

AIR SAFETY CIRCULAR

<u>No</u>	<u>Issue</u>	<u>Date</u>	<u>Subject</u>
ASC M -2	Initial Issue 01	08 Jul 09	Authorisation Systems for Airships, Sailplanes and Balloon Certifying staff
OPS 1-1	Initial Issue 01	06 Jul 09	Requirements for personnel involved in operational controls
OPS 1-2	Initial Issue 01	06 Jul 09	Ground Handling
ASC 187-1	Initial Issue	25 Nov 07	Government rates
ASC 00 -1	Amendment 1	03 Mar 09	Maintenance Personnel Duty Time Limitations
ASC 21 -1	Amendment 2	18 Mar 09	Check flights for continuing Airworthiness Management
ASC 00-2	Initial Issue	03 Dec 08	Safety Management System
ASC 14-2	Amendment 1	04 Feb 09	Procedure and requirements for licencing water aerodromes and Floating Platforms
ASC FCL 1.055-1	Amendment 1	06 Jul 09	Training Organisations for Pilot Licences and Ratings
ASC M -1	Amendment 2	27 May 09	Approval of organisations for maintenance of aircraft and components

GENERAL

<u>No</u>	<u>Issue</u>	<u>Date</u>	<u>Subject</u>
GEN 1	04	14 Feb	07 Foreword
GEN 2	02	16 Jan 05	Airworthiness Publications - General Information
GEN 3	R E S E R V E D		
GEN 4	02	28 Jan 07	Security control for screening liquids, gels, aerosols, etc for carry on baggage
GEN 5	02	08 Feb 07	drug testing programme

AIRWORTHINESS

<u>No</u>	<u>Issue</u>	<u>Date</u>	<u>Subject</u>
AW 1	REPEALED	03 Aug 08	
AW 2	REPEALED	04 Jan 09	
AW 3	01	02 Nov 93	Dispensing of fuel from barrelled supplies
AW 4	REPEALED		

Contents

Issue 67

08 July 2009

Page 2 of 3

**CIVIL AVIATION DEPARTMENT
MINISTRY OF CIVIL AVIATION AND COMMUNICATION**Male'
Republic of Maldives**AIR SAFETY CIRCULAR**

Operations Continued.....

AW 5	REPEALED	03 May 09	
AW 6	DELETED		
AW 8	02	10 Aug 97	Operation of Foreign Registered Aircraft
AW 9	01	15 Aug 92	Marking of "Emergency Exit" and "Break-In" area on fuselage
AW 10	REPEALED	03 Aug 08	
AW 11	REPEALED		
AW 12	03	03 Aug 00	Emergency Locator Transmitter with 406 MHz
AW 13	REPEALED	04 Jan 09	
AW 14	REPEALED	04 Jan 09	
AW 15	02	14 Jan 09	Aircraft Maintenance Training

OPERATIONS

<u>No</u>	<u>Issue</u>	<u>Date</u>	<u>Subject</u>
OPS 1	01	05 Nov 91	Pilot-in-command under supervision
OPS 2	05	21 Nov 01	Flight crew training and periodical test
OPS 3	01	31 Aug 92	Hot Start - Turbine Engine
OPS 4	REPEALED		
OPS 5	05	23 Oct 01	Air Operators Certificate
OPS 6	01	16 Dec 92	Provisioning of minimum spares and equipment at Male' International Airport by Airlines
OPS 7	01	12 Jan 93	Adherence to Air Traffic Control Procedures
OPS 8	01	14 Feb 93	Passenger safety briefing cards
OPS 9	02	16 July 02	Minimum Fuel and Oil In-flight for Public Transport Aircraft
OPS10	RESERVED		
OPS 11	04	15 Jun 03	Flight Attendant Requirements
OPS 12	02	06 Sep 95	Installation of Stand Alone GPS Equipment
OPS 13	01	12 Apr 95	Protective Glove Requirement
OPS 14	01	20 Nov 95	Third Party Liability Insurance
OPS 15	01	30 April 97	Smoking on Domestic Flights
OPS 16	01	31 Dec 98	Global Navigation Satellite System Operations
OPS 17	01	11 July 01	Operations Specifications
OPS 18	01	01 Oct 99	Smoking ban on International passenger flights
OPS 19	01	01 May 00	Fuelling with passengers on board
OPS 20	03	15 Sep 04	Accident Prevention and Air Operator Flight Safety Programme

Contents
Issue 67
08 July 2009
Page 3 of 3

CIVIL AVIATION DEPARTMENT
MINISTRY OF CIVIL AVIATION AND COMMUNICATION
Male'
Republic of Maldives

AIR SAFETY CIRCULAR

OPS 22	R E S E R V E D		
OPS 23	R E S E R V E D		
OPS 24	02	07 Oct 02	Load Sheets
OPS 25	01	01 July 03	Manual of Certification of Aerodromes
OPS 26	R E S E R V E D		
OPS 27	R E S E R V E D		
OPS 28	01	01 Jun 05	Air Traffic Controller's Class 3 Medical

AIR NAVIGATION

AERODROMES

AIR TRANSPORT

AVIATION SECURITY



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR

ASC M-2

**AUTHORISATION SYSTEMS FOR AIRSHIPS, SAILPLANES AND
BALLOON CERTIFYING STAFF**

Initial Issue, 08 July 2009

1. REGULATORY COMPLIANCE

Compliance with this Circular is mandatory.

2. RELATED REGULATIONS

This Circular relates specifically to MCAR-M and MCAR-66 subpart B.

3. PURPOSE

The purpose of this Air Safety Circular (ASC) is to set out CAD policy concerning maintenance approvals and requirements relating to aircraft NOT used for Commercial Air Transport and relating to maintained components to be fitted to such aircraft.

4. GENERAL

4.1 MCAR-M, Subpart F covers the approval of organisations engaged in the maintenance of aircraft with an MTOM not exceeding 5700 kg and single engine helicopters not engaged in Commercial Air Transport.

5. Certifying Staff

5.1 Organisations holding or applying for Approval for the maintenance of Airships must meet the relevant requirements of MCAR-M, Subpart F. Certification authorisations will, until such times as appropriate provision for Airship licences has been incorporated into MCAR-66, be based upon BCAR Section L, Category 'A and C' airship LWTRs or any other equivalent foreign regulation. Unless agreed otherwise by the CAD, type training will be required to be conducted by a suitably approved MCAR-147 organisation.

5.2. Organisations holding or applying for Approval for the maintenance of Sailplanes or Balloons must meet the requirements set out in Appendix 1 of this Air Safety Circular, until such times as appropriate provisions for sailplane and balloon licences have been incorporated into MCAR-66.

5.3 Organisations holding or applying for Approval under MCAR-M Subpart F will be required to demonstrate to the CAD that they employ a sufficient number of certifying staff, who hold the appropriate type rated licences issued under BCAR Section L or any other equivalent foreign regulation, to be authorised to issue certificates of release to service for all required maintenance.

5.4 Privileges of BCAR Section L license or any other equivalent foreign licence shall be exercised under a validation certificate issued by CAD. The validation certificate will be issued once the foreign licence is verified and MCAR-66 module 10 at category B1/B2 level is passed.

AIR SAFETY CIRCULAR M-2, Appendix 1

Authorisation Systems for Sailplanes and Balloon Certifying Staff in MCAR-M Subpart F Organisations.

1. General

1.1 Air Safety Circular M-2 permits persons to be granted, by the holder of a MCAR-M Subpart F approval, Authorisations to issue Certificates of Release to Service when the CAD has agreed the conditions of such Authorisations. This Appendix provides guidance to assist organisations in determining the conditions, which may be agreed by the CAD.

1.1.1 Compliance with this ASC does not afford certification privileges outside of a MCAR-M Subpart F organisation.

1.1.2 The introduction of specific requirements for sailplanes and balloons into MCAR-66 would render the Authorisation concept defined here obsolete. Authorisations systems agreed under this Appendix may not therefore be used once any new regulation comes into effect and an organisation will have to review and revise its procedures accordingly.

1.2 Approved organisations wishing to issue certifying staff Authorisations shall develop suitable procedures to determine the competence of staff to hold such authorisations, and to manage and control the process within their organisation. These procedures shall clearly define the limits to which Authorisations can be granted. The proposed procedure shall be submitted initially through CAD for approval and when approved shall be contained within an organisation's Maintenance Organisation Manual.

1.3 The CAD has chosen not to define, in detail, acceptable boundaries in respect of defect diagnosis and the types of test equipment that are compatible with the Authorisation concept. Such definitions would inevitably produce a set of unnecessarily restrictive requirements.

1.4 The following shall be observed when developing suitable procedures:

1.4.1 Age

An applicant shall be not less than 18 years of age.

1.4.2 Experience

An applicant for an Authorisation shall have had the following minimum experience in the inspection, servicing and maintenance of sailplanes or balloons, as appropriate:

a) For the issue of Authorisation privileges for a sailplane or balloon in its entirety, at least:

i) four years of relevant maintenance experience: or

ii) two years if the applicant has satisfactorily completed an approved training course.

b) For the issue of a restricted Authorisation, a period of time agreed by the CAD that will enable a level of competency equivalent to that required by a) to be obtained, provided that this is not less than two years.

1.4.3 Knowledge

It shall be established by the organisation that applicants have an adequate knowledge of a relevant sample of the type(s) of sailplanes or balloons gained through a formalised training course including documented evidence of practical experience. Formalised training courses may be replaced by demonstration of knowledge, by documented evidence of experience and by an assessment performed by a MCAR-M Subpart F organisation in accordance with procedures agreed by the CAD.

This assessment shall include:

- a) relevant parts of initial and continuing airworthiness regulations;
- b) relevant parts of operational requirements and procedures, if applicable;
- c) the organisation's maintenance organisation manual;
- d) knowledge of a relevant sample of the type(s) of sailplanes/balloons/airships gained through training and/or work experience;
- e) maintenance practices and techniques.

Records shall be maintained including:

- results of assessments;
- records of syllabi;
- names and position of assessors.

1.4.4 Continued validity

The organisation shall ensure that all certifying staff are involved in at least six months of actual relevant sailplane or balloon component maintenance experience in any consecutive two year period. For the purpose of this supplement '*involved in actual relevant sailplane or balloon maintenance*' means that the person has worked in a sailplane or balloon maintenance environment and has exercised the privileges of the certification authorisation and/or has actually carried out maintenance on at least some of the sailplane/balloon type systems specified in the particular certification authorisation.



For the Civil Aviation Department
Aminath Solih
DIRECTOR GENERAL



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR

ASC OPS1-1

**REQUIREMENTS FOR PERSONNEL INVOLVED IN
OPERATIONAL CONTROL**

Initial Issue, 06 July 2009

[ISM Section 3 Ed 2 Rev 1, April 2007]

Applicability

This ASC addresses the requirements for personnel other than flight crew, involved in operational control of flights referred to in MCAR OPS 1 Subpart D and the duties of the personnel involved.

MCAR-OPS 1.205 states that, an operator shall ensure that all personnel assigned to, or directly involved in, ground and flight operations are properly instructed, have demonstrated their abilities in their particular duties and are aware of their responsibilities and the relationship of such duties to the operation as a whole.

Abbreviations

A/C Aircraft	FOO Flight Operations Officer
AFE Above Field Elevation	GM Guidance Material
AFM Approved Flight Manual	ICAO International Civil Aviation Organisation
ATC Air Traffic Control	JAA Joint Aviation Authorities (Europe)
ATS Air Traffic Services	JAR Joint Aviation Requirements
CDL Configuration Deviation List	LEP List of Effective Pages
CRM Crew Resource Management	MEL Minimum Equipment List
FAR Federal Aviation Regulation	NOTAM Notice to Airmen
FL Flight Level	OFP Operational Flight Plan
FMS Flight Management System	OM Operations Manual
FOB Fuel on Board	PIC Pilot-in-Command
FOD Foreign Object Damage	PLM Personnel Licensing Manual

1 Management and Control

1.1 Management System

1.1.1 The Operator shall have a management system that ensures supervision and control of all flights, operational control functions and other associated activities in accordance with standards of the Operator and requirements of MCAR OPS1.

1.2 Reserved

1.3 Authorities and Responsibilities

1.3.1 The Operator shall ensure authorities, duties and responsibilities for operational control of all flights are defined and communicated throughout the organisation, to include:

- i) the pilot-in-command (PIC);
- ii) if applicable, the flight operations officer (FOO) and/or flight operations assistant (FOA) who supports, briefs and/or assists the PIC or FOO in the safe conduct of each flight.

Guidance

The authorities and responsibilities for operational control must be communicated throughout the organisation(s) that are assigned authority for and/or responsibilities related to the operational control of flights. The entities that receive such information are dependent upon the system of operational control but always include the flight operations organisation.

Refer to **Table 3.1** for the definitions, duties and responsibilities of operational control personnel. PIC roles and responsibilities are specified in MCAR OPS 1.1085

Duties and responsibilities of FOO and/or FOA personnel include a definition of the working relationship with the PIC (e.g., PIC and FOO joint responsibility in a shared system of operational control).

1.3.2 The Operator shall ensure a plan for delegation of duties within the management system for operational control of each flight, in accordance with **1.1.1**, to assure managerial continuity when managers responsible for operational control are absent from the workplace.

Guidance

A documented process that ensures a specific person (or perhaps more than one person) is identified to assume the responsibilities of an operational manager who is or is expected to be away from normal duties meets the intent of this requirement. Such nomination of a temporary replacement for an operational manager may be communicated throughout the management system using email or other suitable communication medium.

The operational managers subject to the specifications of this provision include, as a minimum:

- managerial personnel, as defined by the operator, required to ensure the operational control of each flight;
- nominated post holders as per MCAR OPS1.175.

1.3.3 The Operator shall assign authority and responsibility within the management system for liaison with CAD and other external entities relevant to operational control.

1.3.4 The Operator shall assign authority for operational control of each flight to suitably qualified individual(s), to include **either**:

- i) only the PIC and a FOO in a shared system of operational control that requires the use of FOO personnel, **or**
- ii) only the PIC in a non-shared system of operational control.

Guidance

Systems of operational control include:

- shared systems in which operational control **authority** is shared between the PIC and a flight operations officer/flight dispatcher (FOO);
- non-shared systems in which operational control **authority** is assigned only to the PIC;

1.3.5 The Operator shall assign responsibilities for operational control of each flight to suitably qualified individuals, to include:

- i) only the PIC;
- ii) only FOO and/or FOA personnel who support, brief and/or assist the PIC or FOO in the safe conduct of each flight.

Guidance

Refer to **Table 3.1** for the definitions, duties and responsibilities of operational control personnel. Refer to **Table 3.2** for competencies included in operational control.

FOO and/or FOA responsibilities for operational control normally begin when assigned a flight during flight preparation and end after flight termination.

FOA personnel may have specific flight responsibilities depending on area of expertise or general (non-flight specific) responsibilities in support of other operational control personnel or functions.

1.3.6 If a FOO is utilised in the system of operational control, the Operator shall assign responsibility to such personnel for:

- i) assisting the PIC in flight preparation and provide the relevant information required;
- ii) assisting the PIC in preparing the operational and ATS flight plans;
- iii) signing, when applicable, the operational and ATS flight plans
- iv) filing the ATS flight plan with the appropriate ATS unit;
- v) furnishing the PIC, while in flight, with appropriate information that may be necessary for the safe conduct of the flight;
- vi) in the event of an emergency, initiating relevant procedures as specified in the OM.

Guidance

The authority and responsibilities of a FOO are defined in **Table 3.1**.

One or more of these duties may be delegated to a FOA.

The specification in item v) may be satisfied by the PIC, if access to such information is available from other sources.

1.3.7 The Operator shall ensure, in the event of an emergency situation that endangers the safety of the aircraft or persons, and which becomes known first to the Operator, the FOO, FOA or other delegated person is assigned responsibility for implementation of action in accordance with **1.3.8**, to include, where necessary:

1.3.8, to include, where necessary:

- i) initiation of emergency procedures, as outlined in the OM;
- ii) notification to the appropriate authorities, without delay, of the nature of the situation;
- iii) a request for assistance, if required.

Guidance

The specification in item i) refers to notification to the appropriate authorities without delay and/or within a period(s) specified by each applicable authority. Refer to MCAR OPS1.420 for occurrence reporting.

1.3.8 The Operator shall have a process to ensure, in the event of an emergency, the FOO, FOA or other delegated person:

- i) initiates procedures as outlined in the OM, while avoiding taking any action that would conflict with ATC procedures;
- ii) conveys, by any available means, safety-related information to the PIC that may be necessary for the safe conduct of the flight, including information related to any amendments to the flight plan that become necessary in the course of the flight.

Guidance

Processes used for operational control of flights in the event of an emergency would be compatible with any operating procedures that have been established by the agencies providing system services for air traffic control. Such compatibility is necessary to avoid conflict and ensure an effective exchange of information between the operator and any of the service agencies.

During an operational emergency, the procedures specified in item i) would be designed to not conflict with ATC procedures, such as separation standards, controller instructions, minimum flight altitude assignments or any other restrictions imposed by ATC. During an emergency, however, the PIC may exercise emergency authority and take any action necessary in the interest of the safety of the passengers and aircraft.

It is important for the PIC to convey relevant information to the FOO, FOA or other delegated person during the course of the flight, particularly in the context of emergency situations.

1.4 Communication and Coordination

1.4.1 The Operator shall have a communication system that enables and ensures an effective exchange of operationally relevant information throughout the management system and among operational control personnel.

Guidance

An effective communication system ensures an exchange of relevant operational information throughout all areas of the organisation, to include senior managers, operational managers and front line personnel. To be totally effective, the communication system also includes external organisations that conduct outsourced operational functions.

Methods of communication will vary according to the size and scope of the organisation. However, to be effective, any methods are as uncomplicated and easy to use as is possible, and facilitate the reporting of operational deficiencies, hazards or concerns by operational personnel.

The specifications of this provision may be satisfied by the flight operations organisation and/or other organisation(s) with responsibilities related to the operational control of flights.

This specification also applies to coordination among appropriate managerial personnel associated with supervision of operational control.

1.4.2 The Operator shall have a system that ensures operational control personnel have access to information relevant to the safe conduct of each flight, to include information associated with:

- i) the aircraft (MEL, maintenance);
- ii) meteorology;
- iii) safety (current accident and incident notification procedures);
- iv) routes, including over water and critical terrain (NOTAMs, facilities, outages);
- v) Air Traffic Services (ATS).

Guidance

The specifications of this provision apply to the PIC, FOO and FOA, whose job functions require access to information in one or more of the areas specified.

1.4.3 The Operator shall have a communication system that ensures the FOO, FOA and/or other person delegated responsibilities in accordance with **1.3.7** and **1.3.8** is provided with current accident and incident notification procedures.

1.5 Provision of Resources

1.5.1 The Operator shall ensure the existence of a physical infrastructure and work environment that satisfies management system and operational control requirements.

Guidance

The management system identifies, provides and maintains the infrastructure necessary to produce safe and secure operations, to include operations and maintenance support facilities, services and equipment appropriate for the area, such as:

- buildings, workspaces and associated utilities;
- facilities for people in the organisation;
- support equipment, including tools, hardware and software;
- support services, including transportation and communication. Likewise, the management system ensures a work environment that has a positive influence on motivation, satisfaction and performance of personnel in order to maximise safe and secure operations. A suitable work environment satisfies human and physical factors and considers:
 - safety rules and guidance, including the use of protective equipment;
 - workplace location(s);
 - workplace temperature, humidity, light, air flow;
 - cleanliness, noise or pollution.

The specifications of this provision may be satisfied by the flight operations organisation and/or other organisation(s) with responsibilities related to the operational control of flights.

1.5.2 The Operator shall ensure positions within the organisation relevant to the operational control of flights are filled by personnel on the basis of knowledge, skills, training and experience appropriate for the position.

Guidance

Prerequisite criteria for each position, against which candidates are evaluated, ensure personnel are appropriately qualified for management system positions in areas of the organisation critical to safe and secure operations.

The operational control positions subject to the specifications of this provision include, as a minimum:

- managerial personnel, as defined by the operator, required to ensure control and supervision of flight operations in accordance with **1.1.1**;
- nominated post holders as required by the Authority if applicable;
FOO knowledge, skill and experience requirements are in accordance with **1.5.5**, **1.5.6** and **1.5.8**.
FOA knowledge, skill and experience requirements are in accordance with **1.5.7** and **1.5.8**.
FOO and FOA training requirements are in accordance with the applicable provisions of Section 3, subsection 2.

PIC knowledge, skill, experience and training requirements are in accordance with the applicable provisions of Section 2, subsection 2.

1.5.3 The Operator shall, in accordance with MCAR OPS 1.025, have a process to ensure applicants hired in operational control functions demonstrate the capability of speaking and reading in a language that will permit communication with other areas within the organisation relevant to operational control.

1.5.4 Reserved

1.5.5 If a FOO is utilised in the system of operational control, the Operator shall ensure such personnel, prior to being assigned to operational control duties:

- i) meet minimum age, knowledge, experience and skill requirements of the State, as applicable;
- ii) have demonstrated knowledge and/or proficiency in *all* competencies of operational control, as specified in **Table 3.5**;
- iii) have demonstrated the ability to analyse weather, create accurate flight plans and provide assistance to flights;
- iv) complete an observation flight in accordance with **2.3.4**.

Guidance

The specifications of this provision apply to each FOO, whether licensed or not, who participates in an approved or accepted system of operational control.

1.5.6 If a FOO is utilised in the system of operational control, the Operator shall ensure such personnel hired in operational control functions are not less than 21 years of age and have the experience required under PLM Part 1, 4.5.1.3.

1.5.7 If a FOA is utilised in the system of operational control to support or assist the PIC or FOO in specific areas of competency, the Operator shall ensure such personnel, prior to being assigned duties in an operational control function have received training for their specific area of competency and:

- i) meet minimum age and knowledge required under PLM Part 1, 4.5.1.1 and 4.5.1.3 respectively
- ii) have demonstrated knowledge and/or proficiency in the competencies of operational control appropriate to any assignment of duties, as specified in **Table 3.5**;
- iii) have demonstrated the ability to provide assistance, in their specific area of competency, to the PIC and/or FOO, as applicable.

Guidance

The specifications of this provision apply only to FOA personnel who support or assist the PIC or FOO.

FOA personnel need only demonstrate knowledge and ability to assist flights in their area(s) of competence.

1.5.8 If a FOO or FOA is utilised in the system of operational control, the Operator shall have a process to ensure such personnel, as applicable, prior to being assigned duties in an operational control function;

- i) are in the case of FOO trained to the minimum experience required under PLM Part 1, 4.5.1.3 and in the case of FOA trained to a minimum experience level defined in the operations manual;

- ii) have demonstrated proficiency in the performance of the applicable operational control function(s) under the supervision of qualified operational control personnel.

