condition for the duration of their operational life.

#### 5.2 REFERENCES

The following references applies to this procedure:

- a) [State Regulations]
- b) Other corresponding State Regulations / standards / requirements
- c) Applicant's Maintenance Control Manual

#### 5.3 MAINTENANCE OF AIRCRAFT

5.3.1 The operator's maintenance control manual (MCM) shall be approved by [State CAA]. The MCM details the processes and procedures with regard to maintaining the airworthiness its aircraft during its operational life.

*Note: Chapter 2 of this Volume details the evaluation and approval of the MCM.*

5.3.2 [State regulation] requires an operator employs a person, or group of persons, to ensure that all maintenance is carried out in accordance with the MCM. This requirement should be clearly demonstrated during the inspection. It should be determined that the structure of the applicant's maintenance control organization, as detailed in the MCM, including the duties and responsibilities for all key personnel including, but not limited to the manager(s) for engineering, quality and maintenance.

## **5.4 MAINTENANCE ARRANGEMENTS**

5.4.1 If maintenance is contracted to another AMO, a written contract shall be agreed between the operator and the maintenance organization detailing the responsibilities of both parties. The technical aspects of the maintenance contract shall be acceptable to [State CAA].

5.4.2 In accepting an operator's contracted maintenance arrangement, the following minimum requirements should be satisfied:

- a) the operator, subject to contractual maintenance arrangements, will ensure each aircraft it operates is maintained in an airworthy condition;
- b) when an air operator contracts with an appropriately rated AMO, the operator should have available the names of these organizations and the scope of the work contracted;
- c) the AMO contracted to perform the maintenance should have access to the operator's currently approved maintenance programme that includes the make and model of the aircraft subject to the contract and the operator's MCM;
- d) the AMO performing maintenance should be appropriately rated and capable of performing the work contracted for, and that work should be performed in accordance with the air operator's approved MCM;
- e) the AMO should have the facilities and equipment to perform the work for which it has been contracted;
- f) The arrangements should clearly describe the operator's and AMO's responsibilities regarding the control, planning and scheduling of the maintenance tasks to be performed.

## **5.5 ADMINISTRATIVE PROCEDURES**

5.5.1 The assigned airworthiness inspector (AWI) shall complete the job aid in Attachment 4 for the evaluation and acceptance of a maintenance contract.

5.5.2 The assigned AWI shall inform the applicant, in writing, of all discrepancies that will require follow-up. Discrepancies should be noted on Attachment 4 and forwarded to the applicant together with a cover letter (see Attachment 10).

5.5.3 All discrepancies must be addressed or actioned by the applicant to the satisfaction of the assigned AWI.

5.5.4 The maintenance contract shall only be accepted with the completion of the job aid and any discrepancy reports that were raised. The assigned AWI will inform the applicant in writing (see Attachment 10) when the maintenance contract is accepted.

5.5.5 The completed job aid, all completed discrepancy reports, any correspondence with the applicant and any relevant documents submitted in conjunction with the application should be appropriately filed.

5.5.6 A copy of the accepted maintenance contract shall be retained by [State CAA].

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## **Chapter 6**

### **AIRWORTHINESS INSPECTION AND DEMONSTRATION PHASE**

#### **6.1 GENERAL**

6.1.1 The applicant is required to demonstrate to [State CAA] that an organization, with the necessary qualified staff, equipment and facilities, is set-up and will be responsible for ensuring that the aircraft remain in an airworthy condition for the duration of their operational life.

6.1.2 Demonstrations will include actual performance of airworthiness and maintenance related activities while being observed by inspectors of the certification team. [State CAA] inspectors will carry out on-site inspections of aircraft maintenance and support facilities, assessment of maintenance control and planning systems and inspection of aircraft.

6.1.3 It is understood that as new operator there will not be any data to evaluate. During these demonstrations and inspections, the [State CAA] evaluates the policies, methods, procedures and instructions as described in the manuals and other documents developed by the applicant are in place for the commencement of operations. This will include interviews with personnel to ensure that the procedures and instructions have been properly transmitted and understood.

6.1.4 The airworthiness inspector (AWI) will inform the applicant of all deficiencies observed during the demonstration in writing and ensure that all corrective actions taken to correct the deficiencies are satisfactorily accepted by [State CAA] before the AOC can be issued.

#### **6.2 REFERENCES**

The following references applies to this procedure:

- a) [State Regulations]
- b) Other corresponding State Regulations / standards / requirements

#### **6.3 AIRWORTHINESS AND MAINTENANCE RELATED INSPECTIONS**

6.3.1 The AWI will conduct on-site inspections to validate the procedures and processes described in the applicant's documents. This would require the applicant to demonstrate, to the satisfaction of the AWI, that it is capable of conducting the described activities effectively and efficiently. These would include the following:

- a) Maintenance control manual;
- b) Maintenance programme (including reliability programme);
- c) Maintenance arrangements (including maintenance contract)

6.3.2 The AWI will also conduct inspection of the aircraft the applicant intends to operate. The detailed inspections is to verify that the equipment and documentation on board the aircraft complies with [State CAA]requirements and the maintenance status of the aircraft in relation to the maintenance programme.

#### **6.4 ADMINISTRATIVE PROCEDURES**

6.4.1 The assigned airworthiness inspector (AWI) shall complete the job aid in Attachment 5.

6.4.2 The assigned AWI shall inform the applicant, in writing, of all discrepancies that will require follow-up. Discrepancies should be noted on Attachment 5 and forwarded to the applicant together with a cover letter (see Attachment 10).

6.4.3 All discrepancies must be addressed or actioned by the applicant to the satisfaction of the assigned AWI.

6.4.4 The assigned AWI, upon the applicant satisfactorily demonstrating and meeting all requirements, will inform the certification team leader in writing to recommend the issuance of the AOC.

6.4.5 The completed job aid, all completed discrepancy reports, any correspondence with the applicant and any relevant documents submitted in conjunction with the application should be appropriately filed.

## **Chapter 7**

### **AIRWORTHINESS COORDINATION OF OPERATIONS APPROVAL**

#### **7.1 GENERAL**

7.1.1 There is need for coordination between operations and airworthiness to work together to approve the following documents and special operations:

- a) Minimum equipment list (MEL)
- b) Performance based navigation (PBN)
- c) Reduced verticle separation minima (RVSM)
- d) Low visibility, Category II and Category III approach
- e) Extended diversion time operation (EDTO)

7.1.2 The flight operations inspector (FOI) is the primary [State CAA] official responsible for the overall process of administering, evaluating, and approving these documents and special operations. It is essential that the FOI work coordinates closely with the airworthiness inspector (AWI), on airworthiness matters, and other individuals or groups involved in this process prior to the approval of the documents and special operations.

7.1.3 The AWI will inform the designated FOI when the airworthiness evaluation for the respective special operations is satisfactory.

#### **7.2 MINIMUM EQUIPMENT LIST (MEL)**

*Note: The complete MEL approval procedure is described in Volume 2, Chapter 3*

##### **7.2.1 General**

7.2.1.1 [State regulations] states that a Master Minimum Equipment List (MMEL) issued by the organization responsible for the type design of an aircraft and approved by the State of Design shall be accepted as the basis for the development of a minimum equipment list (MEL). [State regulation] requires the MEL to be approved for each aircraft type operated by the operator.

7.2.1.2 An MEL is developed with procedures to allow the continued operation of an aircraft with specific items of equipment inoperative under certain circumstances. It is based mainly on the MMEL established for the aircraft type. Equipment allowed to be inoperative for flight in the MEL cannot be less restrictive than those established in the MMEL for the aircraft type.

7.2.1.3 The MEL needs to be available to flight crew, maintenance personnel and personnel responsible for operational control. The MEL also needs to include instructions for its use, including defects entry, categories, and actions to be taken (maintenance or operation) and placarding.

