

CAR-AEW
AERIAL WORK REGULATIONS
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FOREWORD

- (a) CAR-AEW has been issued by the Civil Aviation Affairs of Oman (hereinafter called the Authority) under the provisions of the Civil Aviation Law of the Sultanate of Oman.
- (b) CAR-AEW has been developed to provide requirements for operators engaged in Aerial Work activities, and prescribes additions, alleviations and exceptions to CAR-OPS 0.
- (c) Amendments to the text in CAR-AEW are issued as amendment pages containing revised paragraphs.
New, amended and corrected text will be enclosed within brackets until a subsequent 'Change' is issued
- (d) The editing practices used in this document are as follows:
 - (1) 'Shall' is used to indicate a mandatory requirement and may appear in CARs.
 - (2) 'Should' is used to indicate a recommendation
 - (3) 'May' is used to indicate discretion by the Authority, the industry or the applicant, as appropriate.
 - (4) 'Will' indicates a mandatory requirement and is used to advise pilots of action incumbent on the Authority.

Note: The use of the male gender implies the female gender and vice versa

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SUBPART A – APPLICABILITY**CAR-AEW 001 Applicability**

This CAR applies in respect of the operation of an aeroplane or helicopter in aerial work involving:

- (i) Fire suppression
- (ii) Agricultural operations
- (iii) External load operations
- (iv) Aerial photography and survey
- (v) Aerial reconnaissance
- (vi) Aerial advertising
- (vii) Air shows and aerial demonstrations
- (viii) Carriage and dropping of parachutists (operator of aircraft)
- (ix) Navigation aid calibration
- (x) Search and Rescue
- (xi) Other activities as determined by the Authority.

And includes the carriage on board of persons other than flight crew members who are connected with the aerial work activities specified above.

This CAR does not apply in respect of the operation of a Micro-light aeroplane, or in respect of the operation of an aircraft involving sightseeing operations

CAR-AEW 003 Operating rules

(a) The holder of an aerial work aircraft operating certificate shall comply with the requirements of CAR-OPS 0 unless otherwise specified in this CAR.

(b) The holder of an aerial work aircraft operating certificate may, deviate from the provisions of CAR-OPS 0.010, CAR-OPS 0.100, CAR-OPS 0.120, CAR-OPS 0.130, CAR-OPS 0.230, CAR-OPS 0.240, CAR-OPS 0.250, CAR-OPS 0.270, CAR-OPS 0.275, CAR-OPS 0.285, CAR-OPS 0.295, CAR-OPS 0.460 without a certificate of waiver, for flights immediately before, during, or immediately after an aerial work activity provided these flights are connected with that aerial work activity and in which, excluding crew members, no more than 6 persons indispensable to the aerial work activity are carried.

CAR-AEW 005 Terminology

"attaching device" - means the structural components on the aircraft used to attach an external load to an aircraft.

"disembark" - means to unload, deplane or leave an aircraft.

"embark" - means to load, emplane or enter an aircraft.

"evacuate" - means the egress from an aircraft in an emergency situation using all available exits and assist means. "external load" - means a load carried externally by an aircraft.

"helicopter Class A external load" - means an external load that cannot move freely, cannot be jettisoned and does not extend below the landing gear;

"helicopter Class B external load" - means an external load that can be jettisoned and that is not in contact with land, water or any other surface

"helicopter Class C external load" - means an external load that can be jettisoned and that remains in contact with land, water or any other surface;

"helicopter Class D external load" - means an external load with a person carried externally or any external load, other than a Class A, B or C external load;

"hoist" - an approved lifting and lowering device attached to the exterior of a helicopter and used for the embarking and disembarking of cargo and persons from/to a helicopter in flight.

"operations co-ordination" - means the exercise of authority by an air operator over it's operating activities excluding operational control.

"rappelling" - an approved attaching system to a helicopter used for the quick disembarking from the cabin of a helicopter in flight.

"vertical reference operations" - means placement or pick-up of a suspended helicopter external load requiring the pilot to continuously maintain view of the suspended load vertically from the cockpit. Also referred to as long-lining

"wide-body helicopter" - means a helicopter having an interior cabin width of 2m (6'7") or more.

SUBPART B. – GENERAL**CAR–AEW.005 General**

(a) Each aircraft shall be operated in compliance with the terms of its Certificate of Airworthiness and within the approved limitations contained in its Aircraft Flight Manual.

(b) All Synthetic Training Devices (STD), such as Flight Simulators or Flight Training Devices (FTD), replacing an aircraft for training and/or checking purposes are to be qualified in accordance with CAR-STD requirements and user approved by the Authority for the exercises to be conducted.

CAR–AEW.010 Exemptions

The Authority may exceptionally and temporarily grant an exemption from the provisions of CAR-AEW when satisfied that there is a need and subject to compliance with any supplementary condition the Authority considers necessary in order to ensure an acceptable level of safety in the particular case.

CAR–AEW.015 Operational Directives

(a) The Authority may direct by means of an Operational Directive that an operation shall be prohibited, limited or subject to certain conditions, in the interests of safe operations.

(b) Operational Directives state:

- (1) The reason for issue;
- (2) Applicability and duration; and
- (3) Action required by the operator(s).

(c) Operational Directives are supplementary to the provisions of CAR AEW.

CAR–AEW.020 Laws, Regulations and Procedures – Operator’s Responsibilities

(a) An operator must ensure that:

- (1) All employees are made aware that they shall comply with the laws, regulations and procedures of those States in which operations are conducted and which are pertinent to the performance of their duties; and
- (2) All crew members are familiar with the laws, regulations and procedures pertinent to the performance of their duties.

CAR–AEW.025 Common Language

(a) An operator must ensure that all crew members can communicate in a common language.

(b) An operator must ensure that all operations personnel are able to understand the language in which those parts of the Operations Manual which pertain to their duties and responsibilities are written.

CAR-AEW.030 Minimum Equipment Lists – Operator’s Responsibilities

See the requirements as per CAR-0.490.

CAR-AEW.050 Search and rescue information

An operator shall ensure that essential information pertinent to the intended flight concerning search and rescue services is easily accessible on the flight deck.

CAR-AEW.055 Information on emergency and survival equipment carried

An operator shall ensure that there are available for immediate communication to rescue coordination centres, lists containing information on the emergency and survival equipment carried on board all of his aircraft. The information shall include, as applicable, the number, colour and type of life-rafts and pyrotechnics, details of emergency medical supplies, water supplies and the type and frequencies of emergency portable radio equipment.

CAR-AEW.085 Crew responsibilities

- (a) A crew member shall be responsible for the proper execution of his duties that:
 - (1) Are related to the safety of the aircraft and its occupants; and
 - (2) Are specified in the instructions and procedures laid down in the Operations Manual.
- (b) A crew member shall:
 - (1) Report to the Pilot in Command any fault, failure, malfunction or defect which he believes may affect the airworthiness or safe operation of the aircraft including emergency systems.
 - (2) Report to the Pilot in Command any incident that endangered, or could have endangered, the safety of operation; and
- (c) Nothing in paragraph (b) above shall oblige a crew member to report an occurrence which has already been reported by another crew member.
- (d) A crew member shall not perform duties on an aircraft:
 - (1) While under the influence of any drug that may affect his faculties in a manner contrary to safety;
 - (2) Until a reasonable time period has elapsed after deep water diving;
 - (3) Following blood donation except when a reasonable time period has elapsed;
 - (4) If he is in any doubt of being able to accomplish his assigned duties; or
 - (5) If he knows or suspects that he is suffering from fatigue, or feels unfit to the extent that the flight may be endangered.
- (e) A crew member shall not:
 - (1) Consume alcohol less than 12 hours prior to the specified reporting time for flight duty or the commencement of standby;
 - (2) Commence a flight duty period with a blood alcohol level in excess of 0.2 promille;
 - (3) Consume alcohol during the flight duty period or whilst on standby.

- (f) The Pilot in Command shall:
- (1) Be responsible for the safe operation of the aircraft and safety of its occupants during flight time;
 - (2) Have authority to give all commands he deems necessary for the purpose of securing the safety of the aircraft and of persons or property carried therein;
 - (3) Have authority to disembark any person, or any part of the cargo, which, in his opinion, may represent a potential hazard to the safety of the aircraft or its occupants;
 - (4) Not allow a person to be carried in the aircraft that appears to be under the influence of alcohol or drugs to the extent that the safety of the aircraft or its occupants is likely to be endangered;
 - (5) Have the right to refuse transportation of inadmissible passengers, deportees or persons in custody if their carriage poses any risk to the safety of the aircraft or its occupants;
 - (6) Ensure that all passengers are briefed on the location of emergency exits and the location and use of relevant safety and emergency equipment;
 - (7) Ensure that all operational procedures and check lists are complied with in accordance with the Operations Manual;
 - (8) Not permit any crew member to perform any activity during take-off, initial climb, final approach and landing except those duties required for the safe operation of the aircraft;
 - (9) Not permit:
 - (i) a flight data recorder (if so equipped) to be disabled, switched off or erased during flight nor permit recorded data to be erased after flight in the event of an accident or an incident subject to mandatory reporting;
 - (ii) a cockpit voice recorder (if so equipped) to be disabled or switched off during flight unless he believes that the recorded data, which otherwise would be erased automatically, should be preserved for incident or accident investigation nor permit recorded data to be manually erased during or after flight in the event of an accident or an incident subject to mandatory reporting;
 - (10) Decide whether or not to accept an aircraft with unserviceabilities allowed by the CDL or MEL; and
 - (11) Ensure that the pre-flight inspection has been carried out.
- (g) The Pilot in Command or the pilot to whom conduct of the flight has been delegated shall, in an emergency situation that requires immediate decision and action, take any action he considers necessary under the circumstances. In such cases he may deviate from rules, operational procedures and methods in the interest of safety.