Guidance

Newly hired operational control personnel may include individuals who already work for the operator in another area, that have worked in an operational control position or function for another operator, or that are newly trained and newly hired, having never worked in an operational control function.

The minimum amount of time needed to demonstrate proficiency under the supervision of qualified operational control personnel will depend on the operational control function being provided and the requirements of the operator and/or CAD

The operator may use an evaluation or check to determine that knowledge competencies of applicable areas are attained by each individual assigned to an operational control function.

Results of any evaluations are documented and retained in accordance with **1.8.1**.

1.5.9 If a FOO, FOA, or other personnel that support or assist in the operational control of flights are utilised in the system of operational control, the Operator shall have a policy regarding the use of psychoactive substances by such personnel, as applicable, that:

- i) prohibits the exercise of duties while under the influence of psychoactive substances;
- ii) prohibits the problematic use psychoactive substances;
- iii) requires that all personnel who are identified as engaging in any kind of problematic use of psychoactive substances are removed from safety-critical functions;
- iv) conforms to the requirements of CAD.

Guidance

See ASC GEN 5 regarding Drug Testing programme.

1.6 Documentation System

1.6.1 The Operator shall have a management and control system for documentation and/or data used directly in the conduct or support of operational control, to include:

- i) a means of identifying the version of operational documents;
- ii) a distribution process that ensures availability of the current version of the OM to appropriate operational control personnel;
- iii) review and revision as necessary, to maintain the currency of information contained in documents;
- iv) retention of documents that permits easy reference and accessibility;
- v) identification and disposal of obsolete documents;
- vi) reception of documentation and/or data from external sources to ensure information is received in time to satisfy operational requirements;
- vii) retention and dissemination of documentation received from external sources.

Guidance

The primary purpose of document control is to ensure necessary, accurate and up-to-date documents are available to those personnel required to use them, to include, in the case of outsourced operational functions, employees of external service providers.

Examples of documents that are controlled include, but are not limited to, operations manuals, checklists, quality manuals, training manuals, process standards, policy manuals, and standard operating procedures.

A system of electronic documentation management is acceptable, if controls are in place.

Document control requires the following to be accomplished:

- retention of a master copy;
- examination and approval prior to issue;
- review and update, to include an approval process;
- identification of revision status;
- revisions are identified and retained as history;
- background or source references are identified and retained as history;
- distribution to ensure appropriate availability at points of use;
- documents are checked to verify they remain legible and readily identifiable;
- documents of external origin are identified, updated, distributed and retained;
- obsolete documents are identified and retained as specified
- documents are disposed of as specified.

As a minimum, control of operational manuals includes:

- assignment of an individual with responsibility for approval for contents;
- a title page that generally identifies the operational applicability and functionality;
- a table of contents that identifies parts and sub-parts;
- a preface or introduction outlining the general contents of the manual;

The specifications of this provision may be satisfied by the flight operations organisation documentation management and control system, if used in conjunction with the operator's system of operational control.

Internal documents are subject to management and control.

Refer to **1.6.2** and **1.6.3** for a description of the documents subject to management and/or control. The specifications in:

- items vi) and vii) are managed by the operator and controlled by the issuing entity.
- items vi) and vii) include applicable regulations and associated documents, original manufacturer's manuals and documents and/or data produced externally for the operator.
- Items vi) and vii) may include Dangerous Goods documents, route and airports charts, FMS databases, airport analysis data, weight and balance data and performance data.

This provision refers to the library, which may be any organised system for documentation retention, and which contains current manuals, regulatory publications and other essential documents associated with operational control.

1.6.2 The Operator shall ensure the management and control system for operational control documentation specified in **1.6.1** addresses, as a minimum:

- i) the OM;
- ii) other documents that are referenced in the OM and contain information and/or guidance relevant to operational control personnel.

Guidance

The specifications of this provision may be satisfied by the flight operations organisation documentation management and control system, if used in conjunction with an operator's system of operational control.

Internal documents are subject to management and control. (See Guidance under **1.6.1**)

1.6.3 The Operator shall ensure the management and control system for operational control documentation specified in **1.6.1** addresses, as a minimum, the following documents from external sources:

- i) CAD regulations and other states relevant to operations, as applicable;
- ii) ICAO International Standards and Recommended Practices, as applicable;

- iii) Airworthiness Directives;
- iv) Aeronautical Information Publications, including NOTAMS;
- v) State approved or accepted Aircraft Flight Manuals (AFM);
- vi) manufacturer's aircraft operating manuals, including performance data, weight and balance data/manuals, checklists and MEL\CDL;
- vii) other manufacturer's operational communications, as applicable.

Guidance

The specifications of this provision may be satisfied by the flight operations organisation documentation management and control system, if used in conjunction with the operator's system of operational control.

External documents are managed by the operator in accordance with specifications vi) and vii) of 1.6.1 and controlled by the issuing entity.

The specification in item i) refers to applicable regulations imposed on the operator by other states (e.g., FAR 129).

The specification in item vii) refers to bulletins or directives distributed by the manufacturer for the purposes of amending aircraft technical specifications and/or operating procedures.

1.6.4 The Operator shall have processes to ensure the content of documentation used directly in the conduct or support of operational control:

- i) is identifiable and accessible to operational control personnel;
- ii) contains information that is clear, legible and accurately represented;
- iii) is written in a language(s) understood by operational personnel;
- iv) is presented in a useable format that meets the needs of operational control personnel;
- v) is accepted or approved by CAD.

Guidance

Documentation used in the support of operations control may:

- exist in electronic form;
- be issued in more than one language.

1.6.5 If the Operator utilises an electronic system for the management and control of documentation, the system shall provide for a scheduled generation of back-up files for documents used directly in the conduct or support of operational control.

Guidance

To preclude the loss of documents due to hardware or software failures, an electronic system is programmed to create back-up files on a schedule that ensures records are never lost. Typically, an electronic system provides for file back-up on a daily basis.

The retention period for electronic documents is in accordance with requirements defined by the operator and/or the relevant authority.

To ensure retrieval of archived documents, applicable hardware and/or software is retained after it has been replaced.

Back-up files are generated on a schedule that meets requirements of the operator.

1.7 Operations Manual

1.7.1 The Operator shall have an Operations Manual (OM) for the use of operational control personnel, which may be issued in separate volumes/parts, that contains the policies, procedures and other guidance or information necessary for compliance with MCAR OPS1 and Operator

standards. As a minimum, the content of the OM shall be in accordance with the specifications in **1.6.4** and MCAR OPS 1.1045

1.7.2 The Operator shall have a description of the Operational Flight Plan (OFP), or an equivalent document in the OM, to include guidance for its use by operational control personnel and an outline of the content in accordance with specifications in MCAR OPS 1.1060.

1.7.3 The Operator shall ensure those parts of the OM relevant to operational control personnel are clearly identified and defined.

1.7.4 If a FOO or FOA is utilised in the system of operational control, the Operator shall have guidance and procedures in the OM to enable such personnel, as applicable, to comply with the conditions and limitations specified in the AOC.

Guidance

The conditions and limitations of the AOC are to be available in documentation available to flight operations officers/flight dispatchers (FOO) and/or flight operations assistant (FOA) if the operator's system of operational control requires their use.

1.8 Records System

1.8.1 The Operator shall have a management and control system for the retention of records that document the fulfilment of requirements associated with operational control, to include the training and qualification requirements of FOO and FOA personnel, as applicable. Such system shall be in accordance with requirements of MCAR OPS 1.1065, as applicable, and provide for the management and control of records to ensure:

- i) identification;
- ii) legibility;
- iii) maintenance;
- iv) retention and retrieval;
- v) protection and security;
- vi) disposal.

1.8.2 The Operator shall ensure the operational control records system specified in **1.8.1** addresses the following information, as a minimum:

- i) operational information and data for each flight specified in **1.8.4**
- ii) operational control communication records specified in **1.8.5**;
- iii) the fulfilment of FOO and/or FOA qualification requirements specified in **1.8.6, 1.8.7, 1.8.8** and **1.8.9**, as applicable;
- iv) a signed copy of the OFP, as specified in **3.2.5**.
- v) data link communications.

1.8.3 If the Operator utilises an electronic system for the management of records, the system shall provide for a scheduled generation of back-up files for relevant records associated with operational control.

Guidance

Maintaining records in electronic files is a reliable and efficient means of short and long-term storage. The integrity of this type of record-keeping system is ensured through secure, safe storage and "back-up" systems.

To preclude the loss of records due to hardware or software failures, an electronic system is programmed to create back-up files on a schedule that ensures records are never lost. Typically, an electronic system provides for file back-up on a daily basis.

Where necessary, the look and feel of electronic records is similar to that of a paper record. A retention period for records is defined and, if applicable, is in accordance with any requirements of the Authority.

Hardware and software, when updated or replaced, is retained to enable retrieval of old records. Back-up files are generated according to a schedule that meets requirements of the operator.

1.8.4 The Operator shall have a process to record and retain, for a period of time as required under MCAR OPS 1.1065, operational information and data for each flight.

1.8.5 Reserved

1.8.6 If a FOO or FOA is utilised in the system of operational control, the Operator shall ensure training records for such personnel, as applicable, are managed in accordance with **1.8.1**, to include records that document completion of:

- i) initial qualification;
- ii) continuing qualification.

Guidance

Initial training records are retained permanently while an individual is employed by an operator. Last two training records must be retained to ensure that the subjects required in **2.2.2** have been covered during that time period.

1.8.7 If a FOO or FOA is utilised in the system of operational control, the Operator shall have a process to maintain records that document completion of an annual competency evaluation by such personnel, as applicable, for a period not less than one year.

1.8.8 If the Operator has a flight deck familiarisation programme for FOO personnel in accordance with **2.3.4**, the Operator shall have a process to retain a record of the operational flight deck familiarisation activities completed by each FOO for a period not less than one year.

1.8.9 If a licensed FOO is utilised in the system of operational control, the Operator shall have a process to retain a copy of the license of each FOO for a period of employment.

1.9 Reserved

1.10 Quality Assurance

(OPS 1.035 Quality System refers)

1.10.1 The Operator shall have a quality assurance programme that provides for auditing of operational control functions at planned intervals to ensure the organisation(s) with responsibility for operational control:

- i) comply with regulatory and internal requirements;
- ii) satisfy stated operational control needs;
- iii) produce desired operational control safety and quality outcomes;
- iv) identify hazards, undesirable conditions and areas requiring improvement.

Guidance

See TGL 44 (JAA Administrative & Guidance Material Section Four: Operations, Part Three: Temporary Guidance Leaflet (JAR-OPS) LEAFLET No 44)

AMC OPS 1.035 Quality System 44-12

1.10.2 The Operator shall have sufficient resources to ensure audits of operational control functions are:

- i) scheduled at intervals that meet management system requirements;
- ii) completed within a specified time period.

Guidance

See TGL 44 (JAA Administrative & Guidance Material Section Four: Operations, Part Three: Temporary Guidance Leaflet (JAR-OPS) LEAFLET No 44)
AMC OPS 1.035 Quality System 44-12

1.10.3 The Operator shall have a process to ensure significant issues arising from quality assurance audits of operational control functions are subject to regular review by senior management of the organisation(s) with responsibility for operational control.

Guidance

See TGL 44 (JAA Administrative & Guidance Material Section Four: Operations, Part Three: Temporary Guidance Leaflet (JAR-OPS) LEAFLET No 44)
AMC OPS 1.035 Quality System 44-12

1.10.4 The Operator shall have a process to ensure findings that result from audits of operational control functions that ensures:

- i) identification of root cause;
- ii) development of corrective or preventive action as appropriate to address the finding(s);
- iii) implementation of corrective or preventive action in appropriate operational areas;
- iii) evaluation of corrective or preventive action to determine effectiveness.

Guidance

See TGL 44 (JAA Administrative & Guidance Material Section Four: Operations, Part Three: Temporary Guidance Leaflet (JAR-OPS) LEAFLET No 44)
AMC OPS 1.035 Quality System 44-12

1.11 Reserved

2 Training and Qualification

2.1 Training and Evaluation Programme

General

2.1.1 The Operator shall have a training programme, approved by CAD, to ensure operational control personnel specified in **Table 3.1**, as applicable, are competent to perform any assigned duties relevant to operational control. Such programme shall, as a minimum, address:

- i) initial qualification;
- ii) continuing qualification.

Guidance

A training programme for operational control personnel includes, as a minimum:

- initial and recurrent training in accordance with the specifications of **Table 3.1** and **Table 3.2**;
- recurrent human factors training for FOO personnel on an annual basis;
- a process of qualification through written and/or practical evaluation.

2.1.2 If a FOO or FOA is utilised in the system of operational control, the Operator shall ensure the training programme specifies minimum training hours for such personnel.

2.1.3 The Operator shall have a process to ensure course materials used in training programmes for personnel responsible for operational control are periodically evaluated to ensure compliance with the qualification and performance standards of the Operator.

Guidance

Such process provides for:

- continuous improvement and effectiveness;
- incorporation of the latest regulatory and operational changes in a timely manner.

2.1.4 – 2.1.6 Reserved

Instructors and Evaluators

2.1.7 If a FOO or FOA is utilised in the system of operational control, the Operator shall have a process to ensure those individuals designated to train and evaluate the competency of such personnel, as applicable, are current and qualified to conduct such trainings and evaluations.

Guidance

Personnel delegated to evaluate FOO personnel are current and qualified as a FOO in accordance with requirements of the operator. Personnel delegated to evaluate FOA personnel are current and qualified in the applicable competencies of operational control in accordance with requirements of the operator.

The specifications of this provision refer to personnel delegated to evaluate the competency of operational control personnel only. The qualifications for individuals delegated to train operational control personnel must be defined in the Operator's Operations Manual.

2.2 Training Elements

2.2.1 If a FOO or FOA is utilised in the system of operational control, the Operator shall ensure such personnel, prior to being assigned to operational control duties, receive initial training and demonstrate appropriate knowledge and/or proficiency in the applicable competencies of operational control as specified in **Table 3.5**.

Guidance

FOO personnel who have completed training programmes conducted in accordance with ICAO 7192 D-3 meets the specifications of this provision.

FOO initial training programmes contain all of the competencies in **Table 3.2** that are relevant to the operations of the operator.

FOA initial training programmes contain the competencies in **Table 3.2** that are relevant to their job function as determined by the operator.

2.2.2 If a FOO or FOA is utilised in the system of operational control, the Operator shall ensure such personnel receive recurrent training in the applicable competencies of operational control, as

specified in **Table 3.2**. Recurrent training shall be completed on a frequency not less than once during every 36-month period.

Guidance

The recurrent training programme on an annual basis for FOO personnel addresses all of the competencies that are relevant to the operations of the operator as specified in **Table 3.2** at least once every three years.

The recurrent training programme on an annual basis for FOA personnel with addresses each of the competencies relevant to their specific job function and to the operations of the operator as specified in **Table 3.2** at least once every three years;

Different methods of conducting recurrent training are acceptable, including formal classroom study, computer-based training, seminars and meetings. All recurrent training, regardless of method, is documented and retained in accordance with **1.8.1**.

2.2.3 If a FOO is utilised in the system of operational control, the Operator shall ensure such personnel receive training in human factors on a frequency not less than once during every 12-month period.

2.3 Line Qualification

2.3.1 If a FOO or FOA is utilised in the system of operational control, the Operator shall have a programme to ensure such personnel, prior to being assigned to operational control duties, have demonstrated proficiency in the applicable competencies of operational control, as specified in **Table 3.2**.

Guidance

Proficiency is demonstrated annually and recorded in accordance with **1.8.1**.

Competencies of operational control are contained in **Table 3.2** and addressed based on the assigned area(s) of responsibility, to include:

- a proficiency review of an FOO that addresses all competencies relevant to the operations of the operator;
- a proficiency review of an FOA that is customised and addresses competencies specific to the assigned area(s) of responsibility and the operations of the operator.

2.3.2 If a FOO or FOA is utilised in the system of operational control, the Operator shall have a programme to ensure such personnel, prior to being assigned to operational control duties, have demonstrated the ability, as applicable, to:

- i) assist the PIC in flight preparation and provide the relevant information required;
- ii) plan with the appropriate ATS unit;
- iii) furnish the PIC in flight, by appropriate means, with information that may be necessary for the safe conduct of the flight;
- iv) initiate, in the event of an emergency, applicable procedures as outlined in the OM.

Guidance

FOO personnel are to demonstrate the capability to perform all duty functions.

FOA personnel are to demonstrate the capability to perform specific duty functions associated with assigned area(s) of responsibility.

2.3.3 If a FOO is utilised in the system of operational control, the Operator shall ensure such personnel who have not performed duties as a FOO for a period of 12 consecutive months are not

assigned to perform FOO duties until re-qualified, by demonstrating knowledge and/or proficiency in accordance with **2.2.1**.

2.3.4 If a FOO is utilised in the system of operational control, the Operator shall ensure such personnel are not assigned to FOO duties unless, within the preceding 12 months, they have observed one familiarisation flight from the flight deck of an aircraft over any route segment where responsibility for operational control will be exercised.

2.4 Special Qualification

2.4.1 If a FOO is utilised in the system of operational control, the Operator shall ensure such personnel receive crew resource management (CRM) training conducted with joint participation by flight crew members.

3 Line Operations

3.6 Flight Monitoring Procedures

3.6.1 If a FOO or FOA is utilised in a shared system of operational control, the Operator shall have procedures in the OM and equipment that ensure effective communication between the:

- i) FOO and the PIC;
- ii) FOA, if applicable, and the PIC;
- iii) FOO, PIC and maintenance.

Guidance

The communications system can be direct voice or electronic, but is reliable, clear and understandable over the entire route of the flight. An effective system performs adequately and appropriate personnel are knowledgeable in its use.

3.6.2 The Operator shall have a system of operational control that includes flight monitoring for the duration of a flight and ensures timely notification to the Operator by the PIC of en-route flight movement and/or significant deviation from the operational flight plan

3.6.3 Reserved

3.6.4 If an Operator has a system of operational control that includes an automated flight monitoring system, the Operator *should* have an adequate back-up method of flight monitoring in case of failure of the automated system.

3.6.5 The Operator shall have a process to ensure that the inadequacy of any facilities observed during the course of flight operations is reported to CAD without undue delay, and to further ensure that information relevant to any such inadequacy is immediately disseminated to applicable operating areas within the Operator's organisation.

Guidance

The specifications of this provision address situations when operational control personnel learn of the inadequacy of facilities (e.g. navigation aid outages, runway closures) from flight crew reports, ATS, airport authorities or other credible sources. Operational control personnel would be expected to convey any safety critical outages to applicable authorities and relevant operational areas within the organisation.

Table 3.1 – Operational Control Personnel

This table categorises operational control personnel, defines their authority, identifies their responsibilities and illustrates the relationship of such responsibilities to the operation as a whole. It shall be used for the purposes of applying relevant Section 3 provisions and is provided to ensure suitably qualified persons are designated, where applicable, to support, brief and/or assist the pilot-in-command (PIC) in the safe conduct of each flight. The terms used in the table to identify operational control personnel are generic and may vary. Personnel, however, employed in operational control functions with duties and responsibilities, as outlined in the table, are subject to the training and qualification requirements commensurate with their position.

Operational Control	Authority (1.3.5)	Responsibility (1.3.6)	Training and Qualification <i>Operator shall designate responsibilities and ensure personnel are competent to perform the job function.</i>
Administrative Personnel¹	None	Provide or collect operational documents or data only.	Not subject to initial and recurrent training in the competencies of operational control in Table 3.2 and may be qualified via On the Job Training (OJT), job descriptions, task cards, guidelines, checklists, training materials or other written means to establish competence.
Flight Operations Assistant (FOA)⁴	None or limited to area(s) of expertise e.g., maintenance controller grounds aircraft.	Support, brief and/or assist the PIC or FOO. Specialises in one or more of the elements of operational control. 3 Collects, provides filters, evaluates and applies operational documents or data relevant to specific elements of operational control. Makes recommendations or decisions in area(s) of expertise.	For each area of expertise or Specialisation 3: Subject to initial and recurrent training in accordance with 2.2.1 and 2.2.2 and specific competencies of Table 3.2 relevant to the job function and operations of the Operator.
Flight Dispatcher or Flight Operations Officer (FOO)⁴	None or limited or shared²	May share operational control authority with the PIC. 2 Support, brief, and/or assist the PIC. Collects, provides, filters, evaluates and applies operational documents or data relevant to all elements of operational control. 3 Makes recommendations or decisions.	Subject to initial and recurrent training in accordance with 2.2.1 and 2.2.2 and all competencies of Table 3.2 relevant to the operations of the Operator.
Pilot in Command (PIC)	Full/shared²	Has final authority for the safe operation of the aircraft and responsibility for safe conduct of the flight. May share authority and responsibility for operational control	Subject to training and qualification requirements specified in MCAR OPS 1Subpart N
Legend	<ol style="list-style-type: none"> 1- Personnel lacking any authority or responsibility for operational control are identified in the table for the purposes of excluding them from the training and qualification provisions of this section. 2- FOO personnel used in conjunction with a shared system of operational share authority with the PIC. 3- Elements of operational control are contained in Table 3.2. FOA personnel may be referred to as: Weather Analysts, Navigation Analysts/Flight Planning Specialists, Load Agents, Operations Coordinators/Planners, Maintenance controllers, Air Traffic Specialists. 4- The terms used in this table to identify operational personnel are generic and may vary. Personnel utilised in operational control functions and delegated the responsibilities delineated in the table are subject to the relevant qualification and training provisions in this section. 		

Table 3.2 – Competencies of Operational Control		
The Operator shall ensure FOO or FOA personnel demonstrate knowledge and/or proficiency in the competencies of operational control appropriate to any assignment of duties, to include, as applicable		
Competency	FOO	FOA
i) contents of the Operations Manual relevant to the operational control of flights;	X3	X3B
ii) radio equipment in the aircraft used;	X3	X3B
iii) aviation indoctrination;	X3	X3B
iv) navigation equipment in the aircraft used, including peculiarities and limitations of that equipment;	X3	X3B
v) seasonal meteorological conditions and hazards;	X3	X3B
vi) source of meteorological information;	X3	X3B
vii) effects of meteorological conditions on radio reception on the aircraft used;	X3	X3B
viii) aircraft mass (weight) balance and control;	X3	X3B
ix) human performance relevant to operations or dispatch duties (CRM/DRM);	X1	
x) operational procedures for the carriage of freight and dangerous goods;	X3	X3B
xi) operational emergency and abnormal procedures;	X3	X3B
xii) security procedures (emergency and abnormal situations);	X3	X3B
xiii) Civil Air Law and regulations;	X3	X3B
xiv) aircraft mass (weight) and performance;	X3	X3B
xv) navigation, special navigation;	X3	X3B
xvi) special airports;	X3A	X3AB
xvii) air traffic management;	X3	X3B
xviii) aircraft systems and MEL/CDL;	X3	X3B
xix) flight planning;	X3	X3B
xx) flight monitoring;	X3	X3B
xxi) communication;	X3	X3B
xxii) fuel supply (aircraft and fuel type requirements);	X3	X3B
xxiii) de-icing/anti-icing procedures;	X3A	X3AB
xxiv) ETOPS procedures, if applicable.	X3A	X3AB
Legend		
X: Shall be completed during training and evaluation		
1: Shall be satisfactorily completed during initial training and once every calendar year		
3: Shall be satisfactorily completed during initial training and once every three calendar years		
A: If relevant to the operations of the Operator		
B: If relevant to area of expertise or job function		

4. EFFECTIVITY

This circular comes into effect from 1st January 2010.