## 7.2.2 Approval of MEL (airworthiness aspects)

### 7.2.2.1 In the application for the approval of a MEL, the operator's MEL should:

- a) identify the minimum equipment and conditions for an aircraft to maintain conformity with the standards of airworthiness and to meet the operating rules for the type of operation;
- b) define operational procedures necessary to maintain the required level of safety and to deal with inoperative equipment; and
- c) define maintenance procedures necessary to maintain the required level of safety and procedures necessary to secure any inoperative equipment.

### 7.2.2.2 The MEL should also contain a description of how and when the MEL is to be used including procedures for:

- a) Repair interval categories application
- b) Repair interval extensions
- c) Deferral of items
- d) Placarding of unserviceable items
- e) Dispatch of aircraft

7.2.2.3 The MEL is customized from the MMEL to the operator's specific aircraft, aircraft equipment, modifications and operating environment and may be dependent upon the route structure, geographic location, and number of airports where spares and maintenance capability are available. Where the MMEL cannot address some of the variables, it uses a standard terms such as "As required by Regulations". The operator is required the applicable [State CAA] regulations to develop operations and/or maintenance procedures to be meet the requirements.

7.2.2.4 The operator shall submit a training programme for maintenance personnel on the appropriate policies and procedures in using a MEL.

*Note: The job aid to evaluate the airworthiness aspects of MEL is at Attachment 6*

## 7.3 **REDUCED VERTICAL SEPARATION MINIMA (RVSM)**

*Note: The complete RVSM approval procedure is described in Volume 2, Chapter 20*

### 7.3.1 General

[State regulations] requires that operators obtain authorization prior to conducting flights operation of an aircraft within RVSM airspace. Airworthiness inspectors shall ensure the aircraft is approved as meeting the requirements for operation in RVSM airspace and that the aircraft altimetry and height-keeping equipment is maintained in accordance with approved procedures and servicing schedules.

### 7.3.2 Approval of RVSM operations (airworthiness aspects)

7.3.2.1 The applicant shall provide documentation to confirm that each aircraft is certificated for RVSM operations.

7.3.2.2 The operator shall submit a configuration list detailing the equipment used for the RVSM operation.

7.3.2.3 All equipment required for RVSM operations shall be identified in the maintenance programme. Similarly, these equipments shall also be identified in the MEL.

7.3.2.4 A list of inspections and functional checks, together with their intervals, required for the continued altitude monitoring of the RVSM approved aircraft to be included into the maintenance programme. These RVSM maintenance requirements can usually found in the maintenance manual of aircraft type.

7.3.2.5 The operator should provide procedures for configuration control to ensure that the aircraft is appropriately equipped for RVSM operations.

7.3.2.6 The operator shall submit a training programme for maintenance personnel on the appropriate policies and procedures for RVSM operations.

*Note: The job aid to evaluate the airworthiness aspects of RVSM is at Attachment 7*

#### **7.4 PERFORMANCE BASED NAVIGATION (PBN)**

*Note: The complete PBN approval procedure is described in Volume 2, Chapter 16*

##### **7.4.1 General**

[State regulations] require an operator to obtain authorization for the conduct of PBN operations. The airworthiness inspector should ensure that each item of the radio-navigation equipment installed is of a type and design appropriate to its intended function and that the installation functions properly.

##### **7.4.2 Approval of PBN operations (airworthiness aspects)**

7.4.2.1 An aircraft is eligible for a particular PBN application provided there is clear statement in:

- a) the TC; or
- b) the STC; or
- c) the associated documentation — Aircraft flight manual or equivalent document; or
- d) a compliance statement from the manufacturer, which has been approved by the State of Design.

7.4.2.2 The operator shall submit a configuration list detailing the pertinent hardware and software components and equipment used for the PBN operation.

7.4.2.3 All equipment required for PBN operations shall be identified in the maintenance programme. Similarly, these equipments shall also be identified in the MEL.



7.4.2.4 The operator should provide maintenance procedures for configuration control to ensure that the aircraft is appropriately equipped for PBN operations.

7.4.2.5 The operator shall provide a training programme for maintenance personnel on the appropriate policies and procedures for the respective type of PBN operations.

*Note: The job aid to evaluate the airworthiness aspects of PBN is at Attachment 8*

## **7.5 LOW VISIBILITY OPERATIONS AND CATEGORY II AND III APPROACH**

*Note: The complete low visibility operations, Category II and III approach approval procedure is described in Volume 2, Chapter 17*

### **7.5.1 General**

[State regulations] require an operator to obtain authorization for the conduct of low-visibility operations.

### **7.5.2 Approval of low visibility operations and Category II and III approach (airworthiness aspects)**

7.5.2.1 The operator shall include in the application to the [State CAA] relevant pages of the aircraft flight manual, type certificate (TC), supplemental TC, TC data sheet and/or the aeroplane operations manual attesting that the aeroplane meets the relevant airworthiness requirements and performance criteria for, as applicable, low visibility operations and Category II and/or Category III operations.

7.5.2.2 The operator shall submit a configuration list detailing the pertinent hardware and software components and equipment used for the operation applied for.

7.5.2.3 The operator shall submit a list of equipment/systems that must be installed and serviceable at the commencement of a low visibility operations or a Category II or III approach.

7.5.2.4 All equipment required for low visibility operations, Category II and III approach operations shall be identified in the maintenance programme and MEL.

7.5.2.5 The operator should provide maintenance procedures for configuration control to ensure that the aircraft is appropriately equipped for low visibility operations, Category II and III approach operations.

7.5.2.6 The operator shall provide a training programme for maintenance personnel on the appropriate policies and procedures for the respective type of low visibility operations, Category II and III approach operations.

*Note: The job aid to evaluate the airworthiness aspects of low visibility operations, Category II and III approach is at Attachment 9*

## 7.6 EXTENDED DIVERSION TIME OPERATIONS (EDTO)

*Note: The complete EDTO approval procedure is described in Volume 2, Chapter 21*

### 7.6.1 General

[State regulations] requires an operator to obtain EDTO approval for any operation by an aeroplane with two or more turbine engines where the diversion time to an en-route alternate aerodrome is greater than the threshold time established by [State CAA]. The operator should ensure the required level of safety is maintained under conditions of flight for extended periods following failure of an engine and/or essential systems.

### 7.6.2 Approval of EDTO (airworthiness aspects)

7.6.2.1 The applicant should submit a safety risk assessment which demonstrates how an equivalent level of safety will be maintained, taking into account the following:

- a) capabilities of the operator;
- b) overall reliability of the aeroplane;
- c) reliability of each time limited system;
- d) relevant information from the aeroplane manufacturer; and
- e) specific mitigation measures.

7.6.2.2 For operations beyond the threshold distance, the air operator shall meet the following requirements:

- a) For all aeroplanes:
  - i) the most limiting EDTO significant system time limitation, if any indicated in the aeroplane flight manual (directly or by reference) and relevant to that particular operation is not exceeded; and
  - ii) the additional fuel required by [State regulation] shall include the fuel necessary to comply with the EDTO critical fuel scenario as established by [State CAA].
- b) For aeroplanes with two turbine engines, the aeroplane is EDTO certified and following has been verified:
  - i) reliability of the propulsion system;
  - ii) airworthiness certification for EDTO of the aeroplane type; and
  - iii) EDTO maintenance programme.

7.6.2.3 The operator shall submit a list of EDTO significant components and systems that must be installed and serviceable for an EDTO flight.

7.6.2.3 All equipment required for EDTO shall be identified in the maintenance programme and MEL.

7.6.2.4 The operator shall provide a training programme for maintenance personnel on the appropriate policies and procedures on EDTO. The operator shall also ensure that only EDTO trained maintenance personnel are authorized to perform EDTO maintenance tasks.