CAR-AEW.100 Admission to the flight deck

- (a) An operator must establish rules for the carriage of persons in a pilot seat.
- (b) The Pilot in Command must ensure that:
 - (1) Carriage of persons in a pilot seat does not cause distraction and/or interference with the operation of the flight; and

- (2) The person occupying a pilot seat is made familiar with the relevant restrictions and safety procedures

CAR-AEW 120 Endangering safety

(a) An operator shall take all reasonable measures to ensure that no person recklessly or negligently acts or omits to act:

- (1) So as to endanger an aircraft or person therein;
- (2) So as to cause or permit an aircraft to endanger any person or property.

CAR-AEW.130 Manuals to be carried

(a) An operator shall ensure that:

- (1) The current parts of the Operations Manual relevant to the duties of the crew are carried on each flight;
- (2) Those parts of the Operations Manual which are required for the conduct of a flight are easily accessible to the crew on board the aircraft; and
- (3) The current Aircraft Flight Manual is carried in the aircraft unless the AUTHORITY has accepted that the Operations Manual prescribed in CAR AEW.1045, contains relevant information for that aircraft.

CAR-AEW.135 Additional information and forms to be carried

(a) An operator shall ensure that, in addition to the documents and manuals prescribed in CAR AEW.130, the following information and forms, relevant to the type and area of operation, are carried on each flight:

- (1) Operational Flight Plan (see Note 1 and Note 2);
- (2) Aircraft Technical Log (see Note 2);
- (3) Details of the filed ATS flight plan;
- (4) Appropriate NOTAM/AIS briefing documentation; (Note 2);
- (5) Appropriate meteorological information; (see Note 2);
- (6) Mass and balance documentation as specified in Subpart J;
- (7) Notification of special loads including dangerous goods; (See Note 2);
- (8) Current maps and charts and associated documents;
- (9) Any other documentation which may be required by the States concerned with this flight, such as cargo manifest, passenger manifest etc; and
- (10) Forms to comply with the reporting requirements of the Authority and the operator.

(b) The Authority may permit the information detailed in sub-paragraph (a) above, or parts thereof, to be presented in a form other than on printed paper. An acceptable standard of accessibility, usability and reliability must be assured.

Note 1 Operational Flight Plan.

The flight plan may be in a simplified form, relevant to the kind of operations conducted and acceptable to the Authority.

Note 2

*For A to A Day VFR operations, the following documents need not be carried:
(A to A operations means: Take-off and landing are made at the same place.)*

- (A) Operational Flight Plan;*
- (B) Aeroplane Technical Log;*
- (C) NOTAM/AIS briefing documentation;*
- (D) Meteorological Information;*
- (E) Notification of special categories of passengers, etc.; and:*
- (F) Notification of special loads including dangerous goods, etc.*

CAR-AEW.140 Information retained on the ground

- (a) An operator shall ensure that:
 - (1) At least for the duration of each flight or series of flights;
 - (i) Information relevant to the flight and appropriate for the type of operation is preserved on the ground; and
 - (ii) The information is retained until it has been duplicated at the place at which it will be stored in accordance with CAR-OPS 0 .055; or, if this is impracticable,
 - (iii) The same information is carried in a fireproof container in the aircraft.
- (b) The information referred to in subparagraph (a) above includes:
 - (1) A copy of the operational flight plan where appropriate;
 - (2) Copies of the relevant part(s) of the aircraft technical log;
 - (3) Route specific NOTAM documentation if specifically edited by the operator;
 - (4) Mass and balance documentation if required (CAR AEW.625 refers); and
 - (5) Special loads notification.

CAR-AEW.145 Power to inspect

An operator shall ensure that any person authorised by the Authority is permitted at any time to board and fly in any aircraft operated in accordance with an AOC issued by that Authority and to enter and remain on the flight deck provided that the Pilot in Command may refuse access to the flight deck if, in his opinion, the safety of the aircraft would thereby be endangered.

CAR-AEW.150 Production of documentation and records

- (a) An operator shall:
 - (1) Give any person authorised by the Authority access to any documents and records which are related to flight operations or maintenance; and
 - (2) Produce all such documents and records, when requested to do so by the AUTHORITY, within a reasonable period of time.

(b) The Pilot in Command shall, within a reasonable time of being requested to do so by a person authorised by an Authority, produce to that person the documentation required to be carried on board.

CAR-AEW.155 Preservation of documentation

- (a) An operator shall ensure that:
- (1) Any original documentation, or copies thereof, that he is required to preserve is preserved for the required retention period even if he ceases to be the operator of the aircraft; and
 - (2) Where a crew member, in respect of whom an operator has kept a record in accordance with Subpart Q, becomes a crew member for another operator, that record is made available to the new operator.

CAR-AEW.160 Preservation, production and use of flight recorder recordings

- (a) *Preservation of recordings*
- (1) Following an accident, the operator of an aircraft on which a flight recorder is carried shall, to the extent possible, preserve the original recorded data pertaining to that accident, as retained by the recorder for a period of 60 days unless otherwise directed by the investigating Authority.
 - (2) Unless prior permission has been granted by the Authority, following an incident that is subject to mandatory reporting, the operator of an aircraft on which a flight recorder is carried shall, to the extent possible, preserve the original recorded data pertaining to that incident, as retained by the recorder for a period of 60 days unless otherwise directed by the Authority.
 - (3) Additionally, when the Authority so directs, the operator of an aircraft on which a flight recorder is carried shall preserve the original recorded data for a period of 60 days unless otherwise directed by the investigating Authority.
 - (4) When a flight data recorder is required to be carried aboard an aircraft, the operator of that aircraft shall:
 - (i) Save the recordings for the period of the applicable operating time, except that, for the purpose of testing and maintaining flight data recorders, up to one hour of the oldest recorded material at the time of testing may be erased; and
 - (ii) Keep a document which presents the information necessary to retrieve and convert the stored data into engineering units.

(b) *Production of recordings.* The operator of an aircraft on which a flight recorder is carried shall, within a reasonable time after being requested to do so by the Authority, produce any recording made by a flight recorder which is available or has been preserved.

(c) *Use of recordings*

- (1) The cockpit voice recorder recordings may not be used for purposes other than for the investigation of an accident or incident subject to mandatory reporting except with the consent of all crew members concerned.
- (2) The flight data recorder recordings may not be used for purposes other than for the investigation of an accident or incident subject to mandatory reporting except when such records are:
 - (i) Used by the operator for airworthiness or maintenance purposes only; or

- (ii) De-identified; or
- (iii) Disclosed under secure procedures.

SUBPART C – CERTIFICATION**CAR-AEW .175 General rules for Air Operator Certification**

Appendix 1 to this paragraph specifies the contents and conditions of the AOC.

Appendix 2 to this paragraph specifies the management and organisation requirements.

Note; For Operators already certified under CAR-OPS , demonstration of compliance with the additional requirements for the aerial work activities for which they seek approval, will satisfy the requirements.

(a) An operator shall not operate an aircraft for the purpose of aerial work other than under, and in accordance with, the terms and conditions of an Air Operator Certificate (AOC).

(b) An applicant for an AOC, or variation of an AOC, shall allow the Authority to examine all safety aspects of the proposed operation.

(c) An applicant for an AOC must:

- (1) Not hold an AOC issued by another Authority unless specifically approved by the Authorities concerned;
- (2) Have his principal place of business and, if any, his registered office located in the Sultanate of Oman;
- (3) Have registered the aircraft which are to be operated under the AOC in the Sultanate of Oman; and
- (4) Satisfy the Authority that he is able to conduct safe operations.

(d) Notwithstanding sub-paragraph (c)(3) above, an operator may operate, with the mutual agreement of the Authority and another Authority, aircraft registered on the national register of the other Authority.

(e) An operator shall grant the Authority access to his organisation and aircraft and shall ensure that, with respect to maintenance, access is granted to any associated CAR-145 maintenance organisation, to determine continued compliance with this CAR.