For the Civil Aviation Department
Aminath Solih
DIRECTOR GENERAL



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR

ASC OPS1-2

GROUND HANDLING

Initial Issue, 06 July 2009

[ISM Section 6 Ed 2 Rev 1, April 2007]

APPLICABILITY

This Air Safety Circular ASC-OPS-1 addresses functions within the scope of ground handling operations as specified under MCAR OPS 1.175, (m).

Phrases that are:

- identified by a <PA> in the reference number are applicable only to an Operator that conducts passenger aircraft operations and utilises cabin crew members (including combi aircraft operations);
- identified by an <AC> in the reference number are applicable only to an operator that conducts all-cargo aircraft operations, to include the transport of supernumeraries and/or cargo attendants.
- containing none of the above identifiers in the reference number are applicable to any operator.

Outsourcing

It is not uncommon for functions within the scope of ground handling operations to be outsourced/ contracted to external service providers. In accordance with Appendix 2 to MCAR OPS1.175 (c) 2, ii, an operator contracting other organisations to provide certain services, retains responsibility for the maintenance of proper standards. In such circumstances, a nominated post holder must be given the task of ensuring that any contractor employed meets the required standards.

ABBREVIATIONS

AD Airworthiness Directive

AEA Association of European Airlines

AHM IATA Airport Handling Manual

APU Auxiliary Power Unit

COMAT Company Material

FMS Flight Management System

FOD Foreign Object Damage

GM Guidance Material

GSE Ground Support Equipment

ICAO International Civil Aviation Organisation

ISM IOSA Standards Manual

ISO International Standards Organisation

JAA Joint Aviation Authorities (Europe)

NOTOC Notification to Captain (dangerous goods)

JAR Joint Aviation Requirements

STC Supplemental Type Certificate

LEP List of Effective Pages

1 Management and Control

1.1 Management System

1.1.1 The Operator shall have a management system for ground handling operations that ensures supervision and control of functions and activities within the scope of ground handling operations in accordance with standards of the Operator and MCAR OPS 1 Subpart C. Functions within the scope of ground handling operations include:

- i) passenger handling;
- ii) baggage handling;
- iii) cargo and mail handling;
- iv) aircraft handling and loading;
- v) load control.

1.1.2 The Operator shall have a postholder as per MCAR OPS 1.175 with appropriate qualifications and authority who is responsible for the performance of functions and activities within the scope of ground handling operations.

1.2 Authorities and Responsibilities

1.2.1 The Operator shall ensure authorities and responsibilities within the management system for ground handling operations are defined and communicated throughout all areas where ground handling operations are conducted.

1.2.2 The Operator shall ensure delegation of duties within the management system for ground handling operations to ensure managerial continuity when operational managers, including nominated post holders, if applicable, are absent from the workplace.

1.3 Communication

1.3.1 The Operator shall have a communication system that enables and ensures an exchange of operationally relevant information throughout the management system for ground handling operations and all areas where ground handling operations are conducted.

1.4 Provision of Resources

(MCAR OPS 1.175 refers)

1.4.1 The Operator shall ensure the existence of a physical infrastructure and work environment that satisfies ground handling management system and operational requirements.

Guidance

The management system identifies, provides and maintains the infrastructure necessary to produce safe and secure operations, to include operations and maintenance support facilities, services and equipment appropriate for the area, such as:

- buildings, workspaces and associated utilities;
- facilities for people in the organisation;
- support equipment, including tools, hardware and software;
- support services, including transportation and communication.

Likewise, the management system ensures a work environment that has a positive influence on motivation, satisfaction and performance of personnel in order to maximise safe and secure operations. A suitable work environment satisfies human and physical factors and considers:

- safety rules and guidance, including the use of protective equipment;
- workplace location(s);
- workplace temperature, humidity, light, air flow;
- cleanliness, noise or pollution.

1.4.2 The Operator shall ensure positions within the scope of ground handling operations that affect the safety and/or security of operations are filled by personnel on the basis of appropriate knowledge, skills, training and experience appropriate to the position.

Guidance

Prerequisite criteria for each position, against which candidates are evaluated, ensure personnel are appropriately qualified for management system positions in areas of the organisation critical to safe and secure operations. A corporate personnel selection policy that applies to all operational areas of the company, including cargo operations, serves to satisfy this requirement.

1.5 Documentation System

(MCA OPS 1.1040 refers)

1.5.1 The Operator shall have a management and control system for documentation and/or data used directly in the conduct or support of ground handling operations, to include:

- i) a means of identifying the version of operational documents;
- ii) a distribution process that ensures availability of the current version of the Operations Manual to appropriate personnel in all areas where ground handling operations are conducted;
- iii) review and revision as necessary to maintain the currency of information contained in documents;
- iv) retention of documents that permits easy reference and accessibility;
- v) identification and disposal of obsolete documents;
- vi) reception of documentation and/or data from external sources to ensure information is received in time to satisfy operational requirements;
- vii) retention and dissemination of documentation received from external sources.

Guidance

The primary purpose of document control is to ensure necessary, accurate and up-to-date documents are available to those personnel required to use them, to include, in the case of outsourced operational functions, employees of external service providers.

Examples of documents that are controlled include, but are not limited to, operations manuals, checklists, quality manuals, training manuals, process standards, policy manuals, and standard operating procedures.

A system of electronic documentation management is acceptable, if controls are in place. Document control requires the following to be accomplished:

- retention of a master copy;
- examination and approval prior to issue;

- review and update, to include an approval process;
- identification of revision status;
- revisions are identified and retained as history;
- background or source references are identified and retained as history;
- distribution to ensure appropriate availability at points of use;
- documents are checked to verify they remain legible and readily identifiable;
- documents of external origin are identified, updated, distributed and retained;
- obsolete documents are identified and retained as specified
- documents are disposed of as specified.

As a minimum, control of operational manuals includes:

- assignment of an individual with responsibility for approval for contents;
- a title page that generally identifies the operational applicability and functionality;
- a table of contents that identifies parts and sub-parts;
- a preface or introduction outlining the general contents of the manual;
- reference numbers for the content of the manual;
- a defined distribution method and identification of recipients;
- identification of responsibility for authorising the manual;
- a record of revisions, both temporary and permanent;
- a list of effective pages within the manual;
- identification of revised content.

Each “loose” documented procedure that is not held within a manual includes:

- a title page that identifies the operational applicability and functionality;
- identification of the date(s) of issue and date of effectiveness;
- reference numbers for the content;
- a distribution list;
- identification of responsibility for authorising the document.

1.5.2 If the Operator utilises an electronic system for the management and control of documentation, the system shall provide for a scheduled generation of back-up files for documents used directly in the conduct or support of ground handling operations.

Guidance

To preclude the loss of documents due to hardware or software failures, an electronic system is programmed to create back-up files on a schedule that ensures records are never lost. Typically, an electronic system provides for file back-up on a daily basis.

The retention period for electronic documents is in accordance with requirements defined by the operator.

To ensure retrieval of archived documents, applicable hardware and/or software is retained after it has been replaced.

1.5.3 The Operator shall have processes to ensure the content documentation used directly in the conduct or support of ground handling operations:

- i) contains information that is clear, legible and accurately represented;
- ii) is presented in a usable format that meets the needs of ground handling operational personnel;
- iii) is approved by the CAD

1.6 Operations Manual

(MCAR OPS 1.1040 refers)

1.6.1 The Operator shall have an Operations Manual, which may be issued in separate parts/volumes, that contains the operational policies, processes, procedures and other guidance or information necessary for ground handling personnel to perform their duties.

Guidance

Refer to Appendix 1 to MCAR OPS 1.1040; Contents of operations manual for ground handling instructions.

1.6.2 The Operator shall ensure the current edition of the Operations Manual is available in a usable format at each location where ground handling operations are conducted.

1.6.3 The Operator shall ensure a current edition of the ICAO Technical Instructions for Safe Transport of Dangerous Goods by Air (Doc 9284) or equivalent company documentation is available at each location where ground handling operations are conducted.

Guidance

Company documentation would be derived from the ICAO Technical Instructions for Safe Transport of Dangerous Goods by Air (Doc 9284) and describe policies and procedures with respect to DG permitted in passenger and crew baggage. Such policies would identify specific DG items approved by the operator for carriage on board an aircraft, as well as a description of the approval process and procedures to be applied once approval has been granted. Company documentation would also include action required by passenger agents with respect to items specifically not permitted in passenger baggage. Such documentation would also contain examples of dangerous goods hazard labels and procedures for addressing spills and/or leaks of unidentified substances.

1.7 Records System

1.7.1 The Operator shall have a management and control system for the retention of records that document the fulfillment of ground handling operational requirements, to include, but not limited to, the satisfaction of training and qualification requirements for ground handling operational personnel. Such system shall be in accordance with MCAR OPS 1.1065, and provide for the management and control of records to ensure:

- i) identification;
- ii) legibility;
- iii) maintenance;
- iv) retrieval;
- v) protection and security;
- vi) disposal.

1.7.2 If the Operator utilises an electronic system for the management and control of records, the system shall provide for a scheduled generation of back-up files for records associated with ground handling operations.

Guidance

Maintaining records in electronic files is a reliable and efficient means of short and long-term storage. The integrity of this type of record-keeping system is ensured through secure, safe storage and “back-up” systems.

To preclude the loss of records due to hardware or software failures, an electronic system is programmed to create back-up files on a schedule that ensures records are never lost. Typically, an electronic system provides for file back-up on a daily basis. Where necessary, the look and feel of electronic records is similar to that of a paper record. A retention period for records is defined in MCAR OPS 1.1065. Hardware and software, when updated or replaced, is retained to enable retrieval of old records.

1.8 RESERVED

1.9 Quality Assurance

(MCAR OPS 1.035 refers)

1.9.1 The Operator shall have a quality assurance programme that provides for auditing of functions within ground handling operations to ensure the Operator:

- i) complies with regulatory and other applicable requirements;
- ii) satisfies stated operational needs;
- iii) produces desired operational safety, security and quality results
- iv) identifies hazards, undesirable conditions and areas requiring improvement.

Guidance

See TGL 44 (JAA Administrative & Guidance Material Section Four: Operations, Part Three: Temporary Guidance Leaflet (JAR-OPS) LEAFLET No 44)
AMC OPS 1.035 Quality System 44-12

1.9.2 The Operator shall have a process for addressing findings resulting from audits of functions within ground handling operations that ensures:

- i) identification of root cause;
- ii) development of corrective or preventive action, as appropriate, to address finding(s);
- iii) implementation of corrective or preventive action in appropriate operational areas;
- iv) evaluation of corrective or preventive action to determine effectiveness.

1.9.3 The Operator shall ensure significant issues arising from audits of functions within the scope of ground handling operations are subject to regular review by senior ground handling management.

Guidance

See TGL 44 (JAA Administrative & Guidance Material Section Four: Operations, Part Three: Temporary Guidance Leaflet (JAR-OPS) LEAFLET No 44)
AMC OPS 1.035 Quality System 44-12

1.10 Outsourcing and Product Control

(Appendix 2 to MCAR OPS 1.175 refers)

1.10.1 If the Operator has external service providers conduct outsourced operational functions within the scope of ground handling operations, the Operator shall have a process to ensure a contract or agreement is executed with such external service providers, which includes or references measurable specifications that can be monitored by the Operator to

ensure requirements that affect the safety and/or security of ground handling operations are being fulfilled.

Guidance

An operator always retains responsibility for outsourced operations, maintenance or security functions that have been voluntarily transferred to an external service provider. A contract of agreement is necessary to ensure the outsourced services to be provided and functions to be conducted by the external service provider are formally documented. Inclusion of measurable specifications, usually in the form of a service level agreement, provides the basis for a monitoring process.

The requirement for a contract or agreement applies to outsourced functions within the scope of ground handling operations that affect the safety and security of operations, including special functions such as aircraft fuelling and de-/anti-icing. If a ground handling function is expected to be accomplished in accordance with specific industry standards, the agreement identifies and specifies the standards by exact name (e.g., aircraft fuel shall be delivered in accordance with the published standards of the IATA Fuel Quality Pool). The IATA Airport Handling Manual (AHM) contains detailed guidance and examples of a standard ground handling agreement and a service level agreement. Additionally, IATA publishes a standard contract for the delivery of aircraft fuel.

1.10.2 If the Operator has external service providers conduct outsourced operational functions within the scope of ground handling operations, the Operator shall have a process to monitor such external service providers to ensure requirements that affect the safety and security of operations are being fulfilled.

Guidance

The specifications of this provision are applicable to outsourced operations, maintenance or security functions that affect the safety or security of operations.

Under outsourcing, the conduct of an operational function is transferred to an external service provider under the provisions of a contract or other legal mechanism. In such cases, even though the operational function is conducted by a third party, the operator retains full responsibility for ensuring the function is conducted in a manner that meets its operational safety and security requirements. Such responsibility, and hence the requirement for monitoring, is retained by an operator for outsourcing to any service provider that is external to the operator, including the parent organisation of the operator or a separate affiliate of the operator.

In some regulatory jurisdictions, there may be a regulatory control process that permits certain organisations to meet rigorous standards and become approved to conduct outsourced operational functions for an operator. Such regulatory approval process of qualified organizations is acceptable as a monitoring process, if it can be demonstrated by an operator that the regulatory control process is sufficiently robust to ensure an approved service provider fulfils operational safety and/or security requirements of the operator.

1.10.3 The Operator shall include auditing as a process for monitoring external service providers, as specified in 1.10.2.

1.10.4 The Operator shall have a process to ensure products acquired from external suppliers, which directly affect the safety or security of operations, meet required technical specifications prior to being utilised in the conduct of ground handling operations.

Guidance

This provision does not apply to electronic navigation data products utilised in flight (e.g., FMS database) or for operational control (e.g., flight planning database).

Examples of products that could affect the safety or security of operations include, but are not limited to:

- aircraft fuel;
- aircraft lubrication products;
- de-/anti-icing fluids;
- onboard safety equipment;
- aircraft parts and/or components;
- aircraft handling equipment;
- operational software, databases;
- security screening equipment;
- unit load devices (ULD).

Note: As per Appendix 2 to MCAR OPS 1.175 c) 2, ii, when operational functions are outsourced, a nominated postholder must be given the task of ensuring that any contractors employed meets the required standards.

2 Training and Qualification

2.1 Training Programme

2.1.1 The Operator shall have a process to ensure personnel who perform operational duties in functions within the scope of ground handling operations for the Operator, to include personnel of external service providers, complete:

- i) *initial training* prior to being assigned to perform such operational duties;
- ii) *recurrent training*, except recurrent training in dangerous goods, as specified in 2.2.1 or 2.2.2, on a frequency not less than once during every 36-month period.

Guidance

Requirements for initial and recurrent training apply to all operational ground handling personnel who perform duties within the scope of ground handling operations.

2.1.2 The Operator shall have a process to ensure the content of training completed by ground handling operations personnel in accordance with 2.1.1 is reviewed and updated to remain relevant, and provides the knowledge necessary to perform duties, execute procedures and operate equipment associated with specific ground handling functions and responsibilities, to include:

- i) familiarisation training on general provisions and regulations;
- ii) in-depth training on requirements, including policies, procedures and operating practices;
- iii) training in human factors principles;
- iv) safety training on associated operational hazards.

Guidance

The AHM contains guidance for the training of ground handling personnel.

Refer to AHM 590, which contains subject areas to be addressed in training for personnel who perform load control functions.

Refer to AHM 613, 4, which contains subject areas to be address in training for personnel who perform aircraft handling functions, to include aircraft loading.

Refer to AHM 614, which contains subject areas to be addressed in training for personnel who operate a vehicle in the performance of duties in airside operations.

2.1.3 The Operator shall have a process to ensure training for personnel who perform operational duties in functions within the scope of ground handling operations for the Operator includes testing or evaluation by written or practical means, as applicable, to satisfy the requirement for operational personnel to demonstrate adequate knowledge, competency or proficiency to perform duties, execute procedures or operate equipment.

2.1.4 the Operator shall ensure completion of required training by personnel who perform operational duties in functions within the scope of ground handling operations for the Operator is recorded and such records are retained in accordance with 1.7.1.

2.2 Programme Elements

2.2.1 The Operator shall have a process to ensure ground handling personnel receive dangerous goods training, to include *initial training* and *recurrent training*, on a frequency in accordance with requirements of MCAR OPS 1 Subpart R.

Guidance

When an operator does not accept dangerous goods shipments, dangerous goods training is still required for ground handling personnel to ensure declared and undeclared dangerous goods are recognised and prohibited from being loaded onto an aircraft. It is possible for dangerous goods to be inadvertently included in shipments to be transported on an aircraft, especially as part of a company material (COMAT) shipment. Dangerous goods training would be structured to provide the requisite knowledge to permit ground handling personnel to recognise dangerous goods (whether labelled or not labelled), ensure such dangerous goods are not inadvertently loaded on an aircraft and apply emergency action in the event of contamination or a spill.

2.2.2 RESERVED

2.2.3 The Operator shall have a process to ensure ground handling personnel assigned to perform ground handling duties in airside operations for the Operator, to include the operation of ground support equipment, complete initial and recurrent airside safety training in accordance with 2.1.1.

Guidance

Refer to AHM 611, which contains guidance on subjects to be addressed in a training syllabus that are applicable to airside operations and safety.

2.2.4 The Operator shall have a process to ensure ground handling personnel assigned to perform aircraft fuelling operations for the Operator complete initial and recurrent training in accordance with 2.1.1.

2.2.5 The Operator shall have a process to ensure personnel assigned to perform aircraft ground de-/anti-icing operations complete initial and recurrent training in accordance with 2.1.1.

Guidance

Refer to ICAO Doc 9640-AN/940, Chapter 13, which contains guidance on subjects to be addressed in a training syllabus for personnel who conduct aircraft de-/anti-icing operations.

3 Ground Handling Operations

3.1 Passenger Handling

3.1.1 The Operator shall have a process to ensure measures are in place for the dissemination of information to passengers that provides a warning as to the types of dangerous goods that are forbidden from being transported onboard an aircraft. As a minimum, such information shall be disseminated:

- i) with the passenger ticket or other manner such that the passenger receives the information prior to or during check-in;
- ii) via notices, sufficient in number and prominently displayed, in areas of an airport utilized for passenger ticketing, check-in, boarding and baggage claim;
- iii) via notices clearly displayed at any other location where passengers are checked in.

Guidance

Notices, sufficient in number, would be prominently displayed at places at an airport where passengers are processed, such as:

- ticketing areas;
- check-in areas;
- boarding areas;
- baggage claim areas.

Additionally, if passenger ticketing or check-in is accomplished using electronic means, dangerous goods information is presented in the appropriate electronic medium. Notices may also be displayed in other locations where passengers are checked in, including areas not at an airport. Additional guidance may be found in AHM, 9.5.3.2, and 170, and in ICAO Technical Instructions for Safe Transport of Dangerous Goods by Air (Doc 9284)

3.1.2 RESERVED

3.1.3 The Operator shall have a process to ensure procedures are in place for the identification of passengers during the check-in process and prior to entry into secure areas.

3.2 Airside Operations

3.2.1 The Operator shall have a process to ensure there is an assignment of responsibility for supervision and oversight of personnel and activities during airside operations in areas near and around the aircraft.

3.2.2 The Operator shall have a process to ensure safety procedures are in place for airside operations in areas near and around the aircraft.

Guidance

Safety procedures would address, as a minimum:

- the use of internationally recognised marshalling signals for communication among ground personnel for the movement of ground support equipment.
- protection of passengers moving between the aircraft and the terminal building where the apron is utilised for passenger embarkation and disembarkation.

- foreign object damage (FOD) prevention for apron areas that have aircraft parking or movement operations.

Refer to AHM 630, 631 and 635 for additional guidance that addresses airside safety procedures.

3.2.3 The Operator shall have a process to ensure procedures are in place for the arrival and departure movement of aircraft in airside operations.

Guidance

Aircraft movement procedures would address, as a minimum:

- signals used between ground personnel and the flight crew;
- verbal phraseology used between ground personnel and the flight crew;
- standard operating procedures in accordance with recommendations of the aircraft manufacturer(s) for aircraft pushback, power back, power out and/or tow-out, as applicable, for departure from the parking position, and for aircraft power-in and/or tow in, as applicable, for arrival into the parking position.

Refer to AHM 631 for additional guidance that addresses airside aircraft movement procedures.

3.2.4 The Operator shall have a process to ensure procedures are in place for an inspection of the aircraft exterior and adjacent airside areas prior to aircraft movement operations.

Guidance

Inspection procedures would ensure:

- surface condition of the apron is adequate to conduct aircraft movement operations;
- the apron is clear of items that might cause aircraft FOD;
- aircraft servicing doors and panels are closed and secure (departure);
- power cables and loading bridge are detached (departure);
- equipment and vehicles are positioned clear of the aircraft movement path;
- adequate clearance exists between the aircraft and facilities or fixed obstacles along the aircraft movement path;
- chocks are removed from all wheels (departure).

Refer to AHM 631 for additional guidance that addresses airside aircraft movement procedures.

3.2.5 The Operator shall have a process to ensure procedures are in place for an inspection of the aircraft immediately prior to departure for the purpose of identifying, documenting and, as applicable, reporting external aircraft damage.

Guidance

To enhance the possibility of identifying all aircraft ground damage, such inspection would take place after most ground handling activities had been completed and at point just prior to the time aircraft movement will commence for departure. External damage deemed to have the potential to compromise the airworthiness of an aircraft would be reported to appropriately qualified maintenance personnel for evaluation and action, as appropriate.

3.2.6 The Operator shall have a process to ensure procedures are in place for securing an aircraft prior to overnight or layover parking.

Guidance

Securing procedures would ensure aircraft:

- are searched prior to parking to ensure no persons are onboard;
- are parked only in secure areas within an airport operating area;
- are parked under conditions that permit maximum security and protection;
- doors are closed and locked and steps are removed while parked.