*Note: The job aid to evaluate the airworthiness aspects of EDTO is at Attachment 10*

DRAFT

Attachment 1

## Air Operator Certificate Maintenance Control Manual (MCM) Evaluation

(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Item	State Regulatory reference	Description	MCM reference	CAA evaluation	CAA Comments	Applicant's follow-up	CAA use only
1	(to be provided by State CAA)	Layout and presentation <i>To include table of contents, sections, description and paragraphing and page numbers for easy referencing</i>	(to be filled in by AWI)	(sat/unsat/na)			
2		Description of Air Operator <i>To include Legal name of Operator, office location(s), size of organization, type and number of aircraft and nature of business</i>					
3		Statement of compliance <i>Declaration by the accountable executive confirming that the MCM and any other documents referenced are in compliance with State regulations</i>					
4		Revision and distribution control <i>To include revision procedures of MCM , list of effective pages and distribution control</i>					
5		Key roles and responsibilities <i>To include organizational chart, names and detailed duties of the person or persons tasked to ensure that all maintenance is carried in accordance to MCM</i>					

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 1

## Air Operator Certificate Maintenance Control Manual (MCM) Evaluation

(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Item	State Regulatory reference	Description	MCM reference	CAA evaluation	CAA Comments	Applicant's follow-up	CAA use only
6		<p>Approved maintenance programmes</p> <p><i>Include a reference to the maintenance programme for each aircraft type operated</i></p>					
7		<p>Evaluation and review of policies, procedures and programmes</p> <p><i>To include a system of analysis and continued monitoring to ensure that the approved policies and procedures contained in their MCM continue to comply with the regulatory requirements. This should include the review of the maintenance programme(s).</i></p>					
8		<p>Regulatory and technical information</p> <p><i>To include a list of regulatory and technical data and how appropriate information is available when and where needed.</i></p>					
9		<p>Performance of maintenance</p> <p><i>To include details for the performance of</i></p>					

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 1

## Air Operator Certificate Maintenance Control Manual (MCM) Evaluation

(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Item	State Regulatory reference	Description	MCM reference	CAA evaluation	CAA Comments	Applicant's follow-up	CAA use only
		<i>servicing and maintenance including the procedures for completing and signing a maintenance release for aircraft</i>					
10		Defect control and rectification  <i>To include procedures for recording and rectification of defects, identification of recurring defects, deferring of defects, use of MEL and any procedures for the dispatching aircraft with a known defect.</i>					
11		Maintenance planning and control  <i>To include a description on the tracking of aircraft status and the forecasting and arranging of scheduled maintenance. Also procedures for the tracking and accomplishment of MCAIs and how alternate means of compliance are requested and complied with.</i>					
12		Maintenance records  <i>To include a description of the methods used for the completion and retention of the operator's maintenance records</i>					
13		Service difficulty reporting					

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 1

## Air Operator Certificate Maintenance Control Manual (MCM) Evaluation

(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Item	State Regulatory reference	Description	MCM reference	CAA evaluation	CAA Comments	Applicant's follow-up	CAA use only
		<i>To include procedures for informing of significant in-service occurrences</i>					
14		<p><b>Maintenance arrangements</b></p> <p><i>To include a description of the administrative arrangements between the operator and AMO including the review of the arrangements.</i></p>					
15		<p><b>Technical dispatch</b></p> <p><i>To include procedures for the authorization of ferry flight, EDTO, All weather operations, RVSM and any other special operations. Also procedures to determine the aircraft condition as well as operational configuration. Process to confirm all scheduled maintenance has been carried out and all MCAIs addressed and accomplished.</i></p>					
16		<p><b>Personnel training and records</b></p> <p><i>To include a description of required training (initial, update and recurrent), including human factor training. A description of record keeping for training records and authorizations</i></p>					

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 1

**Air Operator Certificate  
Maintenance Control Manual (MCM) Evaluation**  
(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Item	State Regulatory reference	Description	MCM reference	CAA evaluation	CAA Comments	Applicant's follow-up	CAA use only
17		Forms to be used  <i>A sample of forms described for use in the MCM</i>					
18		Any additional item(s)  <i>Additional State requirements</i>					

CAA evaluation conducted by: \_\_\_\_\_ (Name & Signature) / \_\_\_\_\_ (Date of completion) .

CAA remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Applicant follow-up action completed by: \_\_\_\_\_ (Name & Signature) / \_\_\_\_\_ (Date of completion)

- sat : Satisfactory
- unsat : Unsatisfactory
- na : Not applicable



Attachment 1

**Air Operator Certificate**  
**Maintenance Control Manual (MCM) Evaluation**  
(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Applicant remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**For CAA use only**

Final Remarks	_____
	_____
	_____
	_____

sat : Satisfactory  
unsat : Unsatisfactory  
na : Not applicable

1. Layout and presentation
  - a. A table of content referencing Chapters, Sections and page numbers of topics that are required in a MCM as per [State Regulation].
  - b. The design and layout of the MCM observes human factor principles.
  - c. References to the appropriate forms to be used.
2. Description of Air Operator
  - a. The legal (registered) name of the operator
  - b. The full address, phone number(s), email and facsimile number(s).
  - c. A description of the organization; its size, type and nature of business and type and number of aircraft to be operated.
  - d. Geographic location of the office facilities and/or their operation's base when not co-located
3. Statement of Compliance
  - a. Signed declaration by the accountable Manager or Executive that the MCM and other documents referenced in the MCM are in compliance with appropriate State regulations with the following statement:

*“This manual, and any incorporated documents, reflects this organization’s means of compliance with the [State regulation]. All personnel are required to understand their assigned duties as described in this manual. All incorporated documents identified, and every amendment, shall meet the requirements established in this manual. The policies and procedures outlined in this manual, and all incorporated documents identified herein, will be strictly adhered to at all times.”*
  - b. May include a compliance matrix or chart.
  - c. Provision for the MCM to be approved by [State CAA] with the following statement:

*“This manual is approved as meeting the requirements of an Air Operator Certificate pursuant to [State regulation].”*
4. Revision and distribution control
  - a. A list of effective pages (LEP) is used to ensure that every manual contains current information. The LEP shows the revision status of each page.
  - b. Details the process of revising the MCM.
  - c. The approval and control and distribution of a revision to the MCM.
  - d. Description of how the MCM should be made available to each person who performs or manages a function that is described in the MCM or in any manual that is incorporated in the MCM. All copies of the MCM are serialized with a corresponding distribution list.
5. Key roles and responsibilities
  - a. The names and titles of key persons assigned responsibilities.
  - b. Details and descriptions of the function of each key assigned person.
  - c. A company organization chart showing to whom each employee reports.
6. Approved maintenance programmes
  - a. References made to an approved maintenance programme for each aircraft type operated.
7. Evaluation and review of policies, procedures and programmes contained in the MCM