(f) An AOC will be varied, suspended or revoked if the Authority is no longer satisfied that the operator can maintain safe operations.

(g) The operator must satisfy the Authority that;

- (1) Its organisation and management are suitable and properly matched to the scale and scope of the operation; and
- (2) Procedures for the supervision of operations have been defined.

(h) The operator must have nominated an accountable manager acceptable to the Authority who has corporate authority for ensuring that all operations and maintenance activities can be financed and carried out to the standard required by the Authority.

(i) The operator must have nominated post holders, acceptable to the Authority, who are responsible for the management and supervision of the following areas,

- (1) Flight operations;
- (2) The maintenance system;

- (3) Crew training; and
- (4) Ground operations.

Note: See CAR-OPS 1 & 3, ACJ OPS 1 & 3.175(i) for acceptable means of compliance

(j) A person may hold more than one of the nominated posts if acceptable to the AUTHORITY but, for operators who employ 21 or more full time staff, a minimum of two persons are required to cover the four areas of responsibility.

Note: See CAR-OPS 1&3, ACJ OPS 1&3.175(j & (k)) for acceptable means of compliance

CAR-AEW.180 Issue, variation and continued validity of an AOC

(a) An operator will not be granted an AOC, or a variation to an AOC, and that AOC will not remain valid unless:

- (1) Aircraft operated have a standard Certificate of Airworthiness issued in accordance with ICAO Annex 8.
- (2) The maintenance system has been approved by the Authority in accordance with Subpart M; and
- (3) He has satisfied the Authority that he has the ability to:
 - (i) Establish and maintain an adequate organisation;
 - (ii) Comply with required training programmes;
 - (iii) Comply with maintenance requirements, consistent with the nature and extent of the operations specified, including the relevant items prescribed in CAR-AEW.175(g) to (o); and
 - (v) Comply with CAR-AEW.175

(b) Notwithstanding the provisions of CAR-AEW.185(f), the operator must notify the Authority as soon as practicable of any changes to the information submitted in accordance with CAR-AEW 185(a) below.

(c) If the Authority is not satisfied that the requirements of subparagraph (a) above have been met, the Authority may require the conduct of one or more demonstration flights, operated as if they were commercial air transport flights.

(d) Operators already certified under CAR-OPS, can be granted a variation to their AOC to include Aerial Work, if compliance with Subparts D, -K, -N and -P has been demonstrated to the Authority

CAR-AEW.185 Administrative requirements

(a) The application for an initial issue of an AOC must be submitted, in a form and manner prescribed by the Authority, at least 90 days before the date of intended operation except that the Operations Manual may be submitted later but not less than 60 days before the date of intended operation.

(b) The application for the variation of an AOC must be submitted at least 30 days, or as otherwise agreed, before the date of intended operation.

(c) The application for the renewal of an AOC must be submitted at least 30 days, or as otherwise agreed, before the end of the existing period of validity.

(d) Other than in exceptional circumstances, the Authority must be given at least 10 days prior notice of a proposed change of a nominated post holder.

(e) An operator shall ensure that the following information is included in the initial application for an AOC and, when applicable, any variation or renewal applied for:

- (1) The official name and business name, address and mailing address of the applicant;
- (2) A description of the proposed operation;
- (3) A description of the management organisation;
- (4) The name of the accountable manager;
- (5) The names of major post holders, including those responsible for flight operations, the maintenance system, crew training and ground operations together with their qualifications and experience; and
- (6) The Operations Manual.

(f) In respect of the operator's maintenance system only, the following information must be included in the initial application for an AOC and, when applicable, any variation or renewal applied for, and for each aircraft type to be operated

- (1) The Operator's Maintenance Management Exposition;
- (2) The operator's aircraft maintenance programme(s);
- (3) The aircraft technical log;
- (4) Where appropriate, the technical specification(s) of the maintenance contract(s) between the operator and any CAR-145 approved maintenance organisation;
- (5) The number of aircraft.

(g) The Authority may deny any applicant a certificate under this CAR if the Authority finds:

- (1) that an air operator certificate issued under CAR-OPS, previously issued to the applicant was revoked; or
- (2) that a person who was employed in a position similar to general manager, director of operations, director of maintenance, chief pilot or chief engineer, or who has exercised control with respect to any air operator certificate holder, whose operating certificate has been revoked, will be employed in any of those positions or similar position, or will be in control of or have a substantial ownership interest in the applicant, and that the person's employment or control contributed materially to the reasons for revoking that certificate.

Appendix 1 to CAR-AEW 175 Contents and conditions of the Air Operator Certificate

An AOC specifies the:

- (a) Name and location (principal place of business) of the operator;
- (b) Date of issue and period of validity;
- (c) Description of the type of operations authorised;
- (d) Type(s) of aircraft(s) authorised for use;
- (e) Registration markings of the authorised aircraft(s) except that operators may obtain approval for a system to inform the Authority about the registration markings for aircraft operated under its AOC;
- (f) Authorised areas of operation;
- (g) Special limitations; and
- (h) Special authorisations/approvals e.g.:
 - (1) The carriage of helicopter Class B, C or D external loads;
 - (2) The dispersal of products (except those for agricultural use);
 - (3) Search and rescue;
 - (4) Observation and patrol;
 - (5) Transportation of Dangerous Goods.
 - (6) Reduced visibility operation
 - (7) Agricultural operations

Appendix 2 to CAR-AEW.175 The management and organisation of an AOC holder**(a) General**

An operator must have a sound and effective management structure in order to ensure the safe conduct of air operations. Nominated post holders must have managerial competency together with appropriate technical/operational qualifications in aviation. The intent of CAR-AEW .175 is neither to prescribe any specific organisational hierarchy within the operator's organisation nor to prevent the Authority from requiring a certain hierarchy before it is satisfied that the management organisation is suitable

(b) Nominated post holders

(1) A description of the functions and the responsibilities of the nominated post holders, including their names, must be contained in the Operations Manual and the AUTHORITY must be given notice in writing of any intended or actual change in appointments or functions.

(2) The operator must make arrangements to ensure continuity of supervision in the absence of nominated post holders.

(3) A person nominated as a post holder by the holder of an AOC must not be nominated as a post holder by the holder of any other AOC, unless acceptable to the Authorities concerned.

(4) Persons nominated as post holders must be contracted to work sufficient hours to fulfil the management functions associated with the scale and scope of the operation.

(c) Adequacy and supervision of staff**(1) Crew members.**

The operator must employ sufficient flight- and other required crewmembers for the planned operation, trained and checked in accordance with Subpart N as appropriate.

(2) Ground Staff

(i) The number of ground staff is dependent upon the nature and the scale of operations. Operations and ground handling departments, in particular, must be staffed by trained personnel who have a thorough understanding of their responsibilities within the organisation.

(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.

(3) Supervision

(i) The number of supervisors to be appointed is dependent upon the structure of the operator and the number of staff employed.

(ii) The duties and responsibilities of these supervisors must be defined, and any other commitments arranged so that they can discharge their supervisory responsibilities.

- (iii) The supervision of crew members and ground staff must be exercised by individuals possessing experience and personal qualities sufficient to ensure the attainment of the standards specified in the operations manual.
- (d) *Accommodation facilities*
- (1) An operator must ensure that working space available at each operating base is sufficient for personnel pertaining to the safety of flight operations. Consideration must be given to the needs of ground staff, those concerned with operational control, the storage and display of essential records, and flight planning by crews.
- (2) Office services must be capable, without delay, of distributing operational instructions and other information to all concerned.
- (e) *Documentation*. The operator must make arrangements for the production of manuals, amendments and other documentation.

SUBPART D – OPERATIONAL PROCEDURES**CAR-AEW.195 Operational Control**

(See Appendix 1 to CAR-AEW 195)

An operator shall:

- (a) Establish and maintain a method of exercising operational control approved by the Authority; and
- (b) Exercise operational control over any flight operated under the terms of his AOC.

For the purpose of this paragraph operational control means the exercise by the operator, in the interest of safety, of responsibility for the initiation, continuation, termination or diversion of a flight. This does not imply a requirement for licensed flight dispatchers or a full flight watch system.

The organisation and methods established to exercise operational control should be included in the operations manual and should cover at least a description of responsibilities concerning the initiation, continuation, termination or diversion of each flight.

CAR-AEW.200 Operations manual

An operator shall provide an Operations Manual in accordance with Subpart P for the use and guidance of operations personnel.

CAR-AEW.205 Competence of operations personnel

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.

CAR-AEW.210 Establishment of procedures

(a) An operator shall establish procedures and instructions, for each aircraft type, containing ground staff and crew members' duties for all types of operation on the ground and in flight.

(b) An operator shall establish a check-list system to be used by crew members for all phases of operation of the aircraft under normal, abnormal and emergency conditions as applicable, to ensure that the operating procedures in the Operations Manual are followed.

(c) An operator shall not require a crew member to perform any activities during critical phases of the flight other than those required for the safe operation of the aircraft.