3.3 Load Control

(MCAR OPS 1 Subpart J)

3.3.1 The Operator shall have a process to ensure a Load Control system is in place that provides for:

- i) aircraft weight and balance conditions that are correct and within limits;
- ii) aircraft loaded in accordance with MCAR OPS 1 Subpart J and specific loading instructions for the flight;
- iii) information, to include last minute changes, that is in agreement with the actual load on the aircraft and presented on a final loadsheet.

Guidance

Load planning is important for ensuring accurate aircraft weight and balance. Such process entails, as a minimum:

- assemblage of all data relating to the aircraft load (originating and en-route stations);
- planning of the load for ready accessibility;
- planning of special loads according to restrictions, maximum quantities, separation and segregation requirements
- consideration of centre of gravity parameters affecting aircraft fuel consumption.

Additional guidance may be found in AHM 590.

3.3.2 The Operator shall have a process to ensure weight and balance calculations are based on current aircraft weight and balance data.

3.3.3 RESERVED

3.3.4 If the Operator accepts dangerous goods for transport as cargo, mail or COMAT, the Operator shall ensure a process is in place to provide the pilot-in-command, as soon as practicable prior to departure, with accurate information pertaining to dangerous goods onboard the aircraft.

Guidance

The notification to the captain (NOTOC) includes information about all dangerous goods loaded on the aircraft, including dangerous goods that have been loaded on the aircraft at a previous departure point and that are to be carried on a subsequent flight. The NOTOC also contains information:

- for use in emergency response to an accident or incident involving dangerous goods onboard;
- to provide to air traffic services in the event of an in-flight emergency.

3.3.5 The Operator shall have a process to ensure weight and balance records are retained for a period in accordance with requirements of MCAR OPS 1.1065.

3.3.6 The Operator *should* have a process to ensure procedures are in place for identification and communication to Load Control of:

- i) hold baggage, individual or cumulative weights, that exceed normal allowances;
- ii) gate delivery items, including individual or cumulative weights that exceed normal allowances;
- iii) other non-normal items that must be considered in the load control process.

3.4 Aircraft Loading

3.4.1 The Operator shall have a process to ensure procedures are in place that provide for aircraft to be loaded:

- i) in accordance with written loading instructions;
- ii) in a manner that satisfies weight and balance requirements of MCAR OPS 1 Subpart J.
- iii) in accordance with MCAR 1.270

3.4.2 If the Operator accepts dangerous goods for transport as cargo, mail or COMAT, the Operator shall have a process to ensure a qualified individual is designated in accordance with MCAR OPS1 Subpart R to be responsible for the correct loading and securing of dangerous goods onboard the aircraft.

3.4.3 If the Operator accepts dangerous goods for transport as cargo, mail or COMAT, the Operator shall have a process to ensure procedures are in place for the handling and securing of dangerous goods during aircraft ground handling operations in a manner specified under MACR OPS 1 Subpart R, MCAR–OPS 1.1210.

3.4.4 If the Operator accepts dangerous goods for transport as cargo, mail or COMAT, the Operator shall have a process to ensure procedures are in place to comply with MCAR OPS1.1200, when a dangerous goods shipment appears to be damaged or leaking.

3.4.5 If the Operator accepts dangerous goods for transport as cargo, mail or COMAT, the Operator shall have a process to ensure procedures are in place to comply with MCAR OPS 1.1205 when an aircraft has been contaminated by a shipment of damaged or leaking dangerous goods.

3.4.6 <AC> The Operator shall have a process to ensure special procedures are in place that assure, when the flight crew, supernumeraries and/or cargo attendants, as applicable, are seated forward of the cargo, the aircraft is loaded in accordance with standards of the aircraft manufacturer.

3.4.7 If the Operator conducts combi aircraft operations, the Operator shall have procedures in place for loading such aircraft, which shall be in accordance with requirements of the aircraft manufacturer, supplemental type certificate (STC) holder and/or data approved by CAD.

3.4.8 If the Operator accepts dangerous goods for transport as cargo, mail or COMAT, the Operator shall have a process to ensure shipments labelled “Cargo Aircraft Only” are not loaded on a passenger aircraft.

3.4.9 <AC> If the Operator accepts dangerous goods for transport as cargo, mail or COMAT, the Operator shall have a process to ensure packages or overpacks labelled “Cargo Aircraft Only,” other than those specifically excluded, are loaded in a manner whereby a crew member or other authorised person can see and handle such packages and hazard labels and the Cargo Aircraft Only label is visible.

3.4.10 <PA> If the Operator accepts dangerous goods for transport as cargo, mail or COMAT, the Operator shall have a process to ensure dangerous goods are not carried on an aircraft in a cabin occupied by passengers, except in accordance with MCAR OPS 1.1210

3.4.11 The Operator shall have a process to ensure dangerous goods are not carried on the flight deck of an aircraft, except in accordance with MCAR OPS 1.1210.

3.4.12 RESERVED

3.5 Ground Support Equipment

3.5.1 The Operator shall have a process to ensure practices and procedures are in place for the operation of ground support equipment used in aircraft handling operations to assure such equipment is operated in a manner that prevents damage to the aircraft and injury to personnel.

Guidance

Operating practices and procedures are designed to ensure:

- only qualified and authorised personnel are permitted to operate equipment;
- standard operating procedures, applicable to specific location, are followed by drivers (or operators) of each type of ground support equipment;
- personnel do not operate vehicles or equipment while using hand-held portable electronic devices unless a suitable “hands free” capability exists and is utilised;
- equipment is used only for its intended purpose;
- unserviceable equipment is clearly identified and removed from operations;
- equipment is never moved across the path of taxiing aircraft or passengers walking between an aircraft and the terminal;
- safety cones are placed on the apron to mark hazard areas;
- an equipment restraint line is marked or displayed on the apron;
- equipment is positioned behind the equipment restraint line with parking brakes applied prior to any aircraft movement (departure and arrival on the apron);
- the parking brake is always applied, with gear selector in park or neutral, when equipment is parked away from or positioned at the aircraft;
- the passenger loading bridge is in the fully retracted position prior to aircraft arrival and departure;
- equipment (including the loading bridge) is not moved toward an arriving aircraft until it has come to a complete stop, chocks are positioned, engines are shut down, anti-collision beacons are switched off and, if applicable, ground-to-flight deck communication has been established (exception: external power may be connected to the aircraft, if necessary);
- prior to equipment movement, a guide person, visible to the driver (or operator), is in position to accurately judge clearances and communicate guidance using hand signals;
- equipment movement does not commence or is halted, if the driver (or operator) does not have or loses visual contact with a guide person;

- equipment or vehicles are not moved into hazard areas associated with the aircraft type;
 - a brake check is accomplished prior to entering an equipment restraint area;
 - motorised equipment make a full stop as a brake check before entering the equipment restraint area and again before reaching the aircraft side;
-
- equipment, when approaching or leaving an aircraft, is not driven faster than walking speed;
 - stabilisers, when fitted on equipment, are deployed when equipment is positioned at the aircraft;
 - equipment with elevating devices is not driven in the elevated position, except for final positioning at the aircraft;
 - equipment is not removed from an aircraft cabin access door unless the driver (or operator) has advised appropriate persons on the aircraft and on the ramp;
 - equipment is not removed from a position at an aircraft cabin access door until the door has been closed and secured by an authorised person or a highly visible safety device has been placed across an open door.

Additional guidance may be found in AHM 630 and 997.

3.5.2 The Operator shall have a process to ensure ground support equipment is operated only by qualified personnel.

Guidance

Refer to AHM 630, 9.1, which contains guidance that addresses operation of GSE.

3.5.3 The Operator shall have a process to ensure a programme is in place for the maintenance of ground support equipment, which assures such equipment remains serviceable and in good mechanical condition.

Guidance

Refer to guidance in AHM 630, 9.10.

3.5.4 The Operator shall have a process to ensure a process is in place for recording maintenance completed on ground support equipment.

3.6 Emergency Response

(ASC 00-2 Safety Management System, 6.4, refers)

3.6.1 The Operator shall have a process to ensure an emergency management plan is in place for responding to accidents or other emergencies that may occur during aircraft ground handling operations.

3.6.2 If the Operator accepts dangerous goods for transport as cargo, mail or COMAT, the Operator shall have a process to ensure procedures are in place for reporting dangerous goods accidents or incidents that occur during aircraft ground handling operations to the CAD as per MCAR OPS 1.1225.

3.6.3 The Operator shall have a process to ensure procedures are in place for response to ground handling incidents.

3.6.4 The Operator shall have a process for the retention of records of accidents and incidents associated with aircraft ground handling operations.

4 Special Aircraft Ground Handling Operations

4.1 Aircraft Fuelling

4.1.1 The Operator shall have a process to ensure fuel suppliers are maintaining standards of fuel safety and quality acceptable to the Operator and fuel delivered and loaded onto aircraft is:

- i) free from contamination;
- ii) of the correct grade and specification for each aircraft type.

Guidance

The process ensures fuel is stored, handled and serviced in accordance with accepted standards. Approved fuel specifications are contained in each aircraft manual. To ensure fuel corresponds to the specifications and grade of product necessary for the applicable aircraft type(s), a control process at each location where the operator has aircraft fuelling operations is necessary. Such process ensures the existence of periodic inspections of critical aspects of the fuel supply system at each applicable location, to include, as a minimum:

- fuel facilities;
- safety and quality procedures;
- performance levels of personnel.

4.1.2 The Operator in compliance with MCAR OPS 1.305 shall have a process to ensure, during fuelling operations with passengers or crew embarking, onboard or disembarking the aircraft, procedures are in place that provide for the designation of a person with responsibility for fuelling operations and specify the method(s) by which that responsible person:

- i) communicates with the flight crew or other qualified persons onboard the aircraft;
- ii) provides notification to the flight crew or other qualified personnel onboard the aircraft and/or other appropriate personnel engaged in aircraft ground handling activities when fuelling is about to begin and has been completed;
- iii) provides notification to the flight crew or other qualified personnel onboard the aircraft when a hazardous condition or situation has been determined to exist.

Guidance

Ground handling personnel, including those who provide aircraft fuel servicing, are to be properly trained and have a clear understanding of all required communication procedures and have the ability to execute such procedures in an expeditious manner should a dangerous situation develop. Suitable means of communication with the flight crew or other qualified persons onboard the aircraft includes use of the aircraft inter-communication system, direct person-to-person contact or other methods that ensure direct and timely communication.

Additional guidance may be found in AHM 13.7.

4.1.3 The Operator shall have a process to ensure, during fuelling operations with passengers or crew embarking, onboard or disembarking the aircraft, procedures are in place that provide for, in the event of a fuel spill, immediate and follow-up actions to assure:

- i) fuelling is stopped;
- ii) appropriate ground response personnel or airport fire service is summoned, as applicable;
- iii) notification of the flight crew or other qualified persons onboard the aircraft.

4.1.4 The Operator *should* have a process to ensure, during fuelling operations with passengers or crew embarking, onboard or disembarking the aircraft, procedures are in place that establish a fuelling safety zone and specify restrictions and limitations for the use of devices, conduct of activities and operation of vehicles and ground support equipment within the safety zone.

Guidance

Procedures specify a fuelling safety zone, which, as a minimum, encompasses the area within a 6 m (20 foot) radius from fuelling receptacles, tank vents and fuelling equipment. Procedures also restrict equipment performing aircraft servicing functions from being positioned within a 3 m (10 foot) radius of aircraft fuel vent openings.

As a minimum, limitations and restrictions in a fuelling safety zone preclude the use or activation of:

- items that could be sources of ignition or fire (e.g., matches, welding equipment, flashbulbs);
- portable electronic devices with proper separation distance from aircraft fuel vents and/or fuelling equipment (e.g., mobile telephones, portable radios, pagers).

Additional guidance may be found in AHM 175 and 630.

4.1.5 The Operator shall have a process to ensure, during fuelling operations with passengers or crew embarking, onboard or disembarking the aircraft, safety procedures associated with aircraft fuelling operations are in place as per Appendix 1 to MCAR OPS 1.305.

Guidance

Safety procedures applicable to fuelling operations in addition to Appendix 1 to MCAR OPS 1.305 , would include :

- restrictions and limitations for the operation and positioning of non-fuelling vehicles and ground support equipment;
- ensuring evacuation areas on the ground beneath aircraft exit doors (not in use for aircraft servicing) are kept clear of obstructions;
- where a boarding bridge is in use, maintaining an access path from the aircraft to the terminal;
- where a boarding bridge is not in use, positioning or passenger steps at the aircraft door(s) normally used for boarding;
- establishment of a bonding connection between the fuelling vehicle and aircraft to provide for dissipation of electrical energy that may develop;
- a prohibition from connecting or disconnecting electrical equipment to the aircraft;
- provisions for operation of the aircraft APU;
- prevention of damage to the fuel hose;
- a requirement for the cessation of aircraft fuelling when it is determined lightning is a threat

Refer to additional guidance in AHM 630.

4.2 Aircraft De-/Anti-icing

(MCAR OPS 1.345 a, refers)

4.2.1 If the Operator has the potential to operate flights from any airport with conditions conducive to ground aircraft icing, the Operator shall have a De-/Anti-icing Programme that is approved by CAD, which shall:

- i) ensure adherence to the Clean Aircraft Concept;
- ii) define responsibilities within the Programme;
- iii) address applicable locations within the route network;
- iv) define areas of responsibility;
- v) specify technical and operational requirements;
- vi) specify training and qualification requirements;
- vii) be applicable to external service providers that perform de-/anti-icing functions for the Operator.

Guidance

A de-/anti-icing programme covers all locations where flights might be conducted in ground icing conditions and defines all areas of responsibility pertaining to aircraft de-icing and anti-icing, including functions conducted by external ground handling service providers. If the operator has a regional route network that does not include any airports that have the potential for ground icing conditions, the Operations Manual would have a statement that specifically prohibit flights to any airports where there is a possibility of ground icing conditions. The programme requires all persons involved in ground de-icing and anti-icing activities to be trained and qualified in the procedures, communications and limitations of each area of responsibility. If any de-/anti-icing functions will be conducted by external ground handling agents or service providers, the programme describes and defines specific control processes that ensure all de-icing and anti-icing requirements of the operator are fulfilled by external service providers.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground Deicing/Anti-icing Operations, Chapter 7, and in the AEA Recommendations for De-icing/Anti-icing of Aircraft on the Ground.

4.2.2 If the Operator has a De-/Anti-icing Programme, the Operator shall ensure policies and procedures are in place that result in:

- i) standardised methods of fluid application; (See Appendix 1 to MCAR OPS 1.1045 8.2.4)
- ii) compliance with specific aircraft limitations;
- iii) a clean aircraft through proper treatment of applicable surfaces.

Guidance

Policies and procedures define equipment for and methods of applying de-icing and anti-icing fluid to produce an aircraft free of contamination (clean aircraft). Procedures specify a sequence for fluid application to the applicable aircraft surfaces and define specific methods and techniques for applying fluid to each individual surface. Procedures provide limitations that are to be observed to successfully complete the process, including correct fluid mixtures, fluid temperatures and nozzle pressure.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground Deicing/ Anti-icing Operations, Chapter 11.

4.2.3 If the Operator has a De-/Anti-icing Programme, the Operator *should* have a process to ensure the availability and use of adequate facilities and equipment for aircraft de /anti-icing operations at applicable locations.

4.2.4 If the Operator has a De-/Anti-icing Programme, the Operator shall ensure fluids used in de-icing and anti-icing operations are:

- i) stored, handled and applied in accordance with criteria established by the Operator, fluid manufacturer and aircraft manufacturer;
- ii) manufactured in accordance with ISO specifications.

Guidance

To be effective, fluids used in the de-/anti-icing process are required to meet use criteria established by the operator, fluid manufacturer and aircraft manufacturer. Additionally, fluids are to be manufactured in accordance with ISO specifications. There is a means for ensuring the appropriate types of fluids (Types I, II, III or IV) are utilised in the proper manner for conditions under which de-icing and anti-icing operations are being conducted, each diluted as required to achieve desired results. Procedures ensure fluids are handled in accordance with recommendations of the fluid manufacturer and effectiveness is not degraded due to contamination.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground Deicing/ Anti-icing Operations, Chapter 11.

4.2.5 If the Operator has a De-/Anti-icing Programme, the Operator shall ensure procedures are in place for ground handling personnel to communicate with the flight crew to assure:

- i) the aircraft is properly configured prior to beginning the de-/anti-icing process;
- ii) the flight crew receives all necessary information relevant to fluid(s) applied to the aircraft surfaces;
- iii) the flight crew receives confirmation of a clean aircraft;
- iv) the flight crew receives an “all clear” signal at the completion of the de-/anti-icing process and prior to aircraft movement.

Guidance

Procedures define all communication necessary between ground handling personnel and the flight crew prior to and after completion of the de-/anti-icing process. Communication procedures require ground handling personnel to provide the flight crew with final information about the process that verifies the aircraft is in compliance with the Clean Aircraft Concept.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground Deicing/ Anti-icing Operations, Chapter 10.

5. EFFECTIVITY

This circular comes into effect from 1st January 2010.



For the Civil Aviation Department
Aminath Solih
DIRECTOR GENERAL



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR

ASC 187-1
Government Rates

Initial Issue, 25 November 2007

1. REGULATORY COMPLIANCE

Compliance with this Circular is mandatory.

2. RELATED REGULATIONS

This Circular relates specifically to MCAR-187.

3. PURPOSE

As per MCAR-187.15 Para (e), where in connection with any function in respect of which a charge is specified, a staff of CAD or any other person(s) appointed to act on behalf of CAD is required to travel to locations other than in which he is normally stationed or outside of the Maldives, the applicant shall pay, in addition to the appropriate charge specified in Appendix 1 of MCAR-187, a charge of such amount as may be decided by CAD having regard to the rates established by the Government of Maldives for travel costs payable to government employees in carrying out official duties.

The purpose of this circular is to publish the rates established by the Government of Maldives for travel costs payable to government employees in carrying out official duties.

4. Government Rates

- (a) Where a function of CAD involves travel costs as stipulated under MCAR-187.15 Para (e), the applicant shall provide the travel costs in advance and such costs shall be calculated according to the formula given below.

$$t = i + p + d + a + s$$

Where:

t = total travel cost

- i = incidental expense
- p = pocket money
- d = daily subsistence allowance rate multiplied by the number of days
- a = air ticket in economy class (if travel time is eight hours or more, air ticket should be in business class)
- s = stop over allowance if transit time is eight hours or more. The rate for this is the daily subsistence allowance rate for that country.

- (b) The incidental and pocket money rates to be provided to government officials who are at the level of Executive Director and below are given in Table 1.

	Foreign Travel	Local Travel
Incidental Rates		
travel period is 7 days or less	US\$ 200.00	Available on Request
travel period is more than 7 days	US\$ 300.00	Available on Request
Pocket Money Rates		
travel period is 7 days or less	US\$ 150.00	Available on Request
travel period is more than 7 days	US\$ 225.00	Available on Request

Table 1

- (c) The Daily Subsistence Allowance rates to be provided to government officials who are at the level of Executive Director and below are given in Table 2.

Country	Rate / US\$
Local Travel: The rates are available on request.	
Foreign Travel	
Australia, Cairns and Brisbane	301
Australia, Canberra, Sydney and Melbourne	360
Canada, Calgary	350
Canada, Montreal	379
Canada, Winnipeg	274
Germany, Cologne	274
Hong Kong	384
India, New Delhi	366
Malaysia, Kuala Lumpur	204
Nepal, Kathmandu	135
Norway	345
Pakistan, Islamabad	374
Pakistan, Karachi	276
Singapore	390
Sri Lanka, Colombo	138
Thailand, Bangkok	395
United Kingdom, London	529
United States, New York	434
United States, Oklahoma	251
United States, Washington	401
Note: Rates for other countries are available from Civil Aviation Department upon request.	

Table 2

This Circular becomes effective on 1 January 2008.



For the Civil Aviation Department
Mahmood Raze
EXECUTIVE DIRECTOR



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR

ASC 00-1

Maintenance Personnel Duty Time Limitations

Amendment 1, 03 March 2009

1. REGULATORY COMPLIANCE

Compliance with this Circular is mandatory for Maldivian organisations approved under MCAR-145 and MCAR-M.

2. RELATED REGULATIONS

This Circular relates specifically to MCAR-145 and MCAR-M.

3. PURPOSE

The purpose of this regulation is to establish maintenance personnel duty time limitations in accordance with the human factors principles laid down by the International Civil Aviation Organisation, International Federation of Airworthiness and Maldivian Employment Act.

4. DEFINITIONS

For the purpose of this Circular, the following definitions shall apply:

'Day' means a period of 24 hours beginning at midnight;

'Employer' means the person/organisation by whom an individual is (or, where the employment has ceased, was) employed;

'Maintenance personnel' means a person engaged in maintenance, repair and overhaul of commercial aircraft regardless of qualifications or employer. This includes persons employed in the preparation of maintenance instructions and tasks;

'Night shift' means a shift where three or more hours of which falls between 11pm and 6am;

‘Rest day’ means a period of one day during which an individual is free of all work and/or standby duties;

‘Shift/Working time’ means:

- any period during which an individual is working (includes rest breaks), at his/her employer's disposal and carrying out his/her activity or duties (excludes travel time to work)
- any period during which an individual is receiving relevant training.

5. RIGHTS AND OBLIGATIONS CONCERNING WORKING TIME OF MAINTENANCE PERSONNEL

5.1 Daily working hour limits

- (a) No scheduled shift shall exceed 12 hours.
- (b) No shift shall be extended beyond a total of 13 hours by overtime.
- (c) A minimum rest period of 9 hours shall be allowed between the end of a shift and the beginning of the next, and this should not be compromised by overtime.

5.2 Breaks

- (a) The working time before a rest break shall be a maximum of 4 hours.
- (b) Minimum rest break of 10 minutes, plus 5 minutes for each hour worked, to a maximum of 30 minutes should be scheduled and utilized. The process begins after every 30 minute rest break is taken.
- (c) Employer may give additional breaks, other than the rest breaks, during a shift to compensate for work planned ahead. In no circumstance the total working time shall exceed 13 hours including rest breaks and overtime. This clause shall not be misused for the benefit of any undue advantage.
- (d) Maintenance personnel are entitled to spend the rest breaks and other additional breaks away from his/her work place.

Note: Rest Breaks and Additional Breaks have definite meanings. Rest Breaks are breaks entitled by an employee after a working time of 4 hours. Additional Breaks are planned breaks provided by the employer to compensate for planned work ahead.

5.3 Weekly working hour limits

- (a) Scheduled work hours shall not exceed 48 hours in any period of 7 successive days.
- (b) Total work, including overtime, shall not exceed 60 hours in any period of 7 successive days or 6 successive work days before a period of rest days.