## **MCM evaluation – guidance**

- a. To establish an evaluation programme to ensure that the approved policies and procedures contained in their MCM continue to comply with the regulatory requirements.
  - b. To include a system of analysis and continuing monitoring of the performance and efficiency of the maintenance programme(s).
  - c. The evaluation programme should review the entire maintenance control system, including but not limited to a periodic, recurring internal audit. An internal audit is intended to identify and document areas that fail to be effective in meeting regulations, standards and company policies and procedures.
  - d. The evaluation programme should determine the root cause of deficiencies, areas of noncompliance, areas that need improvement, corrective actions needed and follow-up to ensure that the changes were effective.
8. Regulatory and technical information
- a. A description that ensures any person who performs work and/or servicing has access to the latest applicable technical manuals, airworthiness directives, regulatory requirements or other related information. This system should include how technical and regulatory information is controlled for any work that is performed away from base.
  - b. It should also address how these reference documents are controlled and updated.
9. Performance of maintenance
- a. A description of the procedure to ensure the aircraft is maintained in accordance with the maintenance programme
  - b. A description of the procedure for completing and signing a maintenance release for aircraft that had undergone maintenance.
  - c. A description of the procedure that all modifications and repairs comply with [State CAA] airworthiness requirements.
10. Defect control and rectification
- a. A description of a system to control defects, including the rectification and deferral of defects.
  - b. Policies and procedures for the use of an approved Minimum Equipment List (MEL).
  - c. Identifying and handling recurring defects. This helps to avoid ineffective methods of repair and to ensure the defect will not reoccur.
11. Maintenance planning and control
- a. A description of the procedures used to ensure that any maintenance tasks required by the maintenance programme, a mandatory continuing airworthiness information (MCAI), or any task required for the rectification of a defect is completed within the time constraints as approved by [State CAA].
  - b. A planning and control system to track and control maintenance requirements to ensure that required intervals are not exceeded.
  - c. The complexity of the system depends on the size of the air operator, the aircraft types and the number of aircraft operated. The system should be used to track the status of aircraft to forecast maintenance.
  - d. A description of how alternate means of compliance are requested and complied with.
12. Maintenance records

- a. A description of the kinds of technical records to be kept as required in [State regulation].
  - b. Details of the methods used to record the maintenance, work or servicing performed, and ensure that any defects are recorded in the technical record
  - c. A description of the procedures for technical record entries such as signing and dating entries, use of electronic records (where applicable), safe record keeping methods and the corrections and alterations to records.
13. Service difficulty reporting
- a. A description of the procedures used to report service difficulties in accordance with [State CAA regulations]
  - b. Details of what needs to be reported by whom, when and in what format.
14. Maintenance arrangements
- a. All maintenance contracts must be detailed in the MCM.
  - b. Only approved maintenance organizations (AMO) or under an equivalent system acceptable to [State CAA] can be contracted to carryout maintenance work.
  - c. A description of what needs to be done before accepting an AMO. This would include procedures to ensure that the AMO has the necessary approvals and capabilities, facilities, equipment and manpower.
  - d. If an AMO outside of [State] is to be used, additional requirements may need to be considered and applied.
15. Technical dispatch
- a. A description of technical dispatch procedures to ensure that aircraft are not operated unless they are airworthy, appropriately equipped, configured and maintained for their intended use. Technical dispatch procedures ensure that only those aircraft that conform to applicable airworthiness and operational requirements are dispatched.
  - b. Procedures for the authorization and dispatch of aircraft for special operations including extended diversion time operation, reduced vertical separation minima operations, all weather operations, ferry flights and any other special operations.
  - c. A description of a process to ensure all scheduled maintenance has been carried out and all MCAIs have been addressed or accomplished.
16. Personnel training and records
- a. A description of the training required for all personnel performing work. This would include the initial, recurrent and update training including human factor training.
  - b. A description of the kinds of personnel records to be kept as required in [State regulation].
17. Forms to be used
- a. If the MCM refers to specific company forms list them and attach examples, if applicable.
18. Any additional item(s)
- a. Reserved for any additional items that may need to be evaluated for the issue of AOC.

Attachment 2

## Air Operator Certificate Maintenance Programme Evaluation

Name of applicant: \_\_\_\_\_

(see guidance attached to complete the form)

Item	State Regulatory reference	Description	Maintenance programme reference	CAA evaluation	CAA comments	Applicant's follow-up	CAA use only
1	(to be provided by CAA)	<p>Description of maintenance programme</p> <p><i>To include the aircraft type the programme is developed for. A description of the basis of how the programme was developed.</i></p>	(to be filled in by AWI)	(sat/unsat/na)			
2		<p>Format of maintenance programme</p> <p><i>In a structure or format acceptable to [State CAA] and observes human factor principles.</i></p>					
3		<p>Revision and distribution control</p> <p><i>To include revision procedures and distribution control</i></p>					
4		<p>Maintenance programme development basis and contents</p> <p><i>As described in (1). Includes the appropriate MRBR, MPD, Maintenance Manual (Chapter 4 and 5) and any other supporting documents.</i></p>					
5		Maintenance tasks and their					

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 2

## Air Operator Certificate Maintenance Programme Evaluation

(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Item	State Regulatory reference	Description	Maintenance programme reference	CAA evaluation	CAA comments	Applicant's follow-up	CAA use only
		intervals For aircraft, engines, propellers and components. To include the following and their intervals: i) Inspections ii) Scheduled maintenance iii) Overhaul and repairs iv) Structural inspections v) Condition monitoring tasks, if applicable vi) Tasks that are identified as mandatory in the approval of the TC vii) Tasks and parts required for of any special operations. <i>(These are based on documents submitted in (4) above.)</i>					
6		Structural Integrity Programme (SIP), if applicable, to include: i) supplemental inspections ii) corrosion prevention and control iii) structural modification and associated inspections iv) repair assessment methodology					

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 2

## Air Operator Certificate Maintenance Programme Evaluation

Name of applicant: \_\_\_\_\_

(see guidance attached to complete the form)

Item	State Regulatory reference	Description	Maintenance programme reference	CAA evaluation	CAA comments	Applicant's follow-up	CAA use only
		v) widespread fatigue damage review.					
7		Procedures for tasks deviation					
8		Reliability Programme  <i>If applicable (see approval of Reliability Programme in Chapter 3)</i>					
9		Engine trend monitoring  <i>If applicable and not part of the Reliability Programme</i>					
10		Review and updating of maintenance programme					
11		Forms to be used  <i>A sample of forms described for use in the maintenance programme</i>					
12		Any additional item(s)  <i>Additional State requirements</i>					

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 2

**Air Operator Certificate  
Maintenance Programme Evaluation**  
(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

CAA evaluation conducted by: \_\_\_\_\_ Name & Signature / \_\_\_\_\_ Date of completion .

CAA comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Applicant follow-up action completed by: \_\_\_\_\_ (Name & Signature) / \_\_\_\_\_ (Date of completion)

Applicant remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**For CAA use only**

Final Remarks _____ _____ _____ _____
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sat : Satisfactory  
unsat : Unsatisfactory  
na : Not applicable



## **Maintenance Programme evaluation – guidance**

1. Description of maintenance programme
  - a. A description of the maintenance programme to include the aircraft type the programme is for and the basis for developing the programme.
  - b. The clear description of the basic requirements of the programme to include inspections, repairs, scheduled maintenance, overhauls and maintenance tasks and their intervals.
2. Format of maintenance programme
  - a. A table of content referencing Chapters, Sections and page numbers.
  - b. The design and layout of the Maintenance Programme observes human factor principles
3. Revision and distribution control
  - b. A list of effective pages (LEP) is used to ensure that every manual contains current information. The LEP shows the revision status of each page.
  - c. Details the process of revising the Maintenance Programme.
  - d. The procedures to amend the Maintenance Programme.
  - e. The approval and control and distribution of a revision to the Maintenance Programme.
  - f. Description of how the Maintenance Programme should be made available to each person who performs or manages the maintenance of the aircraft. All copies of the MCM are serialized with a corresponding distribution list.
4. Maintenance programme development basis and contents
  - a. Description on the maintenance programme basis with references made to MRBR, MPD and Maintenance Manual (Chapters 4 and 5) and any other other relevant documents where applicable.
  - b. Mandatory maintenance tasks and intervals as specified in the type design must be identified.
  - c. Airworthiness limitation items specified in the TC.  
These may include CMR items, safe-life airworthiness limitation items and damage tolerance ALIs.
  - d. mandatory life limits for engine life-limited parts specified by the manufacturer;
  - e. engine and auxiliary power unit off-wing maintenance as specified in the engine and APU work scope planning guides;
  - f. Special operations requirements relating to maintenance of additional configuration items eg EDTO, RVSM, Cat II and Cat III operations.
5. Maintenance tasks and their intervals
  - a. The tasks and intervals would include those of aircraft, engine, propeller and components that are based on the documents submitted in (4) used for the development of the maintenance programme.
  - b. the task intervals commonly used includes cycles, flight hours or calendar time. For planning convenience, the applicant may group the tasks into packages or scheduled maintenance checks (for example, A-check or 150-hour check).