CAR-AEW.215 Use of Air Traffic Services

An operator shall ensure that Air Traffic Services are used for all flights whenever available.

CAR-AEW 220 Authorization of Aerodromes by the Operator.

(a) An operator shall only authorize use of aerodromes that are adequate for the type(s) of aircraft and operation concerned.

(b) . An operator shall establish a procedure for the selection of heliports or landing sites, suitable for the type of helicopter.

(c) An operator shall establish a procedure to qualify the Pilot in Commands for the selection of landing sites, suitable for the type of helicopter and the type of operation.

CAR-AEW 221 Operational Flight Plan

(a) Subject to the provisions of sub-paragraph (b) below, no operator shall permit a pilot to commence a flight unless an operational flight plan has been prepared in accordance with the procedures specified in the air operator's company operations manual.

(b) VFR night flights operated within an aerial work zone for the purpose of conducting an aerial work operation and day VFR flights are not required to be operated under an operational flight plan.

(c) The air operator shall specify, in its Company Operations Manual, how formal acceptance of the operational flight plan by the Pilot in Command shall be recorded.

CAR-AEW 225 Carriage of Persons

No operator shall allow a person who is not a flight crew member to be carried on board an aircraft unless

- (1) the person's presence on board is essential during the flight;
- (2) the operator is authorized in its air operator certificate to permit parachute descents and the person is a parachutist; or
- (3) the operator is authorized in its operator certificate to carry persons.

CAR-AEW 230 VFR Minimum Flight Visibility - Uncontrolled Airspace

(See Appendix 1 to CAR-AEW 230)

- (a) Where an aeroplane is operated in day VFR flight within uncontrolled airspace at less than 1,000 feet AGL, a pilot may operate the aeroplane in reduced visibility of 1.5 km if:
 - (i) the aeroplane is operated at a speed such that obstacles can be seen and avoided. Aeroplane configuration for operations in reduced visibility shall conform to the Aircraft Flight Manual recommendations
 - (ii) the pilot is authorized to do so in an air operator certificate;
- (b) Where a helicopter is operated in day VFR flight within uncontrolled airspace at less than 1,000 feet AGL, a pilot may operate the helicopter in reduced visibility of 800 m if:
 - (i) the helicopter is operated at a speed that will give adequate opportunity to observe other traffic or any obstructions in order to avoid collisions; and
 - (ii) the pilot is authorized to do so in an air operator certificate;

CAR-AEW 235 Night VFR Operations

(a) No operator shall operate an aircraft at night with persons other than flight crew members on board unless the Pilot in Command has an instrument rating.

(b) Dispersing of products during VFR at night is subject to the following standards:

- (1) operations are conducted in VFR conditions which provide for a discernable natural horizon;
- (2) the dispersing area has been surveyed under day conditions and obstructions marked in a manner to ensure their recognition at night;
- (3) the pilot is familiar with the dispersing flight path and obstructions prior to conducting night operations;
- (4) the aircraft is equipped with an approved light system capable of illuminating obstacles on the flight path at a distance where the aircraft could avoid the obstacle; and
- (5) the air operator's Company Operations Manual content includes operational requirements.

CAR-AEW 240 Entering or Leaving a Helicopter in Flight

(See Appendix 1 to CAR-AEW 240)

The Pilot in Command of a helicopter may permit a person to enter or leave the helicopter in flight

- (1) where

- (i) the helicopter is operated at a low hover,
 - (ii) the person is able to enter directly from or alight directly onto the supporting surface,
 - (iii) the operator is authorized to do so in its air operator certificate, and
- (2) where
- (i) the helicopter is operated to enable hoisting or rappelling, and
 - (ii) the air operator complies with CAR-AEW 250

CAR-AEW 245 Aircraft Operating over Water

(See Appendix 1 to CAR-AEW 245)

(a) No operator shall, except when conducting a take-off or landing, operate a land aircraft over water, beyond a point where the land aircraft could reach shore in the event of an engine failure, unless the air operator is authorized to do so in its air operator certificate.

(b) Authorization to operate a land aircraft over water beyond a point where the land aircraft could reach shore in event of an engine failure is available for helicopters only.

CAR-AEW 250 Helicopter Class D External Loads

(See Appendix 1 to CAR-AEW 250)

(a) Subject to subsection (b), no operator shall operate a helicopter to carry a helicopter Class D external load unless

(1) the helicopter is a multi-engined helicopter that meets the transport category engine-isolation requirements and that is capable of hovering with one engine inoperative at the existing weight and altitude;

(2) the operator is authorized to do so in its air operator certificate.

(b) An operator may operate a helicopter other than a helicopter described in paragraphs (a)(1) to carry a helicopter Class D external load if the air operator is authorized to do so in its air operator certificate.

CAR-AEW 255 Built-up Area and Aerial Work Zone

(a) A pilot may conduct a take-off, approach or landing in an aircraft within a built-up area of a city or town at a place other than an aerodrome or a military aerodrome, if the pilot is authorized to do so in an air operator certificate

(b) A pilot may operate an aircraft over a built-up area at altitudes and distances less than those specified in CAR-OPS 0.295(a), if the pilot: is authorized to do so in an air operator certificate; and

(c) A pilot may operate a helicopter that is carrying a helicopter Class B, C or D external load over a built-up area or in an aerial work zone, if the pilot is authorized to do so in an air operator certificate

(d) For air operator authority to operate an aircraft over a built-up area at altitudes and distances less than those specified in CAR-OPS 0.295(c), an aerial work zone plan shall be submitted to the Authority in which the flights are to take place at least five working days in advance of the operation and include:

- (1) certification that the governing municipality has been informed of the proposed operation;
- (2) purpose of the flights;
- (3) dates, alternate dates and proposed time of day of the operation;
- (4) location of the operation;
- (5) type of aircraft to be used;
- (6) altitudes and routes to be used depicted on a map of the area;
- (7) procedures and precautions to be taken to ensure that no hazard is created to persons or property on the surface including locations of forced landing areas in the event of an emergency; and
- (8) name of the responsible air operator person to contact.

CAR-AEW 257 Agricultural Operations**a Definition of terms**

For the purpose of this CAR:

Agricultural aircraft operation means the operation of an aircraft for the purpose of (1) dispensing any economic poison, (2) dispensing any other substance intended for plant nourishment, soil treatment, propagation of plant life, or pest control, or (3) engaging in dispensing activities directly affecting agriculture, horticulture, or forest preservation, but not including the dispensing of live insects.

Economic poison means (1) any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects, rodents, nematodes, fungi, weeds, and other forms of plant or animal life or viruses, which the Sultanate of Oman declare to be a pest, except viruses on or in living man or other animals, and (2) any substance or mixture of substances intended for use as a plant regulator, defoliant or desiccant.

b Certification requirements

Knowledge and skill tests. The applicant must show, or have the person who is designated as the chief supervisor of agricultural aircraft operations for him show, that he has satisfactory knowledge and skill regarding agricultural aircraft operations, as described in paragraph (e)(1) and (2) of this section.

(1) The test of knowledge consists of the following:

- (i) Steps to be taken before starting operations, including survey of the area to be worked.
- (ii) Safe handling of economic poisons and the proper disposal of used containers for those poisons.
- (iii) The general effects of economic poisons and agricultural chemicals on plants, animals, and persons, with emphasis on those normally used in the areas of intended operations; and the precautions to be observed in using poisons and chemicals.
- (iv) Primary symptoms of poisoning of persons from economic poisons, the appropriate emergency measures to be taken, and the location of poison control centers.
- (v) Performance capabilities and operating limitations of the aircraft to be used.
- (vi) Safe flight and application procedures.

(2) The test of skill consists of the following maneuvers that must be shown in any of the aircraft specified in paragraph (d) of this section, and at that aircraft's maximum certificated take-off weight, or the maximum weight established for the special purpose load, whichever is greater:

- (i) Short-field and soft-field takeoffs (airplanes only);
- (ii) Approaches to the working area;
- (iii) Flare-outs;
- (iv) Swath runs;
- (v) Pullups and turnarounds; and
- (vi) Rapid deceleration (quick stops) in helicopters only.

c Manner of dispensing

No persons may dispense, or cause to be dispensed, from an aircraft, an material or substance in a manner that creates a hazard to persons or property on the surface.

d Records: Commercial agricultural aircraft operator

(a) Each holder of a agricultural aircraft operator certificate shall maintain and keep current, at the home base of operations designated in his application, the following records:

- (1) The name and address of each person for whom agricultural aircraft services aware provided;
- (2) The date of the service;
- (3) The name and quantity of the material dispensed for each operation conducted; and
- (4) The name, address, and license number of each pilot used in agricultural aircraft operations and the date that pilot met the knowledge and skill requirements of CAR-AEW 257 (b)

(b) The records required by this section must be kept at least 12 months and made available for inspection by the Authority upon request.

Appendix 1 to CAR AEW 195**Operational Control****(1) General****(a) Application**

For all operations under Aerial Work Operations.