- (c) A period of rest days shall include a minimum of 2 successive rest days (i.e. a minimum of 48 hours off). This limit shall not be compromised by overtime.

5.4 Annual limits

- (a) Wherever possible, the aim shall be for a total of 30 days of annual leave.

5.5 Night shift limits

- (a) Scheduled night shifts should be limited to no more than 6 days in each 7 calendar days of 8 hour duration, or 4 days on each 7 calendar days of 12 hour durations, including overtime.
- (b) A minimum rest period of 9 hours shall be allowed between the end of a night shift and the beginning of the next, and this should not be compromised by overtime.

5.6 Window of Circadian Low (WOCL)

Where possible, the Window of Circadian Low (WOCL) should be taken into account in the preparation of duty time and rest periods.

This is the period between 02:00 hours and 05:00 hours, local time.

At other work locations away from home base, where it is necessary to position employees for duty periods, due note should be taken of time zone changes and proper allowance made for the proven effect such changes have on alertness and physical ability.

5.7 Notice of schedule

- (a) Whenever possible, aircraft maintenance personnel shall be given at least 7 days' notice of their work schedule.

5.8 Additional requirements

- (a) Aircraft maintenance personnel shall be required to report for duty adequately rested.
- (b) Aircraft maintenance personnel shall be discouraged or prevented from working for other commercial organisations on their rest days and, hence, from exceeding the limits on work schedules despite their implementation by their main employer.

5.9 Records

An employer shall:

- (a) keep records which are adequate to show whether the limits specified in paragraphs 5.1 to 5.8 are being complied with in the case of each maintenance personnel employed by him in relation to whom they apply; and
- (b) retain such records for 2 years from the date on which they were made.

6. UNFORESEEN CIRCUMSTANCES IN OPERATIONS

In the event of unforeseen circumstance occurring, during daily scheduled operations which had arisen after shift reporting time, the limits for the published duty time and rest periods may be modified. Any such modifications should be reviewed and approved by the responsible senior management individual on duty at the working location and inform CAD within 72 hours of amendment. This clause shall not be misused for the benefit of any undue advantage.

7. EFFECTIVITY

- (a) This Circular becomes effective on 03 March 2009.
- (b) MCAR-145 and MCAR-M organisations approved prior to 03 March 2009, shall comply with
 - i. the provisions of paragraph 5.3, before 1 October 2009
 - ii. all other provisions of this Circular, from 03 March 2009.

8. CANCELLATION

With effect from 03 March 2009, ASC 00-1, Initial Issue, dated 9 April 2008 will be cancelled and should be destroyed.



For the Civil Aviation Department
Aiminath Solih
DIRECTOR GENERAL



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR

ASC 21-1

Check Flights for Continuing Airworthiness Management
Amendment 2, 18 March 2009

1. REGULATORY COMPLIANCE

Compliance with this Circular is not mandatory as this circular is produced as guidance.

2. RELATED REGULATIONS

This Circular relates specifically to MCAR-21 subpart H and MCAR-M.

3. PURPOSE

The purpose of this Air Safety Circular (ASC) is to advise owners, operators and organisations involved in the management of airworthiness of Maldivian registered aircraft of the implementation of current CAD policy for flight-testing. This ASC provides amplification, details references, and gives guidance on the safe conduct of an aircraft evaluation flight, on the occasions when one is required by MCAR-21 subpart H or MCAR-M, or when owners or operators elect to perform one as part of their continuing airworthiness programmes.

4. GENERAL

4.1 Background

4.1.1 Flight testing of aircraft is a required means of establishing compliance with certification requirements for new aircraft and changes to aircraft. Other flight testing, referred to as check flights or in-flight surveys, can be carried out periodically on in-service aircraft as one of the processes to ensure that an aircraft continues to comply with the applicable airworthiness requirements. Additionally, maintenance check flights may be carried out following a maintenance activity on an aircraft to provide reassurance of performance or establish the correct functioning of a system that cannot be fully established during ground testing.

4.1.2 Although MAR B02 & C12 make reference to the term flight testing or test flight, MCAR-M refers to “check flights” and “in-flight surveys”. However, the term “flight testing” will be used when discussing pre-certification actions; “check flight” will refer to required or elective verification activities that take place post type certification, such as for the issue of a C of A or post maintenance; “in-flight surveys” are another form of check flight.

4.2 Changes Resulting from the new (MCAR-21 and MCAR-M) Regulations

4.2.1 MAR B02 (dated 11 March 1997) paragraph 5.5(3) and MAR C12 (dated 18 April 1993) paragraph 4.1(b) requires a flight test report for every C of A renewal. Furthermore, MAR C12 appendix II gives the flight test format and MAR D06 (dated 9 January 2003) appendix I gives the format of certificate of fitness for flight which is required before an airworthiness flight test is carried out. However, these regulations will be repealed in 1 January 2009 and therefore, this ASC anticipates the measures that need to be in place by that date and identifies when a flight test or check flight is necessary, according to the respective parts of the MCAR-21 and MCAR-M.

4.2.2 MCAR-21 and MCAR-M, will introduce a non-expiring certificate of airworthiness, which is underpinned by a prescriptive continuing airworthiness management system. Owners or operators of aircraft are responsible for ensuring the continuing airworthiness of their aircraft; MCAR-M M.201 refers. These responsibilities require owners or operators, or their contracted organisations under MCAR-M Subpart G, to analyse the airworthiness status of the aircraft, including reported flight defects and performance issues.

4.2.3 Owners or operators, who establish a need to carry out periodic check flights as part of their own airworthiness assurance process, or are required for commercial reasons to do so, should ensure that their check flight schedules and procedures are developed in accordance with current best practices. They may achieve this by consulting with the aircraft manufacturer or with UK CAA Aircraft Certification Department for advice on content and safety procedures. However, aircraft are no longer subject to the systematic programme of continuing airworthiness flight test (CAFT), previously carried out at the time of C of A renewal.

NOTE: Please see the section "Use of Schedules" on the Flight Testing page of the Safety Regulation page of the UK CAA website at www.caa.co.uk > Safety Regulation > Operations & Airworthiness > Continuing Airworthiness & Maintenance > Flight Testing.

4.2.4 The new regulations encourage CAD to develop a survey programme to monitor the airworthiness status of the fleet of aircraft on its register. This survey programme can include, as one element, in-flight surveys.

5 Check Flights for Continuing Airworthiness Management

5.1 Background

5.1.1 The ICAO Airworthiness Manual, Volume 1, advises that the purpose of airworthiness check flights is to ensure that the aircraft's flight characteristics and its functioning in flight do not differ significantly from the normal characteristics for the type and to check the flight performance against the appropriate sections of the flight manual. It also states that these flights should be conducted in accordance with schedules that are approved by the State's competent authority.

5.1.2 The principles and safety considerations that follow are applicable for both required and elective check flights for continuing airworthiness management. These check flights do not include maintenance check flights for specific items.

5.2 Check Flight Schedules

5.2.1 Check flights flown in accordance with appropriate schedules will establish that:

a) the handling characteristics are satisfactory and typical of the type;

b) the climb performance equals or exceeds the scheduled data;

NOTE: Data is necessary in order to assess any future deterioration of performance in service.

c) the aircraft and its equipment function satisfactorily and the aircraft continues to comply with its type design standard.

5.2.2 To be appropriate, the schedules require the pilot to carry out:

a) Handling tests, including the effectiveness of primary controls and trimmers, with specific direction (see Note) to evaluate the characteristics during the following phases of flight:

- i) Take-off;
- ii) Climb;
- iii) Cruise;
- iv) Flight at maximum speed;
- v) Flight at minimum speed;
- vi) Descent;
- vii) Landing; and
- viii) Hover manoeuvres for helicopters.

NOTE: If not directed to evaluate characteristics, many pilots would compensate and adapt to deficient characteristics.

b) Performance tests:

- i) Simple, free air pressure rate-of-climb measurements under known and predicted configurations and conditions; and
- ii) Measurement of low speed warnings and, if applicable, stall speeds.

c) Tests to check functioning of the aircraft equipment in flight and safe, recoverable functioning of back-up systems, e.g. emergency gear lowering, use of alternate braking systems. Note that controls, systems and equipment which are used regularly may be considered, for the purpose of the schedule, to have been checked on the basis of normal usage.

5.2.3 As per UK CAA Airworthiness Notice 48, Check Flight Schedules which meet the above criteria will be created and maintained by UK CAA (in conjunction with the aircraft manufacturer) where required for check flights. UK CAA Check Flight Schedules are acceptable to the CAD. Should an operator wish to develop an alternative schedule for required check flights, this may be done provided that it incorporates all elements of the UK CAA schedule and, in particular, the Check Flight Certificate.

Examples may be found in the UK CAA guidance material for the conduct of check flights, namely the UK CAA Check Flight Handbook. Any alternative schedule, when used for required check flights, should have been reviewed and accepted by the CAD; in seeking any such agreement, the operator should include details of arrangements for periodic review of his schedules.

5.2.4 Schedules are available for most aircraft types (and variants thereof) above 5700 kg from UK CAA. However, for certain categories of aeroplanes below 5700 kg, the CAA has produced generic schedules, which can be used for a range of aeroplane types. These can be obtained from UK CAA Aircraft Certification Department or from the Flight Testing page of the UK CAA website.

5.3 Check Flight Results

After each check flight, the pilot who conducted the flight should complete the post flight certificate, which lists all the defects found during the flight, as detailed in the Check Flight Handbook. This, together with the completed Schedule, comprises the Check Flight Report.

5.4 Pilots Conducting Check Flights

5.4.1 To ensure that appropriate levels of safety are maintained, check flights should be conducted by pilots who have satisfactory experience with the appropriate check flight schedule, and have received adequate familiarisation of check flight techniques and safety precautions. For both required and elective check flights, it is necessary that the pilot concerned fully understands the significance and intent of the tests, as well as the techniques used to minimise the risk associated with some tests. For required check flights, CAD must be consulted in advance regarding the eligibility of pilots intending to conduct such flights.

5.4.2 Pilot acceptance criteria and procedures for conducting check flights should be included in the continuing airworthiness management exposition in accordance with MCAR-M.704 where applicable. Though it is not feasible to lay down absolute experience and ability requirements for pilots, guidelines are provided in the UK CAA Check Flight Handbook.

6 Implementation

6.1 Certificate of Airworthiness issue – New aircraft

6.1.1 As part of a production assurance programme, the manufacturer is required to determine conformity for each individual aircraft prior to the issue of the statement of conformity (EASA Form 52/ FAA Form 8130-9)/Export C of A. No check flight is required by the CAD for C of A issue.

6.1.2 An exception to this is where the ‘new’ aircraft is disassembled for shipping to Maldives. On arrival in Maldives and following reassembly, a check flight will be required. When the aircraft has been modified, e.g. by fitment of a performance STC, since original manufacture, a check flight may be required.

6.2 Reserved

6.3 Certificate of Airworthiness issue – Used aircraft imported into Maldives

6.3.1 For a C of A to be issued to a used imported aircraft into Maldives, it is necessary to determine that the individual aircraft conforms to its type certification standard and is airworthy. In order to establish this, MCAR-21 requires a check flight to be conducted in accordance with MCAR-M prior to C of A issue. MCAR-M.904 and AMC M.904 refers.

6.3.2 Application

On receipt of an application for the issue of a C of A, the applicant will be notified by letter of the need for a check flight and he will be asked to contact the CAD, to agree the particular check flight requirements for his aircraft. The C of A will not be issued until the check flight has been completed and the results satisfactorily dealt with (see paragraph 5.3).

NOTE: A number of owner or operators lease out aircraft at seasonal periods to reduce capacity. In these cases when the aircraft return to Maldivian register within 12 months and the owner or

operator has arrangements in place to monitor the continuing airworthiness arrangements with the lessee a check flight will not normally be required on return.

6.4 Certificate of Airworthiness issue – Export C of A from Maldives

MCAR-21 and MCAR-M do not make provisions for the issue of an Export C of A. CAD will continue to accept applications for the issue of an Export C of A for aircraft to be exported. For the present, for aircraft with a valid C of A, an airworthiness review will be carried out and no check flight will be required unless specified by the importing State. For aircraft without a valid C of A, the procedures specified in paragraph 6.5 below, apply in addition to the foregoing.

6.5 Revalidating a Certificate of Airworthiness

6.5.1 A Certificate of Airworthiness will become invalid if an aircraft has not been maintained in an airworthy condition. Aircraft that have been in storage, or out of service, for a prolonged period of time will have not been subject to the periodic continuing airworthiness requirements and will need their airworthiness status to be re-established prior to entry into service. Where necessary, return to service check flights should form part of the Airworthiness Review Certificate (ARC) recommendation procedures to provide an additional assurance of serviceability. Continuing airworthiness management organisations should include procedures for this in their exposition.

6.5.2 Prior to 1 January 2010, during the transition period to full implementation of MCAR-21 subpart H and I, if a C of A for an individual aircraft had expired for a period longer than one year, then the renewal of the C of A was considered as a subsequent issue with CAD involvement. As the aircraft had not been subject to continuing airworthiness controls and processes during this period, a check flight would be required to demonstrate conformity.

6.6 Maintenance Check Flights

6.6.1 MCAR-M.301 (8) identify maintenance check flights as part of the continuing airworthiness tasks necessary to ensure the serviceability of operational and emergency equipment. For some maintenance tasks, the manufacturer prescribes in the aircraft's Maintenance Manual the need for check flights to be carried out. For other tasks involving, for example, work carried out on a system or component the correct functioning of which is affected by flight dynamics, air loads, airflows, or low temperatures and pressures, the certifying engineer will need to determine if a maintenance check flight is required to verify its operation.

6.7 The suitability of pilots conducting maintenance check flights and appropriate safety precautions must be addressed.

7. CANCELLATION

With effect from 18 March 2009, ASC 21-1, Amendment 1, dated 03 March 2009 will be cancelled and should be destroyed.

This Circular becomes effective on 18 March 2009.



For the Civil Aviation Department
Aiminath Solih
DIRECTOR GENERAL



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR

ASC 00-2

Safety Management System

Initial Issue, 03 December 2008

1. PREAMBLE

1.1 This regulation is issued by the Director, in pursuance of Civil Aviation Act No.: 02/2001.

2. SCOPE AND APPLICABILITY

2.1 Scope

- 2.1.1 This regulation describes the requirements for a service provider safety management system (SMS) and is applicable to service providers who that falls within the safety oversight function of the Civil Aviation Department, Maldives.
- 2.1.2 Within the context of this regulation the term “service provider” must be understood to designate any organization providing aviation related services. The term encompasses aircraft operators, maintenance organizations, air traffic service providers and aerodrome operators, as applicable.
- 2.1.3 This regulation addresses aviation safety related processes and activities rather than occupational safety, environmental protection, or customer service quality.
- 2.1.4 The service provider is responsible for the safety of services or products contracted to or purchased from other organizations.
- 2.1.5 This regulation establishes the minimum acceptable requirements; the service provider can establish more stringent requirements.

2.2 Applicability and acceptance

2.2.1 A service provider shall have in place a safety management system (SMS) that is acceptable to CAD, that, as a minimum:

2.2.1.1 identifies safety hazards and assesses and mitigates risks;

2.2.1.2 ensures that remedial action necessary to maintain an acceptable level of safety is implemented;

2.2.1.3 provides for continuous monitoring and regular assessment of the safety level achieved; and

2.2.1.4 aims to make continuous improvement to the overall level of safety.

3. REFERENCES

3.1 This regulation is in accordance with [ICAO Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes, and Part III — International Operations — Helicopters*, ICAO Annex 11 — *Air Traffic Services*, and ICAO Annex 14 — *Aerodromes, Volume I — Aerodrome Design and Operations*], and the *ICAO Safety Management Manual* (Doc 9859).

4. DEFINITIONS

Accountable Manager	Means General Manager (GM), Managing Director (MD) or Chief Executive Officer (CEO), who has corporate authority for ensuring that all work required by the customer can be financed and carried out to the standard required.
Active failures	are generally the result of equipment faults or errors committed by personnel.
Corporate Safety Culture	Is the atmosphere created by management that shapes workers' attitude towards safety.
Errors	Actions or inactions by persons that have an adverse effect.
Hazard	Condition, object or activity with the potential of causing injuries to personnel, damage to equipment or structures loss of material, or reduction of ability to perform a prescribed function.
Mitigation	Measures to eliminate the potential hazard or to reduce the risk probability or severity.

Probability	The feasibility that a situation of danger might occur.
Risk	The chance of loss or injury, measured in terms of severity and probability. The chance that something is going to happen and the consequences if it does.
Risk Management	The identification, analysis and elimination (and/or mitigation to an acceptable or tolerable level) of those hazards, as well as the subsequent risks, that threaten the viability of an organization.
Safety	Is the state in which the risk of harm to persons or property damage is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and risk management.
Safety Management System	a systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.
Safety Office	serves as a focal point for safety-related activities, acts as a repository for safety reports and information, and provides expertise on safety management to line managers.
Safety Performance Indicators	are a measure (or metric) used to express the level of safety performance achieved in a system.
Safety Performance Targets	the required level of safety performance for a system. A safety performance target comprises one or more safety performance indicators, together with desired outcomes expressed in terms of those indicators.
Safety Programme	An integrated set of regulations and activities aimed at improving safety.
Safety Requirements	are operational procedures, technology, systems and programmes to which measures of reliability, availability, performance and/or accuracy can be specified.
Senior Management	A Team/Group of Managers/Directors including the Accountable Manager as determined by the Board of Directors.

Severity	The possible consequences of a situation of danger, taking as reference the worst foreseeable situation.
Violation	A deliberate act.

5. GENERAL

5.1 The Service provider shall establish, maintain and adhere to a safety management system (SMS) that is appropriate to the size, nature and complexity of the operations authorized to be conducted under its operations certificate and the safety hazards and risks related to the operations.

6. SAFETY POLICY AND OBJECTIVES

6.1 General requirements

- 6.1.1 A service provider shall define the organization's safety policy.
- 6.1.2 The safety policy shall be signed by the Accountable Manager of the organization.
- 6.1.3 The safety policy shall be in accordance with all applicable legal requirements and international standards, best industry practices and shall reflect organizational commitments regarding safety.
- 6.1.3 The safety policy shall be communicated, with visible endorsement, throughout the organization.
- 6.1.4 The safety policy shall include a clear statement about the provision of the necessary human and financial resources for its implementation.
- 6.1.5 The safety policy shall, *inter alia*, include the following objectives:
 - 6.1.6.1 commitment to implement an SMS;
 - 6.1.6.2 commitment to continual improvement in the level of safety;
 - 6.1.6.3 commitment to the management of safety risks;
 - 6.1.6.4 commitment to encourage employees to report safety issues;
 - 6.1.6.5 establishment of clear standards for acceptable behaviour; and
 - 6.1.6.5 identification of responsibilities of management and employees with respect to safety performance.
- 6.1.6 The safety policy shall be reviewed periodically to ensure it remains relevant and appropriate to the organization.
- 6.1.7 A service provider shall establish safety objectives for the SMS.

- 6.1.8 The safety objectives should be linked to the safety performance indicators, safety performance targets and safety requirements of the service provider SMS.

6.2 Organizational structure and responsibilities

- 6.2.1 A service provider shall identify an Accountable Manager to be responsible and accountable on behalf of the service provider for meeting the requirements of this regulation, and shall notify CAD the name of the person.
- 6.2.2 The Accountable Manager shall be a single, identifiable person who, irrespective of other functions, shall have the ultimate responsibility for the implementation and maintenance of the SMS.
- 6.2.3 The Accountable Manager shall have:
- 6.2.3.1 full control of the human resources required for the operations authorized to be conducted under the operations certificate;
 - 6.2.3.2 full control of the financial resources required for the operations authorized to be conducted under the operations certificate;
 - 6.2.3.3 final authority over operations authorized to be conducted under the operations certificate;
 - 6.2.3.4 direct responsibility for the conduct of the organization's affairs; and
 - 6.2.3.5 final responsibility for all safety issues.
- 6.2.4 A service provider shall establish the safety structure necessary for the implementation and maintenance of the organization's SMS.
- 6.2.5 A service provider shall identify the safety responsibilities of all members of senior management, irrespective of other responsibilities
- 6.2.6 Safety-related positions, responsibilities and authorities shall be defined, documented and communicated throughout the organization.
- 6.2.7 A service provider shall identify a Safety Manager to be the member of management who shall be the responsible individual and focal point for the development and maintenance of an effective SMS.
- 6.2.8 The Safety Manager shall:
- 6.2.8.1 ensure that processes needed for the SMS are established, implemented and maintained;
 - 6.2.8.2 report to the Accountable Manager on the performance of the SMS and on any need for improvement; and
 - 6.2.8.3 ensure safety promotion throughout the organization.

6.3 SMS IMPLEMENTATION PLAN

- 6.3.1 A service provider shall develop and maintain an SMS implementation plan.
- 6.3.2 The SMS implementation plan shall be the definition of the approach the organization will adopt for managing safety in a manner that will meet the organization's safety needs.
- 6.3.3 The SMS implementation plan shall include the following:
 - 6.3.3.1 safety policy and objectives;
 - 6.3.3.2 safety planning,
 - 6.3.3.3 system description;
 - 6.3.3.4 gap analysis;
 - 6.3.3.5 SMS components;
 - 6.3.3.6 safety roles and responsibilities;
 - 6.3.3.7 safety reporting policy;
 - 6.3.3.8 means of employee involvement;
 - 6.3.3.9 safety training;
 - 6.3.3.10 safety communication;
 - 6.3.3.11 safety performance measurement; and
 - 6.3.3.12 management review of safety performance.
- 6.3.4 The SMS implementation plan shall be endorsed by senior management of the organization.
- 6.3.5 A service provider shall, as part of the development of the SMS implementation plan, complete a system description.
- 6.3.6 The system description shall include the following:
 - 6.3.6.1 the system interactions with other systems in the air transportation system;
 - 6.3.6.2 the system functions;
 - 6.3.6.3 required human performance considerations of the system operation;
 - 6.3.6.4 hardware components of the system;
 - 6.3.6.5 software components of the system;

- 6.3.6.6 related procedures that define guidance for the operation and use of the system;
 - 6.3.3.7 operational environment; and
 - 6.3.3.8 contracted and purchased products and services.
- 6.3.7 A service provider shall, as part of the development of the SMS implementation plan, complete a gap analysis, in order to:
- 6.3.7.1 identify the safety arrangements and structures that may be already exist throughout an organization; and
 - 6.3.7.2 determine additional safety arrangements required to implement and maintain the organization's SMS.
- 6.3.8 The SMS implementation plan shall explicitly address the coordination between the SMS of the service provider and the SMS of other organizations the service provider must interface with during the provision of services.

