



CIVIL AVIATION DEPARTMENT Republic of Maldives

AIR SAFETY CIRCULAR

ASC OPS1-2

GROUND HANDLING

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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

FOD Foreign Object Damage

AEA Association of European Airlines

GM Guidance Material

AHM IATA Airport Handling Manual

GSE Ground Support Equipment

APU Auxiliary Power Unit

ICAO International Civil Aviation Organisation

COMAT Company Material

IOSA IOSA Standards Manual

FMS Flight Management System

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

(MCAR 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 of passenger steps at the aircraft door(s) normally used for boarding;
- establishment of a bonding connection between the fuelling vehicle and aircraft to provide for dissipation of electrical energy that may develop;
- a prohibition from connecting or disconnecting electrical equipment to the aircraft;
- provisions for operation of the aircraft APU;
- prevention of damage to the fuel hose;
- a requirement for the cessation of aircraft fuelling when it is determined lightning is a threat

Refer to additional guidance in AHM 630.

4.2 Aircraft De-/Anti-icing

(MCAR OPS 1.345 a, refers)

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

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

Guidance

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

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

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

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

Guidance

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

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

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

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

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

Guidance

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

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

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

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

Guidance

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

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

5. EFFECTIVITY

This circular comes into effect from 1st January 2010.



For the Civil Aviation Department
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DIRECTOR GENERAL