## **Maintenance Programme evaluation – guidance**

- c. some operators may accomplish scheduled maintenance checks in separate “phases” which combine to make up a complete check. This is acceptable provided that the interval between repetitions of tasks is not exceeded.
    - d. Ensure that maintenance tasks packaged into check packages (hour or letter checks) are within their recommended time intervals.
6. Structure Integrity Programme (SIP)
  - a. When applicable, to include supplemental inspections, corrosion prevention and control processes, structural modification and associated inspections, repair assessment methodology and widespread fatigue damage review procedures.
7. Procedures for tasks deviation
  - a. If applicable, a description of appropriate means to assess the continued effectiveness of the approved maintenance programme. The documented process should ensure the continued effectiveness of the approved maintenance programme.
  - b. The process should comprehensively identify any need for changes to the maintenance schedule and would usually include analysis of flight crew reports (PIREPS), or a fully-fledged reliability program.
  - c. The use of tolerances to scheduled maintenance task intervals is permitted only when the checks prescribed by the maintenance programme, or supporting documents in support of the schedule, cannot be complied with due to circumstances that could not reasonably have been foreseen by the operator. Where an operator wishes to include tolerances in a maintenance programme, the application must contain full details of the tolerance, including the means of control, and the applicant must demonstrate that the items concerned can safely be operated at the resulting higher intervals.
  - d. No approval should be given interval escalations or task modifications related to AD, ALI and CMR items without an appropriate coordination with the State of Design.
8. Reliability Programme
  - a. If applicable, see “Approval of Reliability Programmes”
9. Engine trend monitoring
  - a. For aircraft that may not require a reliability programme, a conditioning monitoring programme for engines may be required.
10. Review and updating of maintenance programme
  - a. A description of procedures to periodically review the maintenance programme to ensure they take into account TC holder’s latest recommendations, revisions to MRBR, new requirements contained in ICAs relating to any modifications, MCAI (ADs) etc.
  - b. A description of the resources, organization and processes to perform continuous assessment of 8a above.
11. Forms to be used
  - a. If the maintenance programme refers to specific company forms, list them and attach examples, if applicable.

## **Maintenance Programme evaluation – guidance**

12. Any additional item(s)
  - a. Reserved for any additional items that may need to be evaluated for the issue of AOC.

Draft

Attachment 3

### Air Operator Certificate Reliability programme evaluation

Name of applicant: \_\_\_\_\_

Item	State Regulatory reference	Description	Reliability manual reference	CAA evaluation	CAA comments	Applicant follow-up	CAA use only
1	(to be provided by CAA)	<p>Description of reliability programme</p> <p><i>A description of the intent and use of the reliability programme. A brief description of the basis of how the programme was developed.</i></p>	(to be filled by AWI)	(sat/unsat/na)			
2		<p>Format of reliability manual</p> <p><i>In a structure or format acceptable to [State CAA] and observes human factor principles.</i></p>					
3		<p>Revision and distribution control</p> <p><i>To include revision procedures and distribution control</i></p>					
4		<p>Reliability programme elements</p> <p><i>To include the following:</i></p> <ul style="list-style-type: none"> <li><i>a. An organization structure</i></li> <li><i>b. A data collection system</i></li> <li><i>c. A method of data analysis and display</i></li> <li><i>d. Procedures for establishing performance standards or levels</i></li> <li><i>e. Procedures for programme</i></li> </ul>					

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 3

### Air Operator Certificate Reliability programme evaluation

Name of applicant: \_\_\_\_\_

Item	State Regulatory reference	Description	Reliability manual reference	CAA evaluation	CAA comments	Applicant follow-up	CAA use only
		<i>revision</i> f. <i>Procedures for process / interval adjustments and changes</i> g. <i>Definitions of terms used in the programme.</i>					
5		EDTO  <i>If applicable, ensure that EDTO significant systems/ components are identified and tracked.</i>					
6		Forms to be used  <i>A sample of forms described for use in the reliability programme</i>					
7		Any additional item(s)  <i>Additional State requirements</i>					

CAA evaluation conducted by: \_\_\_\_\_ Name & Signature / \_\_\_\_\_ Date of completion \_\_\_\_\_.

CAA comments: \_\_\_\_\_  
 \_\_\_\_\_

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 3

**Air Operator Certificate  
Reliability programme evaluation**

Name of applicant: \_\_\_\_\_

\_\_\_\_\_

Applicant follow-up action completed by: \_\_\_\_\_ (Name & Signature) / \_\_\_\_\_ (Date of completion)

Applicant remarks:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**For CAA use only**

Final Remarks	_____
	_____
	_____
	_____

sat : Satisfactory  
unsat : Unsatisfactory  
na : Not applicable

## **Reliability Programme evaluation – guidance**

1. Description of reliability programme in reliability manual
  - a. A description of the reliability programme to include the aircraft type the programme is for and the basis for developing the programme
2. Format of reliability manual
  - a. A table of content referencing Chapters, Sections and page numbers.
  - b. The design and layout of the reliability programme observes human factor principles including the proper use of written language, size of fonts and proper layout, use of diagrams, tables and charts where applicable.
3. Revision and distribution control
  - a. A list of effective pages (LEP) is used to ensure that every manual contains current information. The LEP shows the revision status of each page.
  - b. Details the process of revising the Programme.
  - c. The procedures to amend the Programme.
  - d. The approval and control and prompt distribution of a revision to the Programme.
  - e. Description of how the Programme should be made available to each person who performs or manages the maintenance of the aircraft. All copies of the Programme are serialized with a corresponding distribution list.
4. Reliability programme elements
  - a. Reliability Committee structure (with flowchart, if possible)
    - i. A description of the people/organizations involved in the programme
    - ii. The people/organizations responsible for making changes to the maintenance controls and maintenance programme should be clearly defined
    - iii. A description on the reliability committee membership and meeting frequency and arrangements.
  - b. Data collection.

Describe the sources of data collection and the applicant's procedures to collect the data. The data should be collected at specific intervals and should be sufficient to appropriately support analysis. Data collection should be obtained in a planned and organized manner, carefully recorded and collated.
  - c. Data analysis and display

The data collected must be reported in a timely and systematic manner. It should identify the rates of failure and removal of the components and parts being monitored. It should also provide root cause analysis of failure and un-serviceability of components and parts to determine effective corrective action. Analysis of data also requires the information to be compared / measured against acceptable performance levels.
  - d. Performance standards

Should include performance standards expressed in mathematical terms expressed by system or component failure per hours of aircraft operations, landing, cycles, delays or other operational findings.

A description on establishing the initial performance standards and alert values.
  - e. Procedures for process / interval adjustments and changes

## **Reliability Programme evaluation – guidance**

Identify the methods and who is responsible to substantiate and justify any process / interval adjustments and changes. Describe the procedures to seek [State CAA] approval for the adjustments.