6.4 COORDINATION OF EMERGENCY RESPONSE PLANNING

- 6.4.1 A service provider shall develop and maintain, or coordinate, as appropriate, an emergency response/contingency plan that shall ensure:
- 6.4.1.1 orderly and efficient transition from normal to emergency operations;
 - 6.4.1.2 designation of emergency authority;
 - 6.4.1.3 assignment of emergency responsibilities;
 - 6.4.1.4 coordination of efforts to cope with the emergency; and
 - 6.4.1.5 safe continuation of operations, or return to normal operations as soon as possible.

6.5 DOCUMENTATION

- 6.5.1 A service provider shall develop and maintain SMS documentation, in paper or electronic form, to describe the following:
- 6.5.1.1 safety policy;
 - 6.5.1.2 safety objectives;
 - 6.5.1.3 SMS requirements, procedures and processes;
 - 6.5.1.4 responsibilities and authorities for procedures and processes; and
 - 6.5.1.5 SMS outputs.

- 6.5.3 A service provider shall, as part of the SMS documentation, develop and maintain a safety management system manual (SMSM), to communicate the organization's approach to safety throughout the organization.
- 6.5.4 The SMSM shall document all aspects of the SMS, and its contents shall include the following:
- 6.5.4.1 scope of the safety management system;
 - 6.5.4.2 safety policy and objectives;
 - 6.5.4.3 safety accountabilities;
 - 6.5.4.4 key safety personnel;
 - 6.5.4.5 documentation control procedures;
 - 6.5.4.6 hazard identification and risk management schemes;
 - 6.5.4.7 safety performance monitoring;
 - 6.5.4.8 emergency response/contingency planning;
 - 6.5.4.9 management of change; and
 - 6.5.4.10 safety promotion.

Information note. – *Generic guidelines for SMS documentation development and maintenance can be found in Attachment H to ICAO Annex 6, Part I, and Attachment G to ICAO Annex 6, Part III, Operator's Flight Safety Documents System.*

7. SAFETY RISK MANAGEMENT

7.1 General

- 7.1.1 A service provider shall develop and maintain safety data collection and processing systems (SDCPS) that provide for the identification of hazards and the analysis, assessment and mitigation of safety risks.
- 7.1.2 A service provider's SDCPS shall include reactive, proactive and predictive methods of safety data collection.

7.2 Hazard identification

- 7.2.1 A service provider shall develop and maintain formal means for effectively collecting, recording, acting on and generating feedback about hazards in operations, which combine reactive, proactive and predictive methods of safety data collection. Formal means of safety data collection shall include mandatory, voluntary and confidential reporting systems.

7.2.2 The hazard identification process shall include the following steps:

7.2.2.1 reporting of hazards, events or safety concerns;

7.2.2.2 collection and storing the safety data;

7.2.2.3 analysis of the safety data; and

7.2.2.4 distribution of the safety information distilled from the safety data.

7.3 Risk management

7.3.1 A service provider shall develop and maintain a formal risk management process that ensures the analysis, assessment and mitigation of risks of consequences of hazards to an acceptable level.

7.3.2 The risks of the consequences of each hazard identified through the hazard identification processes described in section 7.2 of this regulation shall be analysed in terms of probability and severity of occurrence, and assessed for their tolerability.

7.3.3 The organization shall define the levels of management with authority to make safety risk tolerability decisions.

7.3.4 The organization shall define safety controls for each risk assessed as tolerable.

8. SAFETY ASSURANCE

8.1 General

8.1.1 A service provider shall develop and maintain safety assurance processes to ensure that the safety risks controls developed as a consequence of the hazard identification and risk management activities under paragraph 7 achieve their intended objectives.

8.1.2 Safety assurance processes shall apply to an SMS whether the activities and/or operations are accomplished internally or outsourced.

8.2 Safety performance monitoring and measurement

8.2.1 A service provider shall, as part of the SMS safety assurance activities, develop and maintain the necessary means to verify safety performance of the organization in comparison with the approved safety policies and objectives, and to validate the effectiveness of implemented safety risk controls.

8.2.2 Safety performance monitoring and measurement means shall include the following:

8.2.2.1 safety reporting;

- 8.2.2.2 safety audits;
- 8.2.2.3 safety surveys;
- 8.2.2.4 safety reviews;
- 8.2.2.5 safety studies; and
- 8.2.2.6 internal safety investigations

8.2.3 The safety reporting procedure shall set out the conditions to ensure effective safety reporting, including the conditions under protection from disciplinary/administrative action shall apply.

8.3 Management of change

- 8.3.1 A service provider shall, as part of the SMS safety assurance activities, develop and maintain a formal process for the management of change.
- 8.3.2 The formal process for the management of change shall:
 - 8.3.2.1 identify changes within the organization which may affect established processes and services;
 - 8.3.2 describe the arrangements to ensure safety performance before implementing changes; and
 - 8.3.3 eliminate or modify safety risk controls that are no longer needed due to changes in the operational environment.

8.4 Continuous improvement of the safety system

- 8.4.1 A service provider shall, as part of the SMS safety assurance activities, develop and maintain formal processes to identify the causes of under-performance of the SMS, determine the implications in its operation, and to rectify situations involving below standard performance in order to ensure the continual improvement of the SMS.
- 8.4.2 Continuous improvement of the service provider SMS shall include:
 - 8.4.2.1 proactive and reactive evaluations of facilities, equipment, documentation and procedures, to verify the effectiveness of strategies for control of safety risks; and
 - 8.4.2.2 proactive evaluation of the individuals' performance, to verify the fulfilment of safety responsibilities.

9. SAFETY PROMOTION

9.1 General

- 9.1.1 Service providers shall develop and maintain formal safety training and safety communication activities to create an environment where the safety objectives of the organization can be achieved.

9.2 Safety training

- 9.2.1 A service provider shall, as part of its safety promotion activities, develop and maintain a safety training programme that ensures that personnel are trained and competent to perform the SMS duties.
- 9.2.2 The scope of the safety training shall be appropriate to the individual's involvement in the SMS.
- 9.2.3 The Accountable Manager shall receive safety awareness training regarding:
- 9.2.3.1 safety policy and objectives;
 - 9.2.3.2 SMS roles and responsibilities; and
 - 9.2.3.3 safety assurance.

9.3 Safety communication

- 9.3.1 A service provider shall, as part of its safety promotion activities, develop and maintain formal means for safety communication, to:
- 9.3.1.1 ensure that all staff is fully aware of the SMS;
 - 9.3.1.2 convey safety critical information;
 - 9.3.1.3 explain why particular safety actions are taken;
 - 9.3.1.4 explain why safety procedures are introduced or changed; and
 - 9.3.1.5 convey generic safety information.
- 9.3.2 Formal means of safety communication shall include:
- 9.3.2.1 safety policies and procedures;
 - 9.3.2.2 news letters; and
 - 9.3.2.3 bulletins.

10. QUALITY POLICY

- 10.1 A service provider shall ensure that the organization quality policy is consistent with, and supports the fulfilment of the activities of the SMS.

11. IMPLEMENTATION OF THE SMS

- 11.1 This regulation proposes, but does not mandate, a phased implementation of a service provider SMS, which encompasses four phases as described in paragraph 11.2 through paragraph 11.5 hereunder.

- 11.2 The Phase 1 should be completed prior 01 June 2009. Phase 1 should provide a blueprint on how the SMS requirements will be met and integrated to the organization's work activities, and an accountability framework for the implementation of the SMS:

11.2.1 Identify the Accountable Manager and the safety accountabilities of managers;

11.2.2 Identify the person (or planning group) within the organization responsible for implementing the SMS;

11.2.3 Describe the system (Air operator, ATC services provider, approved maintenance organization, certified aerodrome operator);

11.2.4 Conduct a gap analysis of the organization's existing resources compared with the national and international requirements for establishing an SMS;

11.2.5 Develop an SMS implementation plan that explains how the organization will implement the SMS on the basis of national requirements and international SARPs, the system description and the results of the gap analysis;

11.2.6 Develop documentation relevant to safety policy and objectives; and

11.2.7 Develop and establish means for safety communication.

- 11.3 The Phase 2 should be completed before 01 January 2010. Phase 2 should put into practice those elements of the SMS implementation plan that refer to the safety risk management reactive processes:

11.3.1 hazard identification and risk management using reactive processes;

11.3.2 training relevant to:

11.3.2.1 SMS implementation plan components; and


11.3.2.2 safety risk management (reactive processes).

11.3.4 documentation relevant to:

- 11.3.4.1 SMS implementation plan components; and
 - 11.3.4.2 safety risk management (reactive processes).
- 11.4 The Phase 3 should be completed before 1 January 2011. Phase 3 should put into practice those elements of the SMS implementation plan that refer to the safety risk management proactive and predictive processes:
- 11.4.1 hazard identification and risk management using proactive and predictive processes
 - 11.4.3 training relevant to:
 - 11.4.3.1 SMS implementation plan components; and
 - 11.4.3.2 safety risk management (proactive and predictive processes).
 - 11.4.4 documentation relevant to:
 - 11.4.4.1 SMS implementation plan components; and
 - 11.4.4.2 safety risk management (proactive and predictive processes).
- 11.5 This Phase 4 should be completed before 01 January 2012. Phase 4 should put into practice operational safety assurance:
- 11.5.1 development of acceptable level (s) of safety;
 - 11.5.2 development of safety indicators and targets;
 - 11.5.3 SMS continuous improvement;
 - 11.5.4 training relevant to operational safety assurance; and
 - 11.5.5 documentation relevant to operational safety assurance.

12. EFFECTIVITY

This regulation will come in to force for certified air operators and approved maintenance organisation on **01 January 2009**. For Air Traffic Service providers and Certified Aerodrome Operators this regulation is effective forthwith.



For the Civil Aviation Department
Aminath Solih
DIRECTOR GENERAL



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR

ASC 14-2

Procedure and requirements for licensing water
Aerodromes and floating platforms

Amendment 1, 04 February 2009

1. REGULATORY COMPLIANCE

Compliance with this Circular is mandatory for all Maldivian water Aerodrome operators and floating platform operators.

2. RELATED REGULATIONS

This Circular does not relate to any existing regulations.

3. PURPOSE

This Air Safety Circular has been issued to replace the previous regulation MAR C14. ASC 14-2 lays down the minimum requirements for site selection, floating platform construction and installation, rescue and fire fighting equipment and facilitation at floating platform in order to meet the licensing requirements.

4. DEFINITIONS

For the purpose of this Circular, the following definitions shall apply:

‘Aeroplane’ A power-driven heavier than air aircraft deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight

‘Turn around’ An aircraft while operating a scheduled or charter flight after having reached its destination and having discharged its passengers, cargo etc. returns to its station from which the flight had earlier originated;

‘Floating platform’ A defined platform anchored inside protected waters licensed under the Maldivian Civil Aviation Regulations for the purpose of embarkation and disembarkation of passengers or cargo by aircrafts;

‘Water aerodrome’ A defined area on land or water (including any buildings installations and equipments) intended to be used either wholly or in part for the arrival, departure and movement of aircraft;

‘Channel’ A defined rectangular area on a water aerodrome, intended for the landing and take-off run of aircraft along its length;

‘Goods’ Anything taken on an aircraft as personal belongings, baggage or cargo;

‘Response time’ is the time between the initial call to the Rescue and Fire Fighting Services (RFFS) and the first effective intervention at the accident site by a rescue and fire fighting vehicle;

‘Resort agent’ Person employed by the Aerodrome Licence holder who will be responsible for handling passengers at the aerodrome and to prepare the load sheet;

The resort agent shall have undergone some in house training to take such responsibilities and shall be trained for fire fighting and other safety matters.

‘Nature reserved designated area’ These are marine areas that are environmentally protected and preserved as reserves;

‘Protected areas’ These areas are usually located on the atoll wardside near islands, which is protected from large wave by the surrounding reef or lagoon;

5. APPLICATION FOR WATER AERODROMES

5.1 All the applications for Water Aerodrome and installation of floating platform shall be forwarded to Civil Aviation Department, on application form AD-01 available at CAD website, www.aviainfo.gov.mv. Upon making an application for the grant of a licence, the applicant shall pay a charge in accordance with MCAR-187.

5.2 When more than one platform is being installed the coordinates for each platform shall be listed in the application form to be included in the licence.

5.3 If there is an intention of moving the platform to any other site, the position should be notified in the application form.

5.4 With each application, an aerial map of the island shall be provided to this department.

5.5 If the applicant is not the landlord of the locality then the application shall be forwarded with a no objection letter from the land lord of the proposed locality to use the intended lagoon/reef or protected water as a water aerodrome.

5.6 A license will be issued only to one applicant per lagoon.

- 5.7 The applicant shall either be the owner/operator of the resort, a tour operator or the land lord of that locality where it is intended to base the water aerodrome.
- 5.8 The applicant shall bear the cost of travel, accommodation and food for the surveyors appointed by this department to survey the proposed site to use as a water aerodrome and to install a floating platform. And depending on the outcomes of the survey, the applicant shall make a contract with the land lord (if the applicant is not the land lord) before installing the floating platform.
- 5.9 The applicant shall request the Civil Aviation Department for an inspection once the floating platform is installed, safety equipment are obtained and personnel are trained as specified in this Circular for licensing the aerodrome for public/ordinary use. The cost of travel and accommodation shall be provided for the Civil Aviation Department inspector by the applicant.
- 5.10 No water aerodrome or floating platform shall be used for passenger embarking/ disembarking unless otherwise it is licenced by the Civil Aviation Department.

6. GENERAL REQUIREMENTS FOR FLOATING PLATFORM

SITE SELECTION

- 6.1 When selecting a site for water aerodrome and installation of floating platform, the following will be considered:
- (a) if the location of the proposed water aerodrome is inside protected waters
 - (b) depth of sea bed on the proposed water runway and the size of aircraft intended to operation.
 - (c) distance of water aerodrome from the servicing resorts and islands
 - (d) maritime movements in the location,
 - (e) navigable airspace,
 - (f) effect on the surrounding community
 - (g) available length of clear and safe water runway strip with respect to the size and type of aircraft intended for use.

NB: location shall be such that cross wind operations are kept to a minimum and downwind operations shall be avoided. In other words the landing and take-off areas should be oriented to permit operations into the wind. Nature Reserved designated marine areas and Fishing Grounds shall not be used for water aerodromes. The strip of water shall be free from large obstructing coral rubbles to a definite depth and located inside protected waters which is safe to use during landing/take-off by a definite aircraft.

7. FLOATING PLATFORM DIMENSIONS AND SAFETY EQUIPMENTS.

- 7.1 Floating platform shall provide adequate support and buoyancy for the loads imposed by embarking/disembarking passengers and their luggage.
- 7.2 The floating platform shall be inspected at regular intervals to check the structural conditions of platform and other safety equipment. Records of such inspections shall be kept and available for inspection by Civil Aviation Department, if needed.

7.3 Each floating platform shall be equipped with the following minimum equipment in the interest of passenger safety and all the equipment except for the life buoy shall be contained in a red box which is fastened to the floating platform. The life buoys shall be easily accessible for use in case of an emergency.

7.4 In the interest of passenger safety the water aerodrome or floating platform certificate/licence holder shall provide an Emergency Box with the following minimum safety equipment in it (see 7.8.1 and 7.8.2 for the location of E/Box);

7.5 Equipment that shall be provided in the E/Box are;

- 01 axe
- 01 crow bar
- 01 tin sniper
- 01 harness cutting tool

7.6 Equipment that shall be placed on the platform are:-

- 30m life line rope
- 02 life buoys
- 01 flashing yellow light/beacon (if located outside the lagoon and in open sea)

7.7 The flashing yellow/beacon when provided shall be installed on the floating platform and its height shall not be one (1) meter from the level of the platform. The beacon and its fixing strut shall be made out of frangible material. The beacon and its fixing strut shall be made out of frangible material. The beacon shall be ON from dusk to dawn.

7.8 Location of emergency boxes shall be as follows:-

7.8.1 In normal circumstances where a floating platform is located adjacent to the island or when located outside the house reef the emergency box shall be placed on the floating platform itself.

7.8.2 Where a platform is located in open water and where it is difficult to maintain/police the equipment on the floating platform the provision of organizing where the emergency box should be located lies with the water aerodrome or floating platform certificate/license holder. (Such scenarios if/when implemented shall be communicated to the CAD and appended in the respective operational/emergency response plan for that location).

8. SIZE OF WATER RUNWAY

The dimensions of the water runway will depend on;

- (a) on the size of the aircraft in operation.
- (b) the performance characteristics of the aircraft
- (c) the clearance of approach path from obstacles.

Any obstacle in or out of water, on the water runway or taxi way, that may endanger safety shall be marked with a floating buoy.

9. OPERATIONAL REQUIREMENTS

The facilities shall be made available for the use of all bonafide AOC holders, with the permission of the licence holder, such permission shall not be withheld unreasonably. The licence holder may charge for the use of the facility and such charges shall not be higher than US\$ 1.00 per 1000 kg or part thereof the MTOW of the aircraft operating.

The licence holder may levy an administrative fee for a Turn Round, not exceeding US\$ 20.00.

The licence holder shall make available the Resort Agent, transfer dhoni and all equipment, including RFFs during such operations.

The licence issued by the Civil Aviation Department will cease to be valid if:

- failure to pay the annual fees for the aerodrome licence, which shall be paid to Civil Aviation Department,
- the contract with the land lord expires or cease to be valid (if applicable),
- any of the mandatory equipment and facilities specified in this Circular lacks.

10. VISUAL GROUND AIDS

All aerodromes shall be equipped with at least one wind direction indicator and it shall be mounted so as to be visible from aircraft in flight or on the movement area and in such a way as to be free from the effects of air disturbances caused by nearby objects.

11. TRANSFER DHONI/BOAT

A mechanised dhoni/boat shall be available for the purpose of transferring passengers to and from the floating platforms to the respective resorts.

A dhoni/boat shall be at least 200 m away from the floating platform and water runway when the aircraft is ready to land or at take-off and shall not obstruct the water runway.

Instructions shall be given to the dhoni/boat captain about the direction of water runway, and the movements of the aircraft for taxi and the specific time of its arrivals.

12. COMMUNICATION

The aerodrome licensee shall ensure that the Pilot and Resort Agent are linked by the telephone or radio for giving flight details in advance allowing the Resort Agent to be prepared to attend the arriving flight. For communication during flight under VFR, it is recommended that each Resort Agent is equipped with suitable radio equipment capable of conducting two-way communication with the aeroplane. For this purpose the Resort Agent shall be suitably trained and authorised by the Department for the purpose.

13. IFR OPERATION

Night Operations and operations under IFR conditions is NOT permitted to water aerodromes.

14. VISUAL AIDS

A Wind Direction Indicator shall be fixed on land at a point that is in the nearest vicinity to the water runway and floating platform to enable the pilot to find the wind direction and have an indication of wind velocity. *For this purpose* a Wind Sock of sufficient size shall be installed to be visible from an aeroplane flying at a height of 200 meters. Details of the size of the Indicator are given at Appendix II for guidance.

15. RESPONSE TIME:

- 15.1 The operational objective of the rescue and fire fighting service shall be to achieve a response time not exceeding three (03) minutes to any point of each operational runway, in optimum visibility and surface conditions.
- 15.2 shall apply to water aerodromes certified within the house reef.
- 15.3 Where the platform is located outside the house reef or away in a lagoon the certificate holder shall determine a reasonable response time and establish this response time in the emergency Response Plan for that location.
- 15.4 The certificate holder shall prepare an Emergency Response Plan for the particular aerodrome for which the certificate is granted and submit the Emergency Response Plan to CAD.
- 15.5 The Resort Agent shall be trained for fire fighting and rescue operations and shall be familiar with the aircraft. The Resort Agent shall be in attendance on the transfer Dhoni at take off and landing.

16. MANNING LEVEL

Manning levels will take into account the type and number of appliances in use at the floating platform, the method of operation of appliances and equipment and any other relevant details.

17. TRAINING

All personnel involved in rescue and fire fighting duties must receive appropriate regular training in the use of equipment provided. This should include an operational exercise at least once per quarter and records of such training shall be made available to whenever an inspector from this department requests.

18. FIRST AID KIT

The medical equipment commensurate with the category of aircraft operated must be readily available at the floating platform and arrangement shall be made to convey to incident scene as quickly as possible. For DHC-6 aircraft, first aid kit shall include all contents specified in Attachment A of this Circular.

19. REMOVAL OF THE FLOATING PLATFORM

The floating platform and the anchoring blocks shall be removed from the location within three months after revocation of the licence.

20. EFFECTIVITY

This Circular becomes effective on 04 February 2009.

21. CANCELLATION

This Amendment of Circular cancels the latest ASC 14-2 issued on 18th January 2009 which should be destroyed.



For the Civil Aviation Department
Aminath Solih
DIRECTOR GENERAL

ATTACHMENT A – First Aid Kit (FAK)

The following contents are required for aeroplanes engaged in commercial passengers carrying operations

- Note 1:- For 0-50 pax seats 1xFAK is required.
For 51-150 pax seats 2xFAK is required.
For 151-250 pax seats 3xFAK is required.
For more than 250 pax seats 4xFAK is required.
- Note 2:- List of contents is to be firmly attached to the container. Note 3:-Container to be sealed.
- Note 4:- Container to be checked annually-name of inspector to be recorded on the container.
- Note 5:- Date of inspection and next inspection due date to be clearly shown on container.

	ITEM	QTY	REMARKS
1	Bandage white-cotton 3mx8cm (9'x3'')	3	
2	Bandage white-cotton 3mx8cm (9'x2'')	3	
3	Bandage white-cotton 3mx8cm (9'x1'')	3	
4	Bandage – crepe 3mx8cm (9'x3'')	2	
5	Bandage – crepe 3mx8cm (9'x2'')	2	
6	Burns – dressing pads – large	12	
7	Wound dressing pads – large	12	
8	Adhesive elastic tape 3mx8cm (9'x3'')	1 roll	
9	Adhesive elastic tape 3mx8cm (9'x2'')	1 roll	
10	Safety pins – assorted sizes	24	Stainless steel type
11	Scissors – small or medium	1	Stainless steel type
12	Dressings – adhesive – small/medium/large	24	eg. sticking plasters/band Aid
13	Antiseptic fluid (eg: Dettol)	bottle 125ml	
14	Burn ointment	1 tube	
15	An Artificial Plastic Airway	1	
16	Analgesic tablet	100	eg. Cinnarizine or equivalen
17	Anti-emetic-tablet	25	eg. Paracetamol 500mg
18	Nasal de-congestant fluid	1 bottle	eg. Afrin or Sinutex
19	Gastro intestinal antacid tablet	25	eg. Maalox/Actan
20	Anti-diarrhoeal medication	1 bottle or 25 tablets	eg. Ioderamide
21	Ground to air Visual Code booklet	1	For use by survivors
22	Disposable Rubber Gloves	1 pair	
23	Mosquito Repellent cream	1 bottle	eg. Autan or Johnson's OFF
24	Splints	set	Suitable for upper & lower limb use
25	Emollient Eye Drop	1 bottle	
26	Handbook on First Aid		



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR

ASC FCL 1.055-1

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

Amendment 1, 06 July 2009

Part A

Flying Training Organisation (FTO)

[Appendix 1a to JAR-FCL 1.055]

INTRODUCTION

1. A Flying Training Organisation (FTO) is an organisation staffed, equipped and operated in a suitable environment offering flying training, and/or synthetic flight instruction and/or theoretical knowledge instruction for specific training programmes.
2. A FTO wishing to offer approved training to meet Personnel Licensing Manual (PLM) requirements shall obtain the approval of CAD. No such approval will be granted by CAD unless the FTO meets all requirements of PLM and this ASC. This ASC gives the requirements for the issue, revalidation and variation of the approval of a FTO. A FTO needs only to meet the requirements to the instruction it is providing.

