



**CIVIL AVIATION DEPARTMENT
MALDIVES**

**NOTICE OF PROPOSED RULE MAKING
NPRM NO: 2009-04**

31th March 2009

Air Safety Circular ASC OPS1-1
REQUIREMENTS FOR PERSONNEL INVOLVED IN OPERATIONAL
CONTROL

AND

Air Safety Circular ASC OPS1-2
GROUND HANDLING

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Appendix 1: NPRM Submission Form

Draft copy of Air Safety Circular ASC OPS1-1
And
Draft copy of Air Safety Circular ASC OPS1-2

1. Purpose of this NPRM

The purpose of this NPRM is to consult the industry before issuing ASC OPS1-1 “Requirements for Personnel involved Operational Control” and ASC OPS1-2 “Ground Handling”

2. Background to the Proposal

ASC OPS1-1 and ASC OPS1-2 were adopted from IOSA Standards Manual Section 3 and Section 6 respectively.

The purpose of these ASCs are to provide information for AOC holders on the required competence of operations personnel involved in operational control to comply with MCAR-OPS 1.205 and to help operators establish a proper ground handling system to ensure safe handling of its flights as per MCAR OPS 1.175 (m) .

3. Key Stakeholders

The following are identified by the CAD as key stakeholders in the proposed amendments to regulations contained in this NPRM:

- Island Aviation Services Ltd
- Maldivian Air Taxi Pvt Ltd
- Trans Maldivian Airways Pvt Ltd
- Maldives Airports Company Ltd

4. Submissions on the NPRM

4.1 Submissions are invited

Interested persons are invited to participate in the making of the proposed rules by submitting written data, views, or comments. All submissions will be considered before final action on the proposed rule making is taken.

Operators may inform the time frame they require to comply with provisions of the circular. This is important as the date that the circular comes into effect will be determined based on the suggested time frames.

4.2 How to make a submission

Comments on this proposal may be forwarded (*preferably by e-mail*), using the NPRM Submission Form given in Appendix 1. The NPRM Submission Form is also available on the CAD website www.aviainfo.gov.mv.

Submissions may be sent by the following methods:

by mail:	Civil Aviation Department 7 th Floor, P.A Complex Hilaalee Magu, Male’ 20307 Republic of Maldives
fax:	+ 960 3323039
e-mail:	safety@aviainfo.gov.mv

4.3 Final date for submissions

Comments must be received before 01 May 2009.

4.4 Availability of the NPRM

Any person may obtain a copy of this NPRM from:

CAD website: www.aviainfo.gov.mv/regulations/nprm.php

or from:

Civil Aviation Department
7th Floor, P.A Complex
Hilaalee Magu, Male' 20307
Republic of Maldives

4.5 Further Information

For further information contact the Regulation Project Coordinator:

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5 Proposed Rule Amendments

ASC OPS1-1 “Requirements for Personnel involved Operational Control” and ASC OPS1-2 “Ground Handling” (draft copies attached) will be issued.



Aiminath Solih
DIRECTOR GENERAL

NPRM No:	Title:
Date of your Submission:	Comment Close-Off Date (as specified in NPRM):

Please return this response sheet to the Ministry of Civil Aviation and Communication by comment close-off date, by e-mail to safety@aviainfo.gov.mv, by post addressed to this Ministry, 7th floor P.A Complex, Hilaalee Magu, Male', or by fax to + 960 3323039

Please indicate your acceptance or otherwise of the proposal by ticking the appropriate box below. Any additional constructive comments, suggested amendments or alternative action will be welcome and may be provided on this response sheet or by separate correspondence.

- The proposal is **acceptable without change.**
- The proposal is **acceptable but would be improved if the following changes were made:**

- The proposal is **not acceptable but would be acceptable if the following changes were made:** (Please provide explanatory comment and use additional pages if required)

- The proposal is **not acceptable under any circumstance:** (Explanatory comment must be provided using additional pages if required)

Individual's Details (complete if your submission is on behalf of yourself)		Organisation's Details (if your submission is on behalf of the organization you represent)	
Your Name:		Organisation:	
Address:		Address:	
Phone:	Fax:	Phone:	Fax:
E-mail:		E-mail:	
Mobile:		Your Name and Position:	
Signature:		Signature:	



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR
DRAFT
ASC OPS1-1

**REQUIREMENTS FOR PERSONNEL INVOLVED IN
OPERATIONAL CONTROL**

Initial Issue, 31 March 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:

- 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)
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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 (date).

For the Civil Aviation Department
Aminath Solih
DIRECTOR GENERAL



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR
DRAFT
ASC OPS1-2

GROUND HANDLING

Initial Issue, 31 March 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)
JAR Joint Aviation Requirements
LEP List of Effective Pages

NOTOC Notification to Captain (dangerous goods)
STC Supplemental Type Certificate

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 (date).

For the Civil Aviation Department
Aminath Solih
DIRECTOR GENERAL