- f. Procedures for programme revision
  - g. The procedures for implementing revisions to the programme should be described in detail to identify areas which require [State CAA] approval.
  - h. Definitions  
A list of definitions used in the programme.
5. EDTO
- a. If applicable, ensure that all EDTO significant systems and items are identified and tracked as recommended by TC holder.
6. Forms to be used
- a. If the reliability programme refers to specific company forms, list them and attach examples, if applicable.
7. Any additional item(s)
- a. Reserved for any additional items that may need to be evaluated for the issue of AOC.

sat : Satisfactory  
unsat : Unsatisfactory  
na : Not applicable



Attachment 4

**Air Operator Certificate  
Maintenance Arrangement evaluation**  
(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Item	State Regulatory reference	Description	MCM reference	CAA evaluation	CAA Comments	Applicant follow-up	CAA use only
1	(to be provided by CAA)	<p>Maintenance Control Organization</p> <p><i>To verify the applicant's maintenance control organization as described in the MCM</i></p>	(to be provided by applicant)	(sat/unsat/na)			
2		<p>AMO</p> <p>Obtain a copy of the AMO certificate</p> <p><i>To verify the following:</i></p> <p><i>i) The AMO is approved to maintain the aircraft type(s) described in the MCM;</i></p> <p><i>ii) The certificate has not expired</i></p>					
3		<p>Maintenance Contract</p> <p><i>If applicable, to verify the maintenance contract include details to ensure that all maintenance is carried out in accordance with the MCM.</i></p>					
4		<p>Line stations</p> <p><i>To review line stations, if required,</i></p>					

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 4

**Air Operator Certificate  
Maintenance Arrangement Evaluation**  
(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Item	State Regulatory reference	Description	MCM reference	CAA evaluation	CAA Comments	Applicant follow-up	CAA use only
5		Forms to be used  <i>A sample of forms described for use in the MCM</i>					
6		Any additional item(s)  <i>Additional State requirements</i>					

CAA evaluation conducted by: \_\_\_\_\_ Name & Signature / \_\_\_\_\_ Date of completion .

CAA comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Applicant follow-up action completed by: \_\_\_\_\_ (Name & Signature) / \_\_\_\_\_ (Date of completion)

Applicant remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- sat : Satisfactory
- unsat : Unsatisfactory
- na : Not applicable

Attachment 4

**Air Operator Certificate  
Maintenance Arrangement evaluation**  
(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

**For CAA use only**

<p>Final Remarks _____</p> <p>_____</p> <p>_____</p> <p>_____</p>
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Draft

sat : Satisfactory  
unsat : Unsatisfactory  
na : Not applicable

1. Maintenance control organization
  - a. Ensure that the organization is set-up as described in the MCM
  - b. Ensure that the organization has the required qualified personnel, equipment and facilities to manage and ensure the continuing airworthiness of the aircraft.
  
2. Approved maintenance organization (AMO)
  - a. Ensure the AMO is appropriately rated and capable of performing the work in accordance with the operator's approved MCM;
  - b. Ensure the AMO has access to the operator's MCM and current approved maintenance programme for the make and model of the aircraft to be maintained. The AMO should use technical references provided by the operator or from an approved source;
  - c. Ensure the AMO's procedure manuals, when used, are described in the MCM;
  - d. Ensure that the AMO has the required qualified personnel, equipment and facilities to maintain the aircraft as required in the MCM.
  
3. Maintenance contract
  - a. If the operator contracts its maintenance to another AMO, ensure there is a written contract that details the administrative arrangements and responsibilities between the operator and the AMO. The names of all organizations and the scope of the work contracted should be described in the MCM.
  
4. Line stations
  - a. Line stations, if applicable, should have the appropriate facilities, equipment and maintenance personnel adequate for operations to be conducted;
  - b. Ensure that the maintenance arrangements should clearly describe the facilities and resources including the procedures for carrying out maintenance and the authorization of certifying personnel.
  
5. Forms to be used
  - a. If the MCM refers to specific company forms list them and attach examples, if applicable.
  
6. Any additional item(s)
  - a. Reserved for any additional items that may need to be evaluated for the issue of AOC.

Attachment 5

**Air Operator Certificate**  
**Airworthiness demonstration and inspection**  
 (see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Item	Description	CAA evaluation	CAA comments	Applicant's follow-up	CAA use only
1	<b>MCM</b> to review and verify that the MCM is: i) Approved (see Chapter 2 of this Vol) ii) Current iii) Distributed as per distribution list iv) Available to maintenance and operational personnel v) Understood by the users	(sat/unsat/na)			
2	<b>Maintenance programme</b> to review and verify the maintenance programme is: i) Approved (see Chapter 3 of this Vol) ii) Current iii) Distributed as per distribution list iv) Available to maintenance and operational personnel				
3	<b>Base inspection</b> i) Verify the applicant's maintenance control organization as described in the MCM ii) Verify the applicant's maintenance arrangement (view maintenance contract, if applicable)				

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 5

**Air Operator Certificate**  
**Airworthiness demonstration and inspection**  
 (see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

4	<p><b>Line Maintenance</b></p> <ul style="list-style-type: none"> <li>i) Verify that the applicant has the necessary line maintenance support for its operations (maintenance contract, if applicable)</li> <li>ii) Verify that Line Maintenance procedures are described in the MCM</li> <li>iii) Verify that procedures and documents, equipment, facilities and personnel are in place for the commencement of operations</li> </ul>				
5	<p><b>Aircraft inspection</b></p> <p>Verify that the aircraft(s) airworthiness status complies to the maintenance programme and any bridging checks, if applicable. Also verify the equipment for any approved special operations is installed. Carry out sampling checks on:</p> <ul style="list-style-type: none"> <li>i) Maintenance records</li> </ul> <p>Conduct aircraft inspection(s):</p> <ul style="list-style-type: none"> <li>i) Interior walkaround</li> <li>ii) Exterior walkaround</li> </ul> <p><i>use the checklist in Attachment 6 for each aircraft to be inspected</i></p>				

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 5

**Air Operator Certificate**  
**Airworthiness demonstration and inspection**  
(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

CAA evaluation conducted by: \_\_\_\_\_ Name & Signature / \_\_\_\_\_ Date of completion .

CAA comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Applicant follow-up action completed by: \_\_\_\_\_ (Name & Signature) / \_\_\_\_\_ (Date of completion)

Applicant remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**For CAA use only**

Final Remarks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

sat : Satisfactory  
unsat : Unsatisfactory  
na : Not applicable

Attachment 6 – Aircraft inspection checklist

1 MCM

The applicant shall demonstrate to [State CAA] that the processes and procedures described in the MCM are in place. The AWI could conduct an inspection of the operator's maintenance control organization to verify the processes and procedures. This could also include interviews with personnel to ensure that the procedures are transmitted and understood.

2 Maintenance programme (including reliability programme)

The applicant shall demonstrate to [State CAA] that the processes and procedures described in the maintenance programme are in place. The AWI could conduct a review with the applicant to verify the processes and procedures.

3 Maintenance arrangement (Base maintenance)

The applicant shall demonstrate to [State CAA] that the processes and procedures described in the MCM and maintenance contract arrangements are in place. The AWI could conduct an inspection of the operator's maintenance control organization to verify the processes and procedures are in place and personnel aware of them. This could also include interviews with personnel to ensure that the procedures are transmitted and understood. If the maintenance is contracted, ensure the existence of a contract covering all then maintenance activities.

4. Maintenance arrangement (Line maintenance), if applicable

Ensure line maintenance arrangements and procedures are described in the MCM. Sampling inspections of line station may be conducted to ensure that procedures and documents, equipment, facilities and personnel are in place for the commencement of operations.

5. Aircraft inspection

The applicant should demonstrate to [State CAA] that the aircraft it intends to operate is in compliance with the maintenance programme and [State CAA] regulations. This should be done through the:

- i) Review of maintenance records, if available
- ii) Conduct of aircraft interior and external inspection

*Note: use the checklist in Attachment 6 for each aircraft inspected.*

Review of maintenance records would verify that all required maintenance, including any bridging check, has been carried out and in compliance with the maintenance schedule.

The AWI will conduct walkaround aircraft inspection(s) to verify that the required emergency and safety equipment, log books, documentation and decals and markings are present and meet [State CAA] requirements. The exterior inspection should also identify any damages or leakages. The AWI should also conduct a sampling check on aircraft components to ensure that they comply with the approved aircraft configuration.