OBTAINING APPROVAL

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

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

4. All training courses shall be approved.
5. CAD will monitor course standards and will sample training flights with students. During such visits, access shall be given by the FTO to training records, authorisation sheets, technical logs, lectures, study notes and briefings and any other relevant material. A copy of the report on a visit to a FTO will be made available by CAD to that FTO.
6. Approval will be varied, suspended or revoked by CAD if any of the approval requirements or standards cease to be maintained to the minimum approved level.
7. If a FTO wishes to make changes to an approved course or to its operations or training manual the approval of CAD shall be obtained before the changes are implemented. FTOs need not advise CAD of minor changes in day-to-day operations. Where any doubt exists as to whether a proposed change is minor, CAD shall be consulted.
8. A FTO may make training arrangements with other training organisations or make use of alternative base aerodromes as part of its overall training organisation, subject to the approval of CAD.

FINANCIAL RESOURCES

9.
 - (a) A FTO shall satisfy CAD that sufficient funding is available to conduct training to the approved standards.
 - (b) A FTO shall nominate a person acceptable to CAD who shall satisfy CAD that sufficient funding is available to conduct training to the approved standard. Such person shall be known as the accountable manager.

MANAGEMENT AND STAFFING

10. The management structure shall ensure supervision of all grades of staff by persons having the experience and qualities necessary to ensure the maintenance of high standards. Details of the management structure, indicating individual responsibilities, shall be included in the FTO's Operations Manual.
11. The FTO shall satisfy CAD that an adequate number of qualified, competent staff are employed. For integrated courses, three persons on the staff shall be employed full time in the following positions:
 - Head of Training (HT)
 - Chief Flying Instructor (CFI)
 - Chief Ground Instructor (CGI)

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

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

12. The number of part time instructors in relation to the scope of training offered shall be acceptable to CAD.
13. The ratio of all students to flight instructors, excluding the HT, shall not normally exceed 6:1. Class numbers in ground subjects involving a high degree of supervision or practical work shall not normally exceed 12 students.

Note: “a high degree of supervision” refers to CPL courses and/or higher

HEAD OF TRAINING (HT)

14. The HT shall have overall responsibility for ensuring satisfactory integration of flying training, synthetic flight training and theoretical knowledge instruction, and for supervising the progress of individual students. The HT shall have had extensive experience in training as a flight instructor for professional pilot licences and possess a sound managerial capability. The HT shall hold or have held in the three years prior to first appointment as a HT, a professional pilot licence and rating(s) issued in accordance with ICAO Annex 1, related to the flying training courses conducted.

CHIEF FLYING INSTRUCTOR (CFI)

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

INSTRUCTORS, OTHER THAN SYNTHETIC FLIGHT INSTRUCTORS

16. Instructors shall hold:
 - (a) a professional pilot licence and rating(s) related to the flying training courses they are appointed to conduct;
 - (b) an instructor rating relevant to the part of the course being conducted e.g. instrument rating instructor, flight instructor, type/class rating instructor, as appropriate; or
 - (c) an authorisation from CAD to conduct specific training in a FTO.
17. The maximum flying hours, maximum flying duty hours and minimum rest time between instructional duties of instructors shall be acceptable to CAD.

INSTRUCTORS FOR SYNTHETIC FLIGHT TRAINING

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

CHIEF GROUND INSTRUCTOR (CGI)

19. The CGI shall be responsible for the supervision of all ground instructors and for the standardization of all theoretical knowledge instruction. The CGI shall have a practical background in aviation and have undergone a course of training in instructional techniques or have had extensive previous experience in giving theoretical knowledge instruction.

THEORETICAL KNOWLEDGE INSTRUCTORS

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

RECORDS

21. A FTO shall maintain and retain the following records for a period of at least 5 years, using appropriate administrative staff:
- (a) details of ground, flying, and simulated flight training given to individual students;
 - (b) detailed and regular progress reports from instructors including assessments, and regular progress flight tests and ground examinations; and
 - (c) personal information, e.g. expiry dates of medical certificates, ratings, etc.
22. The format of the student training records shall be specified in the Training Manual.
23. The FTO shall submit training records and reports as required by CAD.

TRAINING PROGRAMME

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

TRAINING AEROPLANES

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

AERODROMES

27. The base aerodrome, and any alternative base aerodrome, at which flying training is being conducted shall have at least the following facilities:
- (a) at least one runway or take-off area that allows training aeroplanes to make a normal take-off or landing at the maximum take-off or maximum landing mass authorised, as appropriate,
 - (i) under calm wind (not more than four knots) conditions and temperatures equal to the mean high temperature for the hottest month of the year in the operating area,
 - (ii) clearing all obstacles in the take-off flight path by at least 50 feet,
 - (iii) with the powerplant operation and the landing gear and flap operation (if applicable) recommended by the manufacturer, and
 - (iv) with a smooth transition from lift-off to the best rate of climb speed without exceptional piloting skills or techniques;
 - (b) a wind direction indicator that is visible at ground level from the ends of each runway;
 - (c) adequate runway electrical lighting if used for night training; and
 - (d) an air traffic control service except where, with the approval of CAD, the training requirements may be satisfied safely by another means of air/ground communications.

FLIGHT OPERATIONS ACCOMMODATION

28. The following accommodation shall be available:
- (a) An operations room with facilities to control flying operations.
 - (b) A flight planning room with the following facilities:
 - appropriate current maps and charts
 - current AIS information
 - current meteorological information
 - communications to ATC and the operations room
 - maps showing standard cross-country routes
 - maps showing current prohibited, danger and restricted areas
 - any other flight safety related material.
 - (c) Adequate briefing rooms/cubicles of sufficient size and number.
 - (d) Suitable offices for the supervisory staff and room(s) to allow flying instructors to write reports on students, complete records, etc.

- (e) Furnished crew-room(s) for instructors and students.

For further guidance see Appendix B

THEORETICAL KNOWLEDGE INSTRUCTION FACILITIES

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

For further guidance see Appendix B

REQUIREMENTS FOR ENTRY TO TRAINING

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

TRAINING MANUAL AND OPERATIONS MANUAL

31. A FTO shall prepare and maintain a Training Manual and Operations Manual containing information and instructions to enable staff to perform their duties and to give guidance to students on how to comply with course requirements. A FTO shall make available to staff and, where appropriate, to students the information contained in the Training Manual, the Operations Manual and the FTO's approval documentation. The amendment procedure shall be stated and amendments properly controlled.
32. The Training Manuals shall state the standards, objectives and training goals for each phase of training that the students are required to comply with and shall include the following:
- Part 1 – The Training Plan
 - Part 2 – Briefing and Air Exercises
 - Part 3 – Synthetic Flight Training
 - Part 4 – Theoretical Knowledge Instruction

For further guidance see Attachment 3

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

For further guidance see Attachment 3

Part B

Type Rating Training Organisation (TRTO)

[Appendix 2 to JAR-FCL 1.055]

INTRODUCTION

1. A Type Rating Training Organisation (TRTO) is an organisation staffed, equipped and operated in a suitable environment offering type rating training, and/or MCC-training, and/or synthetic flight instruction and, if applicable, theoretical instruction for specific training programmes.
2. A TRTO wishing to offer approved training to meet PLM requirements shall obtain the approval of CAD. No such approval will be granted unless the TRTO can enforce the requirements of PLM and this ASC.

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

OBTAINING APPROVAL

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

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

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

4. All training courses shall be approved.
5. Approval will be varied, suspended or revoked by CAD if any of the approval requirements or standards cease to be maintained to the minimum approved level.
6. If a TRTO wishes to make changes to an approved course or to its operations or training manual the approval of CAD shall be obtained before the changes are implemented. TRTOs need not advise CAD of minor changes in day-to-day

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

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

FINANCIAL RESOURCES

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

INSPECTION

9. In addition to the initial inspection, CAD will make certain inspections to determine the TRTO's compliance with this ASC.
10. During such visits, access shall be given by the TRTO to training records, authorisation sheets, technical logs, lectures, study notes and briefings and any other relevant material. A copy of any report on a visit to a TRTO will be made available to that TRTO.

MANAGEMENT AND STAFFING

11. The management structure shall ensure supervision of all grades of staff by persons having the experience and qualities necessary to ensure the maintenance of high standards. Details of the management structure, indicating individual responsibilities, shall be included in the TRTO's Operations Manual.
12. A Head of Training (HT) acceptable to CAD shall be nominated. The HT's responsibilities shall include ensuring that the TRTO is in compliance with the requirements of this circular. This person is ultimately directly responsible to CAD.
13. The TRTO shall have adequate personnel necessary to accomplish the training objectives. The duties of each instructor shall be identified and documented.

TYPE RATING INSTRUCTOR

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

INSTRUCTORS FOR SYNTHETIC FLIGHT TRAINING

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

THEORETICAL KNOWLEDGE INSTRUCTION

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

TRAINING STANDARDS

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

RECORDS

18. A TRTO shall maintain the following records and retain for a period of at least 5 years, using appropriate administrative staff:
 - (a) pilot trainee's assessments before and during the course;
 - (b) details of theoretical knowledge, flying, and simulated flight training given to individual trainees; and
 - (c) personal information, (expiry dates of medical certificates, ratings, etc.), related to TRTO's personnel.
19. The format of the trainee's training records shall be specified in the Training Manual.
20. The TRTO shall submit training records and reports as required by CAD.

TRAINING PROGRAMME

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

TRAINING AEROPLANES

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

FACILITIES

23. Suitable training facilities shall be provided.

REQUIREMENTS FOR ENTRY TO TRAINING

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

TRAINING MANUAL AND OPERATIONS MANUAL

25. A TRTO shall provide and maintain a Training Manual and Operations Manual containing information and instructions to enable staff to perform their duties and to give guidance to trainees on how to comply with course requirements. A TRTO shall make available to staff and, where appropriate, to trainees the information contained in the Training Manual, the Operations Manual and the TRTO's approval documentation. The amendment procedure shall be stated and amendments properly controlled.
26. The Training Manual shall state the standards, objectives and training goal for each phase of training that the trainees are required to comply with, including stating the entry requirements for each course, as applicable. It shall include the following:
- Part 1 – The Training Plan
 - Part 2 – Briefing and Air Exercises
 - Part 3 – Synthetic Flight Training
 - Part 4 – Theoretical Knowledge Instruction
- For further guidance see Attachment 3
27. The Operations Manual shall provide relevant information to particular groups of staff, e.g. TRIs, synthetic flight instructors, ground instructors, operations and maintenance staff, etc. and shall contain the following:
- (a) General
 - (b) Technical
 - (c) Route
 - (d) Staff Training
- For further guidance see Attachment 3

Appendix A **Quality system for FTOs/TRTOs**

[AMC JAR FCL 1.055]

- 1 A FTO and a TRTO shall, as a condition for approval, establish and maintain a quality system. This Appendix establishes the objectives of such a system, and offers a means of compliance as to which elements should be included and how the system can be integrated in the organisations
- 2 The rationale for the requirements of quality systems is the need to establish a distinct assignment of roles between CAD and training organisations by creating an evident division between the regulatory and surveillance responsibility on the one hand, and responsibility of the training activities in itself on the other. Therefore the

- training organisations must establish a system whereby they can monitor their activities, be able to detect deviations from set rules and standards, take the necessary corrective actions and thus ensure compliance with CAD regulations and own requirements. A well established and functioning quality system will make it possible for CAD to perform inspections and surveillance efficiently and with a reasonable amount of resources.
- 3 It is obvious and well recognised that the scope and complexity of a quality system should reflect the size and complexity of the training organisation and its training activities. The objectives and the same principles apply, however, to any training organisation, irrespective of size and complexity. Thus, in small and relatively small training organisations, the quality system may be quite simple and integrated in the basic organisation, whereas larger organisations with more complex training activities will need to establish separate and independent quality organisations within the overall organisational set-up.
 - 4 In determining size and complexity in this context the following guidelines apply:
Training organisations with 5 or less instructors employed are considered very small;
Training organisations employing between 6 and 20 instructors are considered small.
In determining complexity, factors such as number of aircraft types used for training, range of training courses offered, geographical spread of training activities (e.g. the use of satellites), range of training arrangements with other training organisations, etc. will be considered.
 - 5 In a quality system of any FTO or TRTO the following five elements should be clearly identifiable:
 - a) determination of the organisation's training policy and training and flight safety standards;
 - b) determination and establishment of assignment of responsibility, resources, organisation and operational processes, which will make allowance for policy and training and flight safety standards;
 - c) follow up system to ensure that policy, training and flight safety standards are complied with;
 - d) registration and documentation of deviations from policy, training and flight safety standards together with necessary analysis, evaluations and correction of such deviations;
 - e) evaluation of experiences and trends concerning policy, training and flight safety standards.
 - 6 Attachment 1 describes in more detail objectives, the different elements of a quality system and offers guidance as to the set-up of quality systems in larger and/or more complex training organisations. For very small and small organisations paragraph 23 of Attachment 1 applies.
 - 7 RESERVED

Appendix B

1. Training Aircraft

[Standards Document 35, Version 2, 7]

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

- 1.2 In determining fleet size FTO must ensure that a sufficient number of aircraft suitably equipped and appropriate to the courses on offer are provided to achieve continuity of flying training for the number of students attending the courses. The requirements for routine maintenance and use of aircraft for other purposes must be taken into account when determining fleet size.
- 1.3 CAD will satisfy itself as to the suitability of aircraft to be used by FTO. A basic requirement in all cases is that aircraft provided by a FTO for use on approved courses shall have a valid Certificate of Airworthiness, a Certificate of Maintenance Review and be maintained to public transport standards.
- 1.4 RESERVED
- 1.5 Aircraft must be maintained in accordance with the appropriate maintenance program and the following documentation must be available for inspection by CAD Inspectors:
 - Aircraft, Engine and component log books as appropriate
 - Certificates of Airworthiness and Registration
 - Mass and Balance Schedules
 - Certificates of Maintenance Review (Except where exempt) and Release to Service
 - Aircraft Radio Licences
 - Flight Manuals
 - Certificates of Insurance
- 1.6 For flights made for the purposes of a course, Aircraft Technical Logs must be used to record flight details. The Technical Log shall comply with MCAR M.306 currently in force and must include at least:
 - The date
 - The aircraft registration
 - The times when the aircraft took-off and landed
 - Particulars of any defect known to the commander that might affect the airworthiness or safe operation of the aircraft, or if no such defect is known an entry to that effect
 - Fuel and oil states
- 1.7 Flight authorisation for all flights made for the purpose of the course shall be confined to instructors employed by the FTO to give instruction on the course.
- 1.8 Where an aircraft is hired for use on an approved course of training, or where an aircraft used for approved training ceases to be used by the FTO; a copy of all Technical Logs relating to the approved training shall be retained by the FTO for a period of 5 years. Technical Logs that belong to an aircraft shall be maintained in accordance with MCAR M.306 currently in force.

- 1.9 Each aircraft must be fitted with duplicated primary flying controls, for use by the instructor and the student.
- 1.10 Flight, engine and associated ancillary instruments, as required by MCAR M and appropriate airworthiness requirements must be fitted. These instruments must be readily visible to both the instructor and the student when sitting normally in their customary seats with seat belts and diagonal shoulder straps or safety harness fastened.
- 1.11 Trim controls, engine controls, fuel controls, steering, brakes and undercarriage controls where appropriate and the cabin fire extinguisher must be either duplicated or positioned so that they are accessible to both the instructor and student when sitting normally in their customary seats with seat belts and diagonal shoulder strap or safety harness fastened. S/E aircraft with fuel controls fitted on the left hand side (not accessible by the instructor) may be acceptable.
- 1.12 Each aircraft must be equipped with a VHF Transceiver with at least 760 channels, controllable from both the student and instructor stations. Two-way electrical intercommunication must be fitted which permits the monitoring from one station of RTF communication made from the other, for use by the instructor and student. All in flight communications must be carried out using headsets. All radio apparatus must satisfy the requirements of ICAO
- 1.13 In addition to meeting the provisions of the appropriate airworthiness requirements, each aircraft must be equipped in accordance with MCAR M
- 1.14 At least one hand fire extinguisher containing halon 1211(Bromochlorodifluoromethane CBrClF₂), or equivalent as the extinguishing agent, must be conveniently located on the flight deck for use by the flight crew.
- 1.15 Aircraft will be inspected for condition and compliance with this document for the purpose of approval. Aircraft will be subject to routine inspections during the course of, or for revalidation of, approvals. Approvals for individual aircraft will be withdrawn if the aircraft fails to meet the requirements of this circular.
- 1.16 CAD must be informed if it is intended to change any aircraft used on a course and approval sought for use of the replacement aircraft.
- 1.17 RESERVED

2 Flight Operations Accommodation and Theoretical Knowledge Instruction Facilities

[Standards Document 35, Version 2, 10]

- 2.1 The operational accommodation for course approval shall be of a scale appropriate to the population of instructors and of pilots under training. All accommodation must be sited within permanent structures, not shared with the general public.
- 2.2 All rooms are to be suitably equipped and furnished with provision for heating, light

- and ventilation and are not to be combined with any accommodation used continuously for the purpose of administering the FTO, or for non approved courses of training.
- 2.3 Offices separate from the accommodation provided for instructional staff and students shall be provided for the Head of Training, CFI and CGI.
 - 2.4 Enclosed briefing rooms/cubicles and lecture rooms of adequate size relative to the maximum student capacity, each including a black or white board shall also be available. Temporary partitions and cubicles with walls that do not extend from the floor to ceiling are not considered to be suitable.
 - 2.5 Model aeroplanes with working controls or model helicopters as appropriate shall also be available for use in briefing rooms/cubicles.
 - 2.6 A quiet room for self-study purposes is to be available for students.
 - 2.7 A separate machine room or rooms shall be provided where synthetic training devices are used.
 - 2.8 Subject to local regulations emergency exits and evacuation routes, particularly in simulator bays, should be clearly marked and kept free from obstruction whenever training is taking place.
 - 2.9 Lavatory and washroom facilities are to be provided as well as facilities for rest and refreshment.
 - 2.10 Facilities for theoretical knowledge instruction shall ideally be co-located with the flying and synthetic flight training facilities.
 - 2.11 Suitable demonstration equipment be available to support the theoretical knowledge instruction. This should include where appropriate, sectioned components and instruments, appropriate wall diagrams, transparencies, slides, models, systems demonstration equipment, mock ups and can include computer-generated graphics.
 - 2.12 All classrooms are to be suitably equipped and furnished with provision for heating, light and ventilation and must be protected from external noise and distractions and sufficiently spacious to allow individual students room within which to work without disturbing others.
 - 2.13 A room suitable for the conduct of theoretical knowledge examinations must be provided, free from noise or other distractions. This may be the same room as used for instruction but any wall mounted diagrams, photographs or other training aids relating to the course must be removed or covered prior to commencement of the examination.

Attachment 1 (Guidance Material)

Quality system for FTOs/TRTOs

[IEM No. 1 to JAR-FCL 1.055]

INTRODUCTION

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

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

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

THE QUALITY SYSTEM OF THE FTO/TRTO

1 Terminology

Accountable Manager

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

Quality

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

Quality Assurance

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

Quality Manager

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

Quality Manual

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

Quality Audit

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

2 Quality Policy and Strategy

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

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

3 Purpose of a Quality System

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

4 Quality Manager

- 4.1 The primary role of the Quality Manager is to verify, by monitoring activities in the field of training, that the standards required by CAD, and any additional requirements as established by the FTO/TRTO, are being carried out properly under the supervision of the Head of Training, the Chief Flying Instructor and the Chief Ground Instructor.
- 4.2 The Quality Manager should be responsible for ensuring that the Quality Assurance Programme is properly implemented, maintained and continuously reviewed and improved. The Quality Manager should:
 - have direct access to the Head of Training;
 - have access to all parts of the FTO/TRTO's organisation.
- 4.3 In the case of small or very small FTO/TRTOs, the posts of the Head of Training and the Quality Manager may be combined. However, in this event, quality audits should be conducted by independent personnel. In the case of a training organisation offering integrated training the Quality Manager should not hold the position of Head of Training, Chief Flying Instructor and Chief Ground Instructor.

5 Quality System

- 5.1 The Quality System of the FTO/TRTO should ensure compliance with and adequacy of training activities requirements, standards and procedures.
- 5.2 The FTO/TRTO should specify the basic structure of the Quality System applicable to all training activities conducted.
- 5.3 The Quality System should be structured according to the size of the FTO/TRTO and the complexity of the training to be monitored.

6 **Scope**

A Quality System should address the following:

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

7 **Feedback System**

The quality system should include a feedback system to ensure that corrective actions are both identified and promptly addressed. The feedback system should also specify who is required to rectify discrepancies and non-compliance in each particular case, and the procedure to be followed if corrective action is not completed within an appropriate timescale.

8 **Documentation**

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

8.1 In addition relevant documentation should also include the following:

- a) Quality Policy;
- b) Terminology;
- c) Specified training standards;
- d) A description of the organisation;
- e) The allocation of duties and responsibilities;
- f) Training procedures to ensure regulatory compliance.

8.2 The Quality Assurance Programme, reflecting:

Schedule of the monitoring process;
Audit procedures;
Reporting procedures;
Follow-up and corrective action procedures;
Recording system;
The training syllabus; and
Document control.

9 **Quality Assurance Programme**

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

10 **Quality Inspection**

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

Typical subject areas for quality inspections are:

Actual flight and ground training;

Maintenance;

Technical Standards; and

Training Standard

11 **Audit**

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

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

- a) An explanation of the scope of the audit;
- b) Planning and preparation;
- c) Gathering and recording evidence; and
- d) Analysis of the evidence.