Another organization may be contracted to exercise operational control on behalf of an air operator.

(b) Responsibility and Authority

Operational control is delegated to the Pilot in Command of a flight by the Postholder Flight Operations who retains responsibility for the day to day conduct of flight operations.

(c) Centres

Current information on the location of the air operator's aeroplane shall be maintained at the main base of operations, sub-base or where appropriate, from the location from which the flight following is being conducted.

(d) Communications

Each aeroplane shall be equipped with serviceable and functioning communications equipment that permits the Pilot in Command to communicate with a ground radio station for the purpose of flight following with the air operator. Such a ground station may be operated by the government, the air operator or a private agency.

(e) On Duty

A person qualified and knowledgeable in the operator's flight alerting procedures shall be on duty or available when IFR or VFR at night flight operations are being conducted.

(2) Flight Following

Flight Following is the monitoring of a flight's progress and the notification of appropriate operator and search and rescue authorities if the flight is overdue or missing.

(a) Each flight shall be conducted under an IFR Flight Plan, VFR Flight Plan or Flight Itinerary as appropriate.

(b) The Pilot in Command is responsible for flight watch but shall be supported by an air operator Flight Following System that shall monitor the progress of each IFR flight or VFR at night flight from its commencement to its termination, including any intermediate stops. The person performing the flight following function, who may be the same as in paragraph 1(e) above, shall be delegated to do so by the operations manager.

(c) The Pilot in Command shall be responsible for passing messages concerning landings and departures from point of origin, at enroute stops and from the final destination .

Appendix 1 to CAR AEW 230 Standards for reduced VFR visibility limits in uncontrolled airspace.*(1) Aircraft Equipment;*

The aircraft shall be equipped with the following:

- (i) an artificial horizon;
- (ii) a directional gyro or gyro compass; and
- (iii) a Global Positioning System (GPS) navigation receiver.

(2) Pilot Experience

Before conducting operations in reduced visibility, pilots shall have achieved at least 500 hours of experience in Aerial Work or operations in the same category and class of aircraft or helicopter for which the authority is sought that, in the opinion of the Authority, are equivalent to such experience.

(3) Airspeed and Configuration for Operation in Reduced Visibility

Aircraft and helicopters shall be operated at a speed such that obstacles can be seen and avoided.

Aircraft configuration for operations in reduced visibility shall conform to the Aircraft Flight Manual recommendations.

(4) Pilot Training

Pilots shall receive training as follows:

- (i) initially and every three years thereafter, pilot decision making training which shall include the following topics:
 - (A) the decision making process, including modules on factors which affect good judgement;
 - (B) human performance factors, including modules on physical, psychological and, physiological phenomena and limitations; and
 - (C) human error countermeasures and good airmanship;

:

This course will have to be developed by the operator and approved by the Authority

(ii) one hour initial flight training and one hour annual recurrent flight training in basic instrument flying manoeuvres and flight at reduced airspeed; and

(iii) initial training and annual recurrent training in the use of all equipment specified in subsection (1) above, and in all procedures specified in the Company Operations Manual for low visibility operations.

(5) Operations Manual

The Operations Manual shall contain low visibility operational procedures and pilot decision making considerations for operation in visibility conditions of less than one mile which shall include, but not be limited to:

(For Aeroplanes)

- (i) a company established minimum safe operational IAS and configuration for reduced visibility operations for each aircraft type for which this authority is sought; and
- (ii) company low visibility operational procedures and considerations including, but not limited to:
 - (A) wind;
 - (B) gross weight and weather considerations;
 - (C) route / terrain knowledge and/or restrictions (availability of forced landing areas, potential for white-out, etc.);
 - (D) time of day restrictions (e.g. no low visibility operations at dawn or twilight); and
 - (E) communications.

(For Helicopters)

- (i) gross weight;
- (ii) wind;
- (iii) weather;
- (iv) route / terrain;
- (v) time of day;
- (vi) communications; and
- (vii) the potential for loss of visibility in blowing sand

Appendix 1 to CAR AEW 240 Standards for Entering or Leaving a Helicopter in Flight

Authorization to permit a person to enter or leave a helicopter in flight other than by external load attaching means is subject to the following standards:

- (1) operations are conducted under day VFR conditions while the helicopter maintains a stabilized hover;
- (2) the longitudinal and lateral centre of gravity shall be calculated for embarking and disembarking operations and shall not exceed the limitations of the applicable flight manual. The operating weight shall be calculated and shall not exceed the applicable weight/attitude/temperature (WAT) hover performance charts for the helicopter type and configuration at the operating altitude;
- (3) persons to be embarked or disembarked have been instructed on related hazards and techniques;
- (4) crew members shall be trained for the purpose of this paragraph.
- (5) any equipment or cargo to be loaded or unloaded shall be secured to prevent shifting in flight except during loading and unloading. Cargo or equipment shall not be loaded or unloaded from a baggage compartment remote from the main cabin unless the applicable centre of gravity calculation is completed and cargo handlers have been instructed on procedures; and
- (6) the air operator's Operations Manual content includes embarking and disembarking operational procedures, briefing procedures and crew member training requirements.

Appendix 1 to CAR-AEW 245 Standards for Aircraft Operating over Water

- (1) The standards for authorization to operate a helicopter configured as a land aircraft over water are:
 - (i) the helicopter is equipped with an approved emergency flotation kit.
 - (ii) when enroute over water, the helicopter is operated at an altitude that will provide adequate time for full inflation of the flotation devices prior to water contact in event of an engine failure;
 - (iii) life preservers are carried for each person on board and stowed within reach of each person carried when seated with his or her seat belt fastened.
 - (iv) flights conducted over water more than 15 minutes at normal cruising speed from shore or from a suitable aerodrome when carrying persons other than flight crew members shall be capable of direct air-ground flight following communications; and
 - (v) the air operator's Operations Manual content includes equipment requirements, procedures and restrictions.
- (2) A helicopter may be operated over water configured as a land aircraft without the helicopter being equipped with an emergency flotation kit provided:
 - (i) the helicopter is being operated for the purpose of fire suppression;
 - (ii) only persons essential during flight are carried and have been instructed in water ditching procedures and evacuation;
 - (iii) life preservers are carried for each person on board and stowed within reach of each person carried when seated with his or her seat belt fastened; and
 - (iv) the air operator's Operations Manual content includes procedures and restrictions.
- (3) Life preservers must be worn at all times when the helicopter is operated beyond a distance away from land, which is suitable for making an emergency landing.

Appendix 1 to CAR-AEW 250 Standards for Helicopter Class D External Loads

(a) The standards for authorization to operate a helicopter to carry a Class D helicopter external load are:

- (1) the helicopter is equipped to permit direct radio intercommunication among crew members;
- (2) the personnel carrying device is airworthiness approved for the carriage of human external loads;
- (3) the load is jettisonable if it extends below the landing gear;
- (4) the air operator has applicable one engine inoperative performance charts for the operating weight and density altitude at which the Class D external load operation is to be conducted. Performance charts may take account of windspeed providing windspeed is 10 knots or more;
- (5) the air operator's Company Operations Manual includes operational requirements, operational procedures and air operator employee qualification and training requirements.

(b) The standards for authorization to operate a helicopter to carry a Class D helicopter external load using a single-engine helicopter or a multi-engine helicopter unable to comply with one engine inoperative requirements are:

- (1) where the load does not extend below the landing gear:
 - (i) the helicopter is equipped to permit direct electronic or visual communication among crew members;
 - (ii) the personnel carrying device is airworthiness approved for the carriage of human external loads;
 - (iii) the helicopter is turbine powered and equipped, where approved for the type, with an auto-ignition system and a detector system to warn flight crew members of excessive ferrous material in the engine(s);
 - (iv) only flight crew members and persons essential during flight are carried; and
 - (v) the air operator's Company Operations Manual includes operational requirements, operational procedures and air operator employee qualification and training requirements;
- (2) where the load extends below the landing gear:
 - (i) the helicopter is equipped to permit direct radio intercommunication among crew members;
 - (ii) the personnel carrying device is airworthiness approved for the carriage of human external loads;

- (iii) the load is jettisonable;
- (iv) the helicopter is turbine powered and equipped, where approved for the type, with an auto-ignition system and a detector system to warn flight crew members of excessive ferrous material in the engine(s);
- (v) only flight crew members and persons essential during flight are carried;
- (vi) persons are transported externally between geographical points only to the nearest suitable landing site;
- (vii) the authorization is for the purpose of law enforcement operations, forest fire suppression operations, urban fire fighting operations or rescue operations;
- (viii) the air operator has a formal written agreement from the user of the service and the agreement stipulates that only suitably trained and qualified persons will be assigned; and
- (ix) the air operator's Company Operations Manual includes operational requirements, operational procedures and air operator employee qualification and training requirements.

(c) Where helicopter Class D External Load Operations are to be conducted for the purpose of providing a rescue service the following standards shall apply.