The aircraft inspection should also verify that the equipment required for any special operations are installed.



## Aircraft Inspection Checklist

Aircraft Registration :		Aircraft Serial No :		Aircraft Type :	
Engine serial Nos. : _____ _____			Propeller serial Nos. : _____ _____		
Item	Inspection	CAA evaluation	Findings		
<b>Aircraft exterior inspection</b> To conduct an walkaround inspection to assess the condition of the following areas:		<i>Sat/unsat/no*</i>	(to complete the Aircraft Inspection Report, if any findings)		
1	<b>Forward Fuselage</b> Forward fuselage area to include cockpit windows, radome, windows, passenger and cargo doors, access panels, antennas and markings				
2	<b>Landing gears</b> Nose and main landing gears areas to include oleos, tires, brakes and wheel wells				
3	<b>Engines / Propellers</b> Cowling, intakes, blades, exhaust areas and thrust reversers				
4	<b>Wings</b> Wing areas to include control surfaces, exposed wing areas, engine pylons, fuel tanks and its related components and markings				
5	<b>Rear Fuselage</b> Horizontal stabilizers, vertical fin, control surfaces, passenger and cargo doors, access panels, antennas and markings.				
<b>Aircraft interior inspection</b> To conduct an walkaround inspection to assess the condition of the following areas:					
6	<b>Cargo Compartment</b> Doors, cutouts, locks and floorboards, markings and decals				
7	<b>Cockpit</b> Windows, seats, cockpit instruments, markings and decals				
8	<b>Cabin</b> Safety equipment, cabin emergency lights, doors, windows, seats, toilets, markings and decals				
9	<b>Documentation</b> Check aircraft technical log books, MEL, AFM, C of R, C of A, Weight and Balance Report, Radio license.				
10	<b>Others</b> Areas not covered by the above. Please identify area(s) in 'findings' column.				

*sat : Satisfactory / unsat : Unsatisfactory / no : Not observed*

Remarks: \_\_\_\_\_  
\_\_\_\_\_

Aircraft inspection report raised: Yes /No\*

Name and Signature of AWI: \_\_\_\_\_ Date of inspection : \_\_\_\_\_

\* Delete as necessary

Attachment 6 – Aircraft inspection checklist

AIRCRAFT INSPECTION REPORT SHEET

Page  
1 of xx

Aircraft model / Part / Assembly No* :		Registration / Serial No / Manufacturer serial no* :	
Item	Description	Rectification	CAA acceptance
	(Filled my AWI)	(Completed by applicant)	
Remarks: _____ _____ _____			
AWI name and signature: _____		Date: _____	

\* Delete as necessary

Attachment 7

**Air Operator Certificate**  
**Minimum equipment list evaluation**  
 (see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Item	Description	MEL reference	CAA evaluation	CAA comments	Applicant's follow-up	CAA use only
1	Table of contents	(to be filled in by the AWI)	(sat/unsat/na)			
2	Revision instructions					
3	List of effective pages					
4	Preamble and instructions					
5	No item relief other than that shown in MMEL.					
6	Correct repair interval applied					
7	Number required for dispatch conforms to MMEL					
8	Placarding symbols provided in accordance with MMEL					
9	(M) symbol provided in accordance with MMEL					
10	Remarks correctly aligned with applicable "required" numbers					

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 7

**Air Operator Certificate**  
**Minimum equipment list evaluation**  
 (see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

11	Wording of MEL remarks not less restrictive than MMEL (special attention to use of “or” & “and”					
12	Aircraft configuration Verify (# installed/required) allowed is in accordance with all applicable regulations.					
13	All references to “as required by Regulations” converted to remarks format and aligned with “required” number					
14	Verify that the MEL describes: iii) Aircraft configuration (by serial no, if applicable) iv) Cabin interior according to the LOPA v) Any modifications, as required.					
15	Special operations provisions <i>Depending on the special operations applied for, ensure that the MEL identifies the components required for the special operations and appropriate the maintenance procedures are in place.</i>					
16	Any other CAA requirements (requirements cannot be less					

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 7

**Air Operator Certificate**  
**Minimum equipment list evaluation**  
(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

	restrictive to MMEL)					
--	----------------------	--	--	--	--	--

CAA evaluation conducted by: \_\_\_\_\_ Name & Signature / \_\_\_\_\_ Date of completion .

CAA comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Applicant follow-up action completed by: \_\_\_\_\_ (Name & Signature) / \_\_\_\_\_ (Date of completion)

Applicant remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

sat : Satisfactory  
unsat : Unsatisfactory  
na : Not applicable

Attachment 7

**Air Operator Certificate**  
**Minimum equipment list evaluation**  
(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

**For CAA use only**

Final Remarks _____ _____ _____ _____
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Draft

sat : Satisfactory  
unsat : Unsatisfactory  
na : Not applicable

### **Minimum equipment list evaluation – guidance**

1. The applicant shall submit a copy the latest MMEL issued by the design organization. The equipment allowed to be inoperative for flight in the MEL cannot be less restrictive than those established in the MMEL for the aircraft type.
2. The MMEL will serve as the basis for the approval of the MEL.
3. The applicant must address all “as required by Regulations” by making the appropriate remarks as required by [State CAA] regulations.

Draft

Attachment 8

**Air Operator Certificate**  
**Reduced vertical separation minima evaluation**  
 (see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Item	Description	CAA evaluation	CAA comments	Applicant's follow-up	CAA use only
1	Document to verify that the aircraft is eligible for RVSM application <i>TC, STC or compliance statement from manufacturer</i>	(sat/unsat/na)			
2	Configuration list <i>a list detailing the pertinent hardware and software components and equipment used for the RVSM operation.</i>				
3	Maintenance Programme <i>All equipment required for RVSM operations shall be identified in the maintenance programme. Also detail the list of inspections and functional checks, together with their intervals, required for the continued altitude monitoring of the RVSM approved aircraft</i>				
4	MEL <i>All equipment required for RVSM operations shall be identified in the MEL</i>				
5	Maintenance procedures for configuration control <i>to ensure that the aircraft is appropriately equipped for RVSM operations.</i>				



Attachment 8

**Air Operator Certificate**  
**Reduced vertical separation minima evaluation**  
 (see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

6	Training programme <i>for maintenance personnel on the                  appropriate policies and procedures for                  RVSM operations.</i>				
---	--	--	--	--	--

Evaluation conducted by: \_\_\_\_\_ Name & Signature / \_\_\_\_\_ Date of completion .

List follow-actions required: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Applicant follow-up action completed by: \_\_\_\_\_ (Name & Signature) / \_\_\_\_\_ (Date of completion)

Applicant remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 8

**Air Operator Certificate**  
**Reduced vertical separation minima evaluation**  
(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

**For CAA use only**

Final Remarks _____ _____ _____ _____
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Draft

Attachment 9

**Air Operator Certificate**  
**Performance based navigation evaluation**  
 (see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Item	Description	CAA evaluation	CAA comments	Applicant's follow-up	CAA use only
1	Document to verify that the aircraft is eligible for PBN application <i>TC, STC, AFM or compliance statement from manufacturer</i>	(sat/unsat/na)			
2	Configuration list <i>a list detailing the pertinent hardware and software components and equipment used for the PBN operation.</i>				
3	Maintenance Programme <i>All equipment required for PBN operations shall be identified in the maintenance programme.</i>				
4	MEL <i>All equipment required for PBN operations shall be identified in the MEL</i>				
5	Maintenance procedures for configuration control <i>to ensure that the aircraft is appropriately equipped for PBN operations.</i>				

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

Attachment 9

**Air Operator Certificate**  
**Performance based navigation evaluation**  
(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

6	Training programme for maintenance personnel on the appropriate policies and procedures for PBN operations.				
---	--	--	--	--	--

Evaluation conducted by: \_\_\_\_\_ Name & Signature / \_\_\_\_\_ Date of completion .