The various techniques that make up an effective audit are:

- a) Interviews or discussions with personnel;
- b) A review of published documents;
- c) The examination of an adequate sample of records;
- d) The witnessing of the activities which make up the training; and
- e) The preservation of documents and the recording of observations.

12 **Auditors**

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

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

13 **Auditor's Independence**

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

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

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

The Quality Assurance Programme of the FTO/TRTO should identify the persons within the company who have the experience, responsibility and authority to:

- Perform quality inspections and audits as part of ongoing Quality Assurance;
- Identify and record any concerns or findings, and the evidence necessary to substantiate such concerns or findings;
- Initiate or recommend solutions to concerns or findings through designated reporting channels;
- Verify the implementation of solutions within specific timescales;
- Report directly to the Quality Manager

14 **Audit Scope**

FTO/TRTOs are required to monitor compliance with the training and Operations Manuals they have designed to ensure safe and efficient training. In doing so they should as a minimum, and where appropriate, monitor:

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

15 **Audit Scheduling**

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

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

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

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

16 **Monitoring and Corrective Action**

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

Any non-compliance identified should be communicated to the manager responsible for taking corrective action or, if appropriate, the Accountable Manager. Such non-compliance should be recorded, for the purpose of further investigation, in order to determine the cause and to enable the recommendation of appropriate corrective action.

The Quality Assurance Programme should include procedures to ensure that corrective actions are developed in response to findings. These quality procedures should monitor such actions to verify their effectiveness and that they have been completed. Organisational responsibility and accountability for the implementation of corrective action resides with the department cited in the report identifying the finding. The Accountable Manager will have the ultimate responsibility for ensuring, through the Quality Manager(s), that corrective action has re-established compliance with the standard required by CAD and any additional requirements established by the FTO/TRTO.

17 **Corrective action**

Subsequent to the quality inspection/audit, the FTO/TRTO should establish:

- (a) The seriousness of any findings and any need for immediate corrective action;
- (b) The origin of the finding;
- (c) What corrective actions are required to ensure that the non-compliance does not recur;
- (d) A schedule for corrective action;
- (e) The identification of individuals or departments responsible for implementing corrective action;
- (f) Allocation of resources by the Accountable Manager where appropriate.

17.1 The Quality Manager should:

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

18 **Management Evaluation**

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

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

19 **Recording**

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

The following records should be retained for a period of 5 years:

- a) Audit Schedules;
- b) Quality inspection and Audit reports;
- c) Responses to findings;
- d) Corrective action reports;
- e) Follow-up and closure reports;
- f) Management Evaluation reports.

20 **Quality Assurance Responsibility for Sub-Contractors**

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

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

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

21 **Quality System Training**

Correct and thorough training is essential to optimise quality in every organisation. In order to achieve significant outcomes of such training the FTO/TRTO should ensure that all staff understand the objectives as laid down in the Quality Manual.

Those responsible for managing the Quality System should receive training covering:

- a) An introduction to the concept of Quality System;
- b) Quality management;
- c) Concept of Quality Assurance;
- d) Quality manuals;

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

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

22 Sources of Training

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

23 Quality Systems for small/very small Organisations

The requirement to establish and document a Quality System and to employ a Quality Manager applies to all FTO/TRTOs.

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

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

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

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

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

Attachment 2 RESERVED

[IEM No. 2 to JAR-FCL 1.055]

Attachment 3 (Guidance Material)

Training and Operations Manual for FTOs and TRTOs (if applicable)

[IEM No. 3 to JAR-FCL 1.055]

TRAINING MANUAL

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

2. Part 1 – The Training Plan

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

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

- Training records
- Safety training
- A statement of what the student is expected to do as a result of the training, the level of performance, and the training constraints to be observed.
- Minimum age, educational requirements (including language), medical requirements.
- Any specific requirements to be obtained from CAD before training begin.
- The flying syllabus (single-engine), the flying syllabus (multi-engine), the synthetic flight training syllabus and the theoretical knowledge training syllabus.
- Arrangements of the course and the integration of syllabi time.
- The general arrangements of daily and weekly programmes for flying, ground and synthetic flight training.
- Bad weather constraints.
- Programme constraints in terms of maximum student training times, (flying, theoretical knowledge, synthetic) e.g. per day/week/month.
- Restrictions in respect of duty periods for students.
- Duration of dual and solo flights at various stages.
- Maximum flying hours in any day/night; maximum number of training flights in any day/night.
- Minimum rest period between duty periods.
- Rules for security of records and documents.
- Attendance records.
- The form of training records to be kept.
- Persons responsible for checking records and students' log books.
- The nature and frequency of record checks.
- Standardisation of entries in training records.
- Rules concerning log book entries.
- Individual responsibilities.
- Essential exercises.
- Emergency drills (frequency).
- Dual checks (frequency at various stages).
- Requirement before first solo day/night/navigation etc.

Tests and examinations

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

- Flying
 - (a) Progress checks
 - (b) Skill tests
 - Theoretical Knowledge
 - (a) Progress tests
 - (b) Theoretical knowledge examinations
 - Authorisation for test.
 - Rules concerning refresher training before retest.
 - Test reports and records.
 - Procedures for examination paper preparation, type of question and assessment, standard required for 'Pass'.
 - Procedure for question analysis and review and for raising replacement papers.
 - Examinations resit procedures.
 - Individual responsibilities.
 - General assessment.
 - Liaison between departments.
 - Identification of unsatisfactory progress (individual students).
 - Actions to correct unsatisfactory progress.
 - Procedure for changing instructors.
 - Maximum number of instructor changes per student.
 - Internal feedback system for detecting training deficiencies.
 - Procedure for suspending a student from training.
 - Discipline.
 - Reporting and documentation.
 - Individual responsibilities.
 - Standardisation.
 - Standardisation requirements and procedures.
 - Application of test criteria.
- 3) Part 2 – Briefing and Air Exercises
- a) Air Exercise
 - b) Air exercise reference list
 - c) Course structure – Phase of training
 - d) Course structure integration of syllabi
 - e) Student progress
 - f) A detailed statement of the content specification of all the air exercises to be taught, arranged in the sequence to be flown with main and sub-titles. This should normally be the same as the air exercise specification for the flight instructor rating course.
 - g) An abbreviated list of the above exercises giving only main and sub-titles for quick reference, and preferably in flip-card form to facilitate daily use by flight instructors.
 - h) A statement of how the course will be divided into phases, indication of how the above air exercises will be divided between the phases and how they will be arranged

to ensure that they are completed in the most suitable learning sequence and that essential (emergency) exercises are repeated at the correct frequency. Also, the syllabus hours for each phase and for groups of exercises within each phase shall be stated and when progress tests are to be conducted, etc.

- i) The manner in which theoretical knowledge, synthetic flight training and flying training will be integrated so that as the flying training exercises are carried out students will be able to apply the knowledge gained from the associated theoretical knowledge instruction and synthetic flight training. The requirement for student progress and include a brief but specific statement of what a student is expected to be able to do and the standard of proficiency he must achieve before progressing from one phase of air exercise training to the next. Include minimum experience requirements in terms of hours, satisfactory exercise completion, etc. as necessary before significant exercises, e.g. night flying.
- j) Instructional methods
- k) Progress tests
- l) Glossary of terms Appendices
- m) The FTO requirements, particularly in respect of pre- and post-flying briefing, adherence to syllabi and training specifications, authorisation of solo flights, etc.
- n) The instructions given to examining staff in respect of the conduct and documentation of all progress tests.
- o) Definition of significant terms as necessary.
- p) Progress test report forms.
- q) Skill test report forms.
- r) FTO certificates of experience, competence, etc. as required.

Part 3 – Synthetic Flight Training

Structure generally as for Part 2.

Part 4 – Theoretical knowledge instruction

- a) Structure of the theoretical

A statement of the structure of the course, including the general knowledge course sequence of the topics to be taught in each subject, the time allocated to each topic, the breakdown per subject and an example of a course schedule. Distance Learning courses should include instructions of the material to be studied for individual elements of the course.

- b) Lesson Plans

A description of each lesson or group of lessons including teaching materials, training aids, progress test organisation and inter-connection of topics with other subjects.

c) Teaching materials

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

d) Student progress

The requirement for student progress, including a brief but specific statement of the standard that must be achieved and the mechanism for achieving this, before application for theoretical knowledge examinations.

e) Progress testing

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

f) Review procedure

The procedure to be followed if the standard required at any stage of the course is not achieved, including an agreed action plan with remedial training if required.

OPERATIONS MANUAL

Operations Manual for use at an FTO or TRTO conducting approved integrated or modular flying training courses include the following:

(a) General

- A list and description of all volumes in the Operations Manual
- Administration (function and management)
- Responsibilities (all management and administrative staff)
- Student discipline and disciplinary action
- Approval/authorisation of flights
- Preparation of flying programme (restriction of numbers of aeroplanes in poor weather)
- Command of aeroplane
- Responsibilities of pilot-in-command
- Carriage of passengers
- Aeroplane documentation
- Retention of documents
- Flight crew qualification records (licences and ratings)
- Revalidation (medical certificates and ratings)
- Flying duty period and flight time limitations (flying instructors)
- Flying duty period and flight time limitations (students)
- Rest periods (flying instructors)
- Rest periods (students)
- Pilots' log books

- Flight planning (general)
 - Safety (general) – equipment, radio listening watch, hazards, accidents and incidents (including reports), safety pilots etc.

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

 - (c) Route
 - Performance (legislation, take-off, route, landing etc.)
 - Flight planning (fuel, oil, minimum safe altitude, navigation equipment etc.)
 - Loading (loadsheets, mass, balance, limitations)
 - Weather minima (flying instructors)
 - Weather minima (students – at various stages of training)
 - Training routes/areas

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



For the Civil Aviation Department
Aminath Solih
DIRECTOR GENERAL



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR

ASC M-1

**APPROVAL OF ORGANISATIONS FOR MAINTENANCE OF
AIRCRAFT AND COMPONENTS**

Amendment 2, 27 May 2009

1. REGULATORY COMPLIANCE

Compliance with this Circular is not mandatory as this circular is produced as guidance.

2. RELATED REGULATIONS

This Circular relates specifically to MCAR-M, MCAR-145 and MCAR-66 subpart B.

3. PURPOSE

The purpose of this Air Safety Circular (ASC) is to provide guidance to Maldivian industry on CAD approval policy with respect to MCAR-145 approval of maintenance organisations engaged in the maintenance of aircraft used for Commercial Air Transport or in the maintenance of components to be fitted to such aircraft; and

4. GENERAL

4.1 MCAR-145 covers the approval of organisations engaged in the maintenance of aircraft or aircraft components used for Commercial Air Transport, and applies to all large aircraft, regardless of use. MCAR-145 and the Acceptable Means of Compliance and Guidance Material are available on the CAD Website.

NOTE: For the purpose of this regulation a “large aircraft” means an aeroplane with a Maximum Take-Off Mass exceeding 5700 kg, or a multi-engine helicopter.

4.2 Organisations approved to MCAR-145 will have details of their approval, including their name and address, listed on the CAD website at www.aviainfo.gov.mv.

5. CAD Approval Policy for MCAR-145 Requirements

5.1 Except as provided in **EXE/M-1: MCAR-M.201(g)** and Appendix 2 to this Circular, the certificate of release to service (CRS) required after maintenance of an aircraft or an aircraft component used for Commercial Air Transport, can only be issued by an organisation appropriately approved in accordance with MCAR-145.

NOTE: It is incumbent upon Maldivian organisations placing maintenance work with other approved organisations to confirm the validity of that ‘approval’ as they can be provisionally suspended for those organisations that do not maintain the required standards. Reference should be made to the list of organisations approved by the CAD at www.aviainfo.gov.mv.

6. Certifying Staff

6.1 Organisations applying for Approval under MCAR-145 for the maintenance of aeroplanes or rotorcraft with a Maximum Take-Off Mass (MTOM) exceeding 5700 kg used for Commercial Air Transport will be required to demonstrate to the CAD that they employ, in accordance with the requirements of MCAR-145.30, a sufficient number of appropriately qualified certifying staff who hold:

6.1.1 MCAR-66 licences in the appropriate category or sub-category issued by CAD including where appropriate the relevant aircraft type ratings, or

6.1.2 MCAR-66 restricted licences in the appropriate category or sub-category issued by CAD including where appropriate the relevant aircraft restricted type ratings, or

6.1.3 Foreign licence validation certificates issued by CAD as per MCAR-145.30(j)1

6.2 Organisations holding or applying for Approval under MCAR-145 or will be required to demonstrate to the CAD that they employ a sufficient number of certifying staff, who hold the appropriate type rated licences issued under MCAR-66 or meet the requirements of MCAR-145.30 (j)1, to be authorised to issue certificates of release to service for all required maintenance.

6.3 Organisations holding or applying for Approval for the maintenance of aircraft components intended for fitment to aircraft used for Commercial Air Transport, are required to demonstrate to the CAD that they employ sufficient numbers of certifying staff (MCAR-145.30), who are qualified by the organisation to issue CAD Form 1 or equivalent Certificate of release to service on the basis of appropriate competence, training and experience.

NOTE: If component maintenance is required which is outside the scope of work of a MCAR-145 ‘A’ rated organisation, it must be Released to Service by an appropriately MCAR-145 ‘B’, ‘C’ or ‘D’ rated organisation. When a MCAR-145 ‘B’, ‘C’ or ‘D’ rated organisation performs maintenance on components fitted to an aircraft during Base or Line maintenance, the Certificate of Release to Service must be issued on CAD Form 1 or equivalent by appropriately authorised component certifying staff. The process for controlling such work on components fitted to aircraft must be in accordance with a procedure contained in the Maintenance Organisation Exposition (MOE).

7. Maintenance of Aircraft when changing from any Non Commercial Operation (non-CAT) to Commercial Air Transport Operation (CAT)

7.1 Aircraft not maintained by MCAR-145 will require release to service by an appropriately approved MCAR-145 organisation, prior to the aircraft being used for Commercial Air Transport. The release to service may, for example, be in accordance with the alignment check required to transfer the aircraft from the current aircraft maintenance programme to the Commercial Air Transport operator’s CAD approved maintenance programme.

NOTES: 1) For aircraft with an MTOM not exceeding 2730 kg, the maintenance checks for this alignment shall be at minimum, but not limited to, a 100 hour check for helicopters or a 150 hour check for aeroplanes in accordance with the LAMS/ LAMP as developed by UK CAA; or the approved alternative CAD approved maintenance schedule.

2) For aircraft with an MTOM exceeding 2730 kg the Maintenance Check content for alignment

shall be agreed by the CAD to be of sufficient depth to provide a satisfactory level of assurance of airworthiness.

3) A MCAR-145.50 CRS will be issued on completion of an alignment check as required above.

4) Operators of aircraft that may transfer between CAT and non-CAT operations must ensure that except as provided in **EXE/M-1: MCAR-M.201(g) and** Appendix 2 to this circular, all aircraft and component maintenance is released by an appropriately approved MCAR-145 organisation, or accept the need for assessment and re-certification as necessary by a MCAR-145 organisation before commercial operations are commenced.

7.2 Except as provided in **EXE/M-1: MCAR-M.201(g) and** Appendix 2 to this circular, components (including engines and equipment) that have not been overhauled or maintained in accordance with MCAR-M.201(g), will require assessment by a MCAR-145 approved organisation prior to the aircraft to which these components are fitted being used for the purposes of Commercial Air Transport.

AIR SAFETY CIRCULAR M-1, Appendix 1

Subcontracting to Non-Approved Organisations

1. General

Except as provided in **EXE/M-1: MCAR-M.201(g) and** Appendix 2 to this circular, in order to issue a MCAR-145.50 Certificate of Release to Service of an aircraft component used in Commercial Air Transport, an organisation must meet one of the following criteria:

- a) an organisation is approved in accordance with MCAR-145;
- b) an organisation is contracted to another appropriately approved MCAR-145 organisation; or
- c) an organisation is working under the quality system of an appropriately approved MCAR-145 organisation (AMC 145.75 (b)) - this arrangement is known as "subcontracting".

2 Introduction

2.1 MCAR-145.75 (b) permits an organisation that is **not** appropriately approved in accordance with MCAR-145 to carry out certain maintenance tasks whilst working under the quality system of an approved MCAR-145 organisation – this is commonly referred to as subcontracting.

2.2 MCAR-145 organisations frequently need to subcontract certain specialised maintenance tasks such as: plating, heat treatment, plasma spray, fire testing, etc. without the need for the subcontractor to be directly approved in accordance with MCAR-145.

2.3 CAD will accept an appropriate United Kingdom Accreditation Service or equivalent accredited laboratory certificate where applicable for specialised maintenance tasks such as: heat treatment, fire testing, etc.

2.4 When maintenance is carried out under a subcontract control system it means that for the duration of such maintenance the MCAR-145 approval has been temporarily extended to include the subcontractor and requires the quality audit staff to ensure the MCAR-145 requirements are satisfied.

2.5 The MCAR-145 approved organisation should have the necessary competence, expertise and procedures to allow it to determine that the subcontractor is able to comply with the particular process/standard identified in the contract.

2.6 The contract between the MCAR-145 approved organisation and the unapproved subcontractor should contain a provision for the CAD staff to have right of access to the subcontractor.

3 Procedure for Acceptance of Work from Non-approved Organisations

3.1 When subcontracting work to a non-approved organisation, the MCAR-145 organisation's procedures must make the following provisions:

a) the pre-audit procedure should ensure that the subcontracted company has a valid accreditation where applicable, acceptable to the CAD (i.e. United Kingdom Accreditation Service-UKAS);

b) the MCAR-145 approved organisation should ensure the subcontractor providing the specialised service is listed in their Maintenance Organisation Exposition;

c) subcontracted process work acceptance should be fully described in the MCAR-145 approved organisation's procedures including the acceptance of the format for the release of the contracted work;

d) the subcontract control procedure will need to ensure the accreditation, where applicable, remains valid and appropriate for the contract required;

e) the MCAR-145 quality audit staff will need to audit their subcontract control section and sample audit the subcontractors when appropriate, as part of the quality programme;

f) the depth of the audit should be reflected in the accreditation, if any, held by the unapproved organisation;

g) the subcontracted control procedure will need to ensure the UKAS or applicable approval remains valid and appropriate for the contract required;

h) the Certificate of Release to Service/CAD Form 1 or equivalent for the release of the task or process will always be issued under the MCAR-145 approved maintenance organisation approval reference;

i) the Certificate of Release to Service may be issued either at the subcontractor or at the organisation facility, by staff issued with a certification authorisation in accordance with MCAR-145.30 as appropriate, by the organisation approved under MCAR-145; and

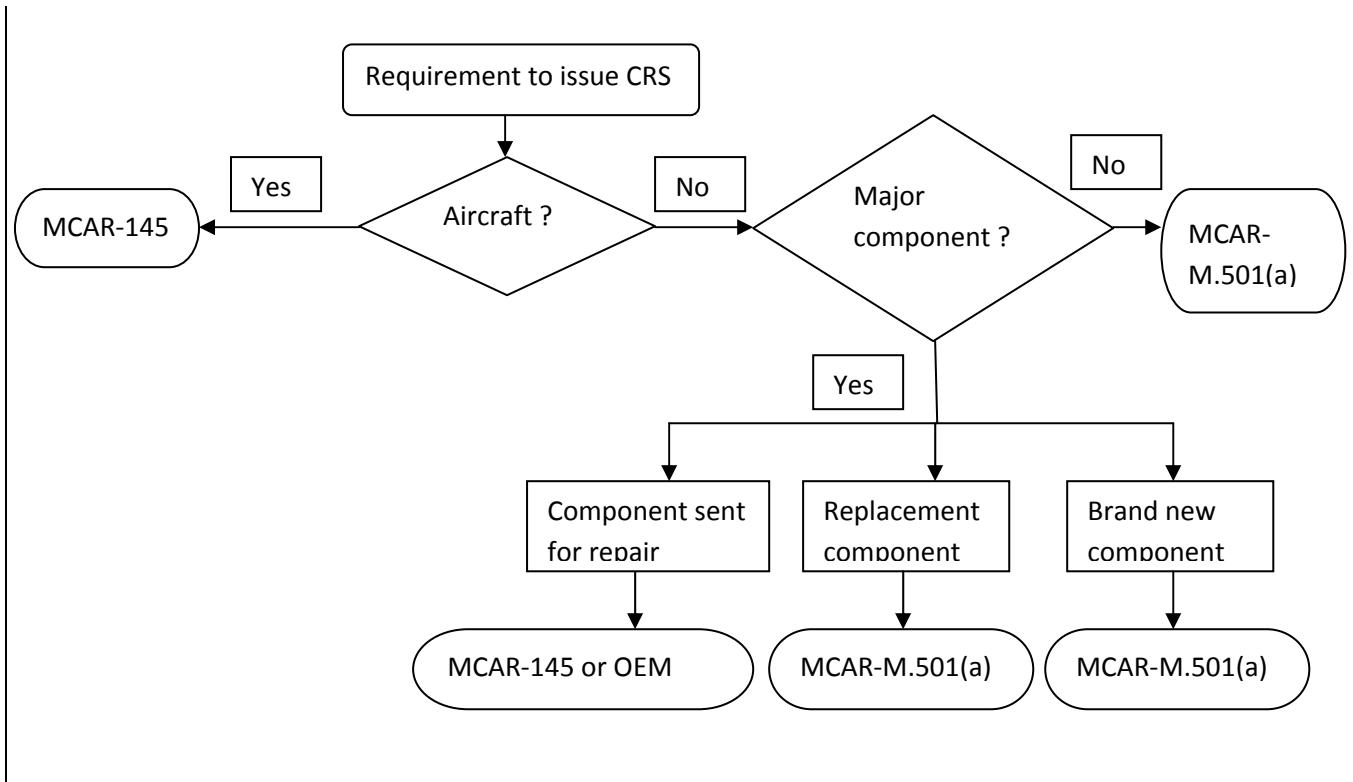
j) such staff would normally come from the organisation approved under MCAR-145 but may otherwise be a person from the subcontractor who meets the approved maintenance organisation certifying standard, which is itself approved by CAD via the maintenance exposition.

3.2 When listing a non-approved organisation as a subcontractor the appropriate accreditation status must be identified.

AIR SAFETY CIRCULAR M-1, Appendix 2

Guidance to EXE/M-1: MCAR-M.201(g) - Component CRS for components which are not considered as Major Components by CAD or released to service by the Original Equipment Manufacturer (OEM).

The diagram below shows the Certificate of Release to Service procedure for Maintenance of large aircraft, aircraft used for commercial air transport and components thereof



For the Civil Aviation Department
Aminath Solih
DIRECTOR GENERAL