(1) Pilot Experience

Pilot in Command for rescue service operations shall have achieved:

- (i) at least 1,000 hours total helicopter pilot flight time;
- (ii) at least 200 hours on the aircraft type which the pilot is to fly on initial assignment to rescue operations and at least 25 hours on types to be used thereafter;
- (iii) have completed training for Class D load operations.

Appendix 1 to CAR-AEW 257**Standards for Agricultural Operations****Non-observance of airport traffic pattern**

Notwithstanding CAR-OPS 0, the pilot in command of an aircraft may deviate from an airport traffic pattern when authorized by the control tower concerned. At an airport without a functioning control tower, the pilot in command may deviate from the traffic pattern if:

- (a) Prior coordination is made with the airport management concerned;
- (b) Deviations are limited to the agricultural aircraft operation;
- (c) Except in an emergency, landing and takeoffs are not made on ramps, taxiways, or other areas of the airport not intended for such use; and
- (d) The aircraft at all times remains clear of, and gives way to, aircraft conforming to the traffic pattern for the airport.

Operation without position lights

Notwithstanding CAR-OPS 0,, an aircraft may be operated without position lights if prominent unlighted objects are visible for at least 2.5 km and takeoffs and landing at:

- (a) Airports with a functioning control tower are made only as authorized by the control tower operator; and
- (b) Other airports are made only with the permission of the Authority and no other aircraft operations requiring position lights are in progress at that airport.

Operations over other than congested areas

Notwithstanding CAR-OPS 0,, during the actual dispensing operation, including approaches, departures, and turnarounds reasonably necessary for the operation, an aircraft may be operated over other than congested areas below 500 feet above the surface and closer than 500 feet to persons, vessels, vehicles, and structures if the operations are conducted without creating a hazard to person or property on the surface.

Operation over congested areas: General

(a) Notwithstanding CAR-OPS 0, an aircraft may be operated over a congested area at altitudes required for the proper accomplishment of the agricultural aircraft operation if the operation is conducted:

- (1) With the maximum safety to persons and property on the surface, consistent with the operation; and
 - (2) In accordance with the requirements of paragraph (b) of this section.
- (b) No person may operate an aircraft over a congested area except in accordance with the requirements of this paragraph.

- (1) Prior written approval must be obtained from the Authority;
- (2) Notice of the intended operation must be given to the public by some effective means, such as daily news papers, radio, television, or door-to-door notice;

(3) A plan for each complete operation must be submitted to, and approved by the Authority. The plan must include consideration of obstructions to flight; the emergency landing capabilities of the aircraft to be used; and any necessary coordination with air traffic control;

(4) Single engine aircraft must be operated as follows:

(i) Except for helicopters, no person may take off a loaded aircraft, or make a turnaround over a congested area.

(ii) No person may operate an aircraft over a congested area below the altitudes prescribed in CAR-OPS 0 except during the actual dispensing operation, including the approaches and departures necessary for that operation.

(iii) No person may operate an aircraft over a congested area during the actual dispensing operation, including the approaches and departures for that operation, unless it is operated in a

pattern and at such and altitude that the aircraft can land, in an emergency, without endangering persons or property on the surface.

(5) Multi-engine aircraft must be operated as follows:

(i) No person may take off a multi-engine airplane over a congested area except under conditions that will allow the airplane to be brought to a safe stop within the effective length of the runway from any point on takeoff up to the time of attaining, with all engines operating at normal takeoff power, 105 percent of the minimum control speed with the critical engine inoperative in the takeoff configuration or 115 percent of the power-off stall speed in the takeoff configuration, whichever is greater, as shown by the accelerate stop distance data. In applying this requirement, takeoff data is based upon still-air conditions, and no correction is made for any uphill gradient of 1 percent or less when the percentage is measured as the difference between elevation at the end points of the runway divided by the total length. For uphill gradients greater than 1 percent, the effective takeoff length of the runway is reduced 20 percent for each 1 percent grade.

(ii) No person may operate a multi-engine airplane at a weight greater than the weight that, with the critical engine inoperative, would permit a rate of climb of at least 50 feet per minute at an altitude of at least 1,000 feet above the elevation of the highest ground or obstruction within the area to be worked or at an altitude of 5,000 feet, whichever is higher. For the purposes of this subdivision, it is assumed that the propeller of the inoperative engine is in the minimum drag position; that the wing flaps and landing gear are in the most favorable positions; and that the remaining engine or engines are operating at the maximum continuous power available.

(iii) No person may operate any multi-engine aircraft over a congested area below the altitudes prescribed in CAR-OPS 0 except during the actual dispensing operation, including the approaches, departures, and turnarounds necessary for that operation.

Operation over congested areas: Pilots and aircraft

(a) General. No person may operate an aircraft over a congested area except in accordance with the pilot and aircraft rules of this section.

(b) Pilots. Each pilot in command must have at least:

(1) 25 hours of pilot in command flight time in the make and basic model of the aircraft, at least 10 hours of which must have been acquired within the preceding 12 calendar months; and

(2) 100 hours of flight experience as pilot in command in dispensing agricultural materials or chemicals.

(c) Aircraft. Each aircraft must:

(3) If other than a helicopter, it must be equipped with a device capable of jettisoning at least on half of the aircraft's maximum authorized load of agricultural material within 45 seconds. If the aircraft is equipped with a device for releasing the tank or hopper as a unit, there must be a means to prevent inadvertent release by the pilot or other crew member.

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SUBPART J – MASS and BALANCE**CAR–AEW 605 General**

a) An operator shall ensure that during any phase of operation, the loading, mass and centre of gravity of the aircraft complies with the limitations specified in the approved Aircraft Flight Manual, or the Operations Manual if more restrictive.

(b) An operator must establish the mass and the centre of gravity of any aircraft by actual weighing prior to initial entry into service and thereafter at intervals of 4 years if individual aircraft masses are used and 9 years if fleet masses are used. The accumulated effects of modifications and repairs on the mass and balance must be accounted for and properly documented. Furthermore, aircraft must be reweighed if the effect of modifications on the mass and balance is not accurately known.

(c) An operator must determine the mass of all operating items and crew members included in the aircraft dry operating mass by weighing or by using standard masses. The influence of their position on the aircraft centre of gravity must be determined.

(d) An operator must establish the mass of the traffic load, including any ballast, by actual weighing or determine the mass of the traffic load in accordance with standard passenger and baggage masses as specified in CAR-AEW 620

(e) An operator must determine the mass of the fuel load by using the actual density or, if not known, the density calculated in accordance with a method specified in the Operations Manual.

CAR–AEW 607 Terminology

(a) *Dry Operating Mass*. The total mass of the aircraft ready for a specific type of operation excluding all usable fuel and traffic load. This mass includes items such as:

- (1) Crew and crew baggage;
- (2) Catering and removable service equipment; and
- (3) Potable water and lavatory chemicals.

(b) *Maximum Zero Fuel Mass*. The maximum permissible mass of an aircraft with no usable fuel. The mass of the fuel contained in particular tanks must be included in the zero fuel mass when it is explicitly mentioned in the Aircraft Flight Manual limitations.

(c) *Maximum Structural Landing Mass*. The maximum permissible total aircraft mass upon landing under normal circumstances.

(d) *Maximum Structural Take Off Mass*. The maximum permissible total aircraft mass at take-off.

(e) *Traffic Load*. The total mass of passengers, baggage and cargo, including any non-revenue load.

CAR-AEW 610 Loading, mass and balance

An operator shall specify, in the Operations Manual, the principles and methods involved in the loading and in the mass and balance system that meet the requirements of CAR-AEW 605. This system must cover all types of intended operations.

CAR-AEW 615 Mass values for crew

(a) An operator shall use the following mass values to determine the dry operating mass:

- (1) Actual masses including any crew baggage; or
- (2) Standard masses, including hand baggage, of 85 kg for crew;
- (3) Other standard masses acceptable to the Authority.

(b) An operator must correct the dry operating mass to account for any additional baggage. The position of this additional baggage must be accounted for when establishing the centre of gravity of the aircraft.

CAR-AEW 620 Mass values for passengers and baggage

(a) An operator shall compute the mass of passengers and checked baggage by weighing or by a verbal statement by or on behalf of each passenger and adding to it a pre-determined constant to account for hand baggage and clothing

- (1) When asking each passenger for his/her mass (weight), specific constants should be added to account for hand baggage and clothing. These constants should be determined by the operator on the basis of studies relevant to his particular routes, etc. and should not be less than:

For clothing -4 kg; and

For hand baggage -6 kg.

- (2) Personnel boarding passengers on this basis should assess the passenger's stated mass and the mass of passengers' clothing and hand baggage to check that they are reasonable. Such personnel should have received instruction on assessing these mass values. Where necessary, the stated mass and the specific constants should be increased so as to avoid gross inaccuracies.