List follow-actions required: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Applicant follow-up action completed by: \_\_\_\_\_ (Name & Signature) / \_\_\_\_\_ (Date of completion)

Applicant remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

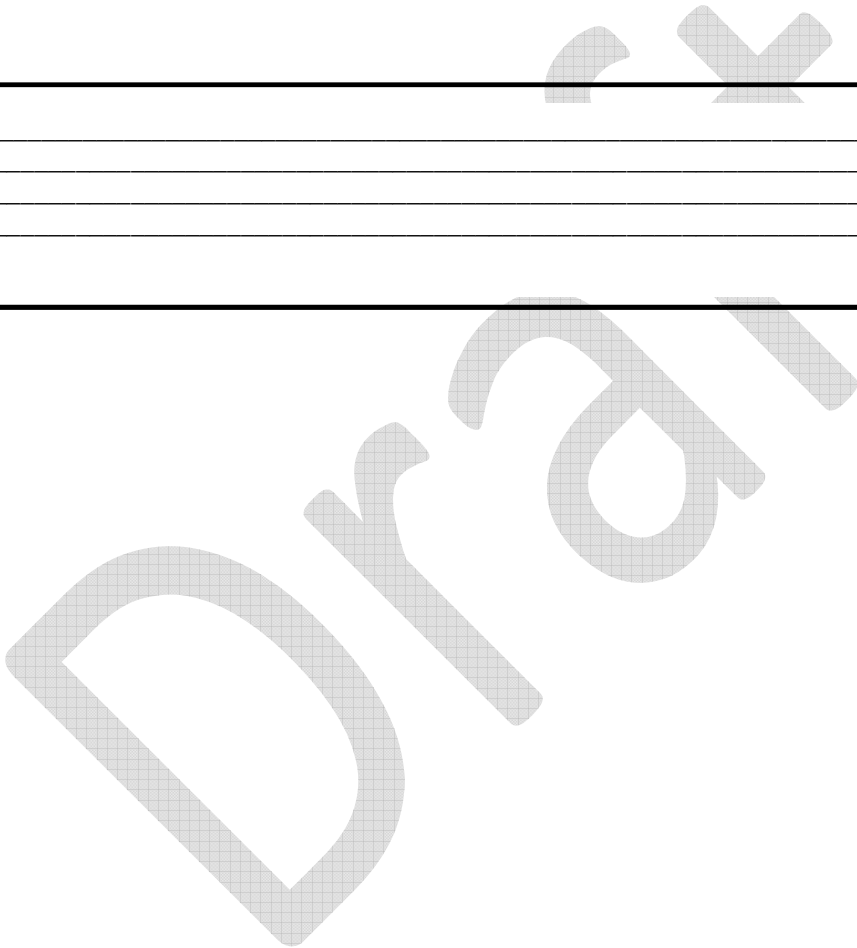
Attachment 9

**Air Operator Certificate**  
**Performance based navigation evaluation**  
(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

**For CAA use only**

<p>Final Remarks _____</p> <p>_____</p> <p>_____</p> <p>_____</p>
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sat : Satisfactory  
unsat : Unsatisfactory  
na : Not applicable

Attachment 10

Name of applicant: \_\_\_\_\_

**Air Operator Certificate  
Low visibility operations and  
Category II and III approach evaluation**

Item	Description	CAA evaluation	CAA comments	Applicant's follow-up	CAA use only
1	Document to verify that the aircraft is eligible for low visibility or Cat II or and/or Cat III approach operations <i>TC, STC, AFM or compliance statement from manufacturer</i>				
2	Configuration list <i>a list detailing the pertinent hardware and software components and equipment used for the applicable operation.</i>				
3	Maintenance Programme <i>All equipment required for the applicable operations shall be identified in the maintenance programme.</i>				
4	MEL <i>All equipment required for applicable operations shall be identified in the MEL</i>				
5	Maintenance procedures for configuration control <i>to ensure that the aircraft is appropriately equipped for the applicable operations.</i>				
6	Training programme <i>for maintenance personnel on the appropriate policies and procedures for the applicable operations.</i>				

Attachment 10

**Air Operator Certificate**  
**Low visibility operations and**  
**Category II and III approach evaluation**

(see guidance attached to complete the form)

Name of applicant: \_\_\_\_\_

Evaluation conducted by: \_\_\_\_\_ Name & Signature / \_\_\_\_\_ Date of completion

List follow-actions required: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Applicant follow-up action completed by: \_\_\_\_\_ (Name & Signature) / \_\_\_\_\_ (Date of completion)

Applicant remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

sat : Satisfactory  
unsat : Unsatisfactory  
na : Not applicable

Attachment 10

Name of applicant: \_\_\_\_\_

**Air Operator Certificate  
Low visibility operations and  
Category II and III approach evaluation**

**For CAA use only**

Final Remarks _____ _____ _____ _____
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Draft



## Air Operator Certificate Extended diversion time operations evaluation

Name of applicant: \_\_\_\_\_

Item	Description	CAA evaluation (sat/unsat/na)	CAA comments	Applicant's follow-up	CAA use only
1	Document to verify that the aircraft is certificated for EDTO. <i>TC, STC or compliance statement from manufacturer</i>				
2	For EDTO beyond the threshold distance: a. Identify the most limiting EDTO significant system b. Establish the additional fuel required				
3	Configuration list <i>a list detailing the pertinent equipment required for the EDTO.</i>				
4	MEL <i>All equipment required for EDTO shall be identified in the MEL.</i>				
5	Maintenance Programme <i>All equipment/components required for EDTO shall be identified in the maintenance programme.</i>				

sat : Satisfactory  
 unsat : Unsatisfactory  
 na : Not applicable

**Air Operator Certificate  
Extended diversion time operations evaluation**

Name of applicant: \_\_\_\_\_

Item	Description	CAA evaluation	CAA comments	Applicant's follow-up	CAA use only
6	Reliability Programme <i>The programme should monitor the reliability of the identified EDTO significant components and systems.</i>				
7	Maintenance procedures for configuration control <i>to ensure that the aircraft is appropriately maintained and equipped for EDTO.</i>				
8	Training programme <i>for maintenance personnel on the appropriate policies and procedures for EDTO.</i>				

Evaluation conducted by: \_\_\_\_\_ Name & Signature / \_\_\_\_\_ Date of completion .

List follow-actions required: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Applicant follow-up action completed by: \_\_\_\_\_ (Name & Signature) / \_\_\_\_\_ (Date of completion)

**Air Operator Certificate  
Extended diversion time operations evaluation**

Name of applicant: \_\_\_\_\_

Applicant remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

For CAA use only

Final Remarks _____ _____ _____ _____
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sat : Satisfactory  
unsat : Unsatisfactory  
na : Not applicable

## Sample letter for the evaluation / approval of document

Date

ABC Airline  
1234, General Road  
Airline House  
Montreal H3A 0B4  
Quebec, Canada

Attention: Mr Sonso  
Quality Manager

### REVIEW FOR THE *APPROVAL / EVALUATION*\* OF (DOCUMENT NAME AND REFERENCE)

Dear Mr. Sonso,

I refer to the submission of the above-mentioned document for review and approval on (date).

*The document submitted has been reviewed and found in compliance with the [State Regulation] and is approved.*

OR\*

*The document submitted has been reviewed and the following discrepancy/discrepancies requiring follow-up action has/have been raised.*

*Complete the "applicant follow-up" part of the form and submit the completed reports to the undersigned by (date).*

*The document will be approved when **all** discrepancies are satisfactorily addressed and actioned.*

Mr. Assigned  
Airworthiness Inspector  
State CAA

Attached discrepancy reports (x) pages

\* Delete where necessary

— END —