(b) If determining the actual mass by weighing, an operator must ensure that passengers' personal belongings and hand baggage are included. Such weighing must be conducted immediately prior to boarding and at an adjacent location.

CAR-AEW .625 Mass and balance documentation

(a) An operator shall establish mass and balance documentation prior to each flight specifying the load and its distribution. The mass and balance documentation must enable the Pilot in Command to determine that the load and its distribution is such that the mass and balance limits of the aircraft are not exceeded. The person preparing the mass and balance documentation must be named on the document. The person supervising the loading of the aircraft must confirm by

signature that the load and its distribution are in accordance with the mass and balance documentation. This document must be acceptable to the Pilot in Command, his acceptance being indicated by countersignature or equivalent

(b) An operator must specify procedures for Last Minute Changes to the load.

(c) Subject to the approval of the Authority, an operator may use an alternative to the procedures required by paragraphs (a) and (b) above.

SUBPART K – EQUIPMENT

See CAR-OPS 0 Subpart K

CAR-AEW 630 External Load Equipment

No air operator shall operate an aircraft carrying an external load unless the attachment device is authorized in a supplemental type certificate or in an airworthiness approval relating to the operational configuration of the aircraft.

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SUBPART L– COMMUNICATION AND NAVIGATION EQUIPMENT

See CAR-OPS 0 Subpart L

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SUBPART M – AIRCRAFT MAINTENANCE

This Subpart has been entirely withdrawn due to the implementation of CAR M

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SUBPART N – FLIGHT CREW**CAR-AEW 940 Composition of Flight Crew**

- (a) An operator shall ensure that:
- (1) The composition of the flight crew and the number of flight crew members at designated crew stations are both in compliance with, and no less than the minimum specified in, the Flight Manual
 - (2) The flight crew includes additional flight crew members when required by the type of operation, and is not reduced below the number specified in the Operations Manual;
 - (3) All flight crew members hold an applicable and valid license and valid medical certificate, issued by the Authority in accordance with CAR-FCL requirements, and are suitably qualified and competent to conduct the duties assigned to them.
 - (4) When a dedicated System Panel Operator is required by the AFM, the flight crew includes one crew member who holds a Flight Engineer's licence or is a suitably qualified flight crew member and acceptable to the Authority.

CAR-AEW 941 Crew Qualifications

- (a) Flight crew shall have received the Aerial Work training as per Appendix 3 to CAR-AEW 945.
- (b) An operator shall ensure that:
- (1) A pilot who may be assigned to operate in either pilot's seat completes appropriate training and checking; and
 - (2) The training and checking programme is specified in the Operations Manual and is acceptable to the Authority.

CAR-AEW 942 Recent Experience

An operator shall ensure that:

(a) for aeroplanes:

- (1) A pilot is not assigned to operate an aeroplane as part of the minimum certificated crew, either as pilot flying or pilot non-flying, unless he has carried out three take-offs and three landings in the previous 90 days as pilot flying in an aeroplane, or in a flight simulator, of the same type/class.
- (2) A pilot who does not hold a valid instrument rating is not assigned to operate an aeroplane at night as Pilot in Command unless he has carried out at least one landing

at night in the preceding 90 days as pilot flying in an aeroplane, or in a flight simulator, of the same type/class.

- (3) The 90 day period prescribed in subparagraphs (a)(1) and (2) above may be extended up to a maximum of 120 days by line flying under the supervision of a Type Rating Instructor or Examiner. For periods beyond 120 days, the recency requirement is satisfied by a training flight or use of a Flight Simulator of the aeroplane type to be used

(b) for helicopters

- (1) A pilot does not operate a helicopter unless he has carried out at least three takeoffs, three circuits and three landings as pilot flying in a helicopter of the same type, or a Flight Simulator, of the helicopter type to be used, in the preceding 90 days.

- (2) For night VMC operations:

A pilot without a valid instrument rating has carried out at least three take-offs, three circuits and three landings at night in the preceding 90 days. This recency may be obtained in an STD. a pilot with a valid instrument rating satisfies the night recent experience requirement if he has carried out at least three instrument approaches in the preceding 90 days. This recency may be obtained in a STD.

- (3) The 90 day period prescribed in subparagraph (b)(1) and (2) above may be extended up to a maximum of 120 days by line flying under the supervision of a nominated Pilot in Command.

CAR-AEW 945 Training and Checking Program

See: Appendix 1 to CAR-AEW 945
 Appendix 2 to CAR-AEW 945
 Appendix 3 to CAR-AEW 945
 Appendix 4 to CAR-AEW 945

- (a) Every operator shall establish and maintain a ground and flight training program that is
- (1) designed to ensure that each person who receives training acquires the competence to perform the person's assigned duties; and
 - (2) approved by the Authority.
- (b) An air operator's ground and flight training program shall include
- (1) company indoctrination training; (See Appendix 1 to CAR-AEW 945)
 - (2) upgrading training; (See Appendix 2 to CAR-AEW 945)
 - (3) training in the aerial work to be conducted; (See Appendix 3 to CAR-AEW 945) and

- (4) initial and annual training, (See Appendix 4 to CAR-AEW 945) including
- (i) aircraft type training,
 - (ii) aircraft servicing and ground handling training,
 - (iii) emergency procedures training,
 - (iv) training for personnel who are assigned to perform duties on board an aircraft or who are carried externally by an aircraft, and
 - (v) any other training required to ensure a safe operation under this Subpart.
- (c) An operator shall
- (1) include a detailed syllabus of its ground and flight training program in its operations manual;
 - (2) ensure that adequate facilities and qualified personnel are provided for its ground and flight training program; and
 - (3) establish and maintain a safety awareness program concerning the adverse effects of aircraft surface contamination and provide the program to all flight operations personnel who are not required to receive the training described in subparagraph (b)(4)(iv).
- (d) *Operator Proficiency Check*
- (1) An operator shall ensure that:
 - (i) Each flight crew member undergoes operator proficiency checks to demonstrate his competence in carrying out normal, abnormal and emergency procedures; and
 - (ii) The check is conducted without external visual reference when the flight crew member will be required to operate under IFR.
 - (iii) Each flight crew member undergoes operator proficiency checks as part of a normal flight crew complement.
 - (2) The period of validity of an operator proficiency check shall be 12 calendar months in addition to the remainder of the month of issue. If issued within the final 3 calendar months of validity of a previous operator proficiency check, the period of validity shall extend from the date of issue until 12 calendar months from the expiry date of that previous operator proficiency check.\
 - (3) The Operator Proficiency Check may be combined with the type or class rating revalidation check as required by CAR-FCL

CAR-AEW 950 Operation on more than one type or variant

(See Appendix 1 to CAR-AEW.950 for aeroplanes)

(See Appendix 2 to CAR-AEW.950 for helicopters)

(a) An operator shall ensure that a flight crew member does not operate on more than one type or variant, unless:

(1) The flight crew member is competent to do so.

(2) Appropriate procedures, approved by the Authority are included in the Operations Manual.

(b) When considering operations of more than one type or variant, an operator shall ensure that the differences and/or similarities of the aircraft concerned justify such operations, taking account of the following:

(1) The level of technology;

(2) Operational procedures;

(3) Handling characteristics

(c) An Operator shall ensure that a flight crew member operating more than one type or variant complies with all of the requirements prescribed in Subpart N for each type or variant unless the Authority has approved the use of credit(s) related to the training, checking and recent experience requirements.

(d) An operator shall specify appropriate procedures and/or operational restrictions, approved by the Authority, in the Operations Manual, for any operation on more than one type or variant covering:

(1) The flight level crew members' minimum experience level;

(2) The minimum experience level on one type or variant before beginning training for and operation of another type or variant;

(3) The process whereby flight crew qualified on one type or variant will be trained and qualified on another type or variant; and

(4) All applicable recent experience requirements for each type or variant.

CAR-AEW.951 Operation of helicopters and aeroplanes

When a flight crew member operates both helicopters and aeroplanes,:

(1) An operator shall ensure that operations of helicopter and aeroplane are limited to one type of each.

(2) The operator shall specify appropriate procedures and/or operational restrictions, approved by the Authority, in the Operations Manual.

CAR-AEW 955 Training and Qualification Records

(a) Every operator shall, for each person who is required to receive training under this Subpart, establish and maintain a record of

- (1) the person's name and, where applicable, personnel license number, type and ratings;
- (2) if applicable, the person's medical category and the expiry date of that category;
- (3) the dates on which the person, while in the air operator's employ, successfully completed any training, pilot proficiency check, competency check or examination required under this Subpart or obtained any qualification required under this Subpart;
- (4) information relating to any failure of the person, while in the air operator's employ, to successfully complete any training, pilot proficiency check, competency check or examination required under this Subpart or to obtain any qualification required under this Subpart; and
- (5) the type of aircraft or flight training equipment used for any training, pilot proficiency check, competency check or qualification required under this Subpart.
- (6) An operator shall retain the records referred to in paragraphs (1)(c) and (d) and a record of each pilot proficiency check for at least three years.
- (7) An operator shall retain a copy of the most recent written examination completed by each pilot for each type of aircraft for which the pilot has a qualification.

Appendix 1 to CAR-AEW 945 Company Indoctrination Training

This training is required upon employment for all persons assigned to an operational control function including base managers, pilots and persons responsible for flight following. The program shall ensure that persons involved in control of flight operations are aware of their responsibilities, know company reporting relationships and are competent to fulfil their assigned duties related to flight operations. Company indoctrination training shall include as applicable:

- (a) Civil Aviation Regulations
- (b) Air Operator Certificate and Operations Specifications;
- (c) company organization, reporting relationships and communication procedures, including duties and responsibilities of crew members and the relationship of their duties to other crew members;
- (d) flight planning and operating procedures;
- (e) fuelling procedures, including fuel contamination precautions;
- (f) critical surface contamination and safety awareness program;
- (g) safety briefings and safe movement of persons to and from aircraft;
- (h) use and status of the Company Operations Manual including maintenance release procedures and accident/incident reporting procedures;
- (i) use of Minimum Equipment List as applicable;
- (j) meteorological training appropriate to the area of operation;
- (k) navigation procedures appropriate to the area of operation;
- (l) carriage of external loads;
- (m) operational control system; and
- (n) weight and balance system.

Appendix 2 to CAR-AEW 945 Aerial Work Training**(a) General**

Pilot training shall be provided where the aerial work requires particular flight manoeuvres, aircraft performance considerations or knowledge of equipment to safely conduct the operation.

Training shall include, as applicable:

- (i) training related to contents and requirements of flight manual supplements or airworthiness approvals;
- (ii) pre-flight inspection requirements of aerial work equipment;
- (iii) procedures for handling malfunctions and emergencies related to the aerial work equipment;
- (iv) operational preparation procedures related to reconnaissance of aerial work areas before low level flight operations;
- (v) operational restrictions; and
- (vi) flight training and practice in required flight manoeuvres.

(b) Training - Class B and Class C External Loads

This training is required where a pilot has not received training for the Class of external load to be carried or has not conducted the Class of external load within the previous 24 calendar months.

- (1) restrictions related to external load operations over built-up areas;
- (2) preparation of loads, load rigging procedures and attaching of Class B and Class C loads as applicable;
- (3) steps to be taken before starting operations, including flight and ground crew briefings, and instructions, inspection of suspension cables and pre-flight checking of jettison system;
- (4) precautions related to aerodynamics of Class B and Class C external loads, including oscillation and carriage of unweighted cables;
- (5) flight training in the pick-up, departure, approach and delivery of representative Class B external loads as applicable;
- (7) flight training in manoeuvring with Class C external loads as applicable; and
- (8) instruction on the applicable external load flight manual supplement.

(c) Training - Class D External Loads

An approved initial and annual recurrent training program is required for pilots assigned to Class D External Load Operations. The training program shall include:

- (1) instruction on the applicable flight manual supplement or airworthiness approvals, including weight and balance calculation procedures, method of loading, rigging and attaching the external load and pre-flight procedures;
- (2) instruction on operational requirements, including calculation of one engine inoperative performance as applicable, co-ordination communications procedures and operational restrictions;
- (3) steps to be taken before commencing Class D load operations, including flight and ground crew briefings and instructions and pre-flight inspection requirements; and
- (4) flight training with representative Class D loads including, as applicable to the load attachment configuration:
 - (i) precision hovering in and out of ground effect, including vertical reference manoeuvring;
 - (ii) pick-up, departure, approach and delivery of Class D loads;
 - (iii) simulated emergencies and malfunction procedures with representative Class D loads.

(d) Training - Embarking and Disembarking Persons

(1) Ground Training

- (i) briefing procedures for persons to be embarked or disembarked, including procedures for loading of equipment;
- (ii) calculation of weight and centre of gravity limits including calculation of centre of gravity change.

(2) Flight Training

- (i) precision hovering at gross weight with centre of gravity at lateral limits;
- (ii) precision hovering while persons disembark, load equipment and embark.

(e) Training for Personnel Assigned to Duties on Board Aircraft

Personnel assigned to crew member duties on board aircraft shall be provided training to ensure that each crew member is trained to perform assigned duties, including:

- (1) proper use of on-board equipment relating to assigned duties;

- (2) crew member communication and co-ordination procedures;
- (3) duties relating to abnormal and emergency procedures including operation and use of emergency equipment and emergency exits; and
- (4) evacuation procedures.

(f) Training for Personnel who are Carried Externally

Persons assigned to be carried externally by helicopter Class D external load means shall be trained in related procedures and use of attachment equipment. Training shall include:

- (1) flight crew and externally carried person(s) communication and coordination procedures;
- (2) procedures (pilot action) in the event of an aircraft system malfunction or emergency;
- (3) equipment inspection procedures;
- (4) proper attachment procedures;
- (5) pre-flight inspection procedures;
- (6) equipment malfunction procedures;
- (7) practice in use of equipment and procedures using static aircraft; and
- (8) operational practice in procedures and use of equipment.

Appendix 4 to CAR-AEW 945 Initial and Annual Recurrent Training**(a) Ground Technical Type Training**

This training shall ensure that each flight crew member is knowledgeable with respect to the aircraft systems and all normal, malfunction and emergency procedures. Ground technical type training programs shall include:

- (1) aircraft systems operation and limitations as contained in the Aircraft Flight Manual, aircraft operating manual and standard operating procedures;
- (2) use and operation of navigation and ancillary equipment;
- (3) equipment differences of aircraft of the same type, as applicable;
- (4) operation of normal and emergency exits and evacuation procedures;
- (5) aircraft performance and limitations;
- (6) weight and balance procedures; and
- (7) aircraft servicing and ground handling procedures.

(b) Aircraft Servicing and Ground Handling Training

Training in aircraft servicing and ground handling for pilots shall include as applicable to the aircraft type:

- (1) fuelling procedures:
 - (i) types of fuel, oil and fluids used in the aircraft;
 - (ii) correct fuelling procedures; and
 - (iii) procedures for checking fuel, oil and fluids and securing of caps;
- (2) use of tow bars and allowable nose wheel deflection;
- (3) use and installation of protective covers; and
- (4) procedures for operating in cold weather such as:
 - (i) moving aircraft from warm hangar when precipitation is present;
 - (ii) procedures for applying de-icing and anti-icing fluids including critical flight controls post application inspection;
 - (iii) seasonal use of parking brake, as applicable; and
 - (iv) engine and cabin pre-heat procedures including proper use of related equipment.

(c) Aircraft Flight Training Program

The initial and annual flight training program shall ensure that each flight crew member is trained to competently perform the assigned duties including those relating to abnormal and emergency duties. Simulated malfunctions and failures shall only take place under operating conditions which do not jeopardize safety of flight. Flight training programs shall include, as applicable to aircraft type;

- (1) standard operating procedures for normal, abnormal and emergency operation of aircraft systems and components;
 - (2) use of check lists, including interior and exterior pre-flight checks;
 - (3) crew member co-ordination procedures;
 - (4) normal take-offs, circuits, approaches and landings including, as applicable, ground manoeuvring and hovering;
 - (5) simulated engine and cabin fire procedures, including smoke control;
 - (6) simulated engine and system malfunctions and failures including hydraulic and electrical systems and, for PIC on three and four engine aircraft, approach and landing with two engines simulated inoperative;
 - (7) simulated failure of navigation and communication equipment;
 - (8) approach to stall (clean, take-off and landing configuration) and recovery procedure simulating ground contact imminent and ground contact not a factor;
 - (9) autorotations and anti-torque system malfunctions, as applicable;
 - (10) rejected take-off procedures and rejected/balked landing procedures;
 - (11) use of performance information and performance calculation procedures;
 - (12) simulated loss of pressurization and emergency descent;
 - (13) buffet onset boundary, steep turns and flight characteristics;
 - (14) briefings on icing and anti-ice operations, recovery from turbulence and windshear, and evacuation procedures;
 - (15) flight manoeuvres used in aerial work operations; and
 - (16) flight planning and instrument flight procedures, as applicable, where the air operator is authorized for VFR at night or IFR including flight at night and under simulated IFR using each type of navigation facility used in normal operations.
- (d) Emergency Procedures Training

This training is required annually and shall include instruction on the location and operation of all emergency equipment. Training devices approved to simulate flight operating emergency conditions, static aircraft, ground demonstration, classroom lectures, films or other devices may be used for training provided the method used ensures that each trainee is proficient in the operation or use of all emergency equipment.

Whenever practical training is required it shall be completed on initial training and every three years thereafter.

- (1) contents and use of emergency survival equipment carried on board aircraft including survival concepts;
- (2) use of fire extinguishers including practical training;
- (3) donning and inflation of life preservers including practical training;
- (4) removal from stowage, deployment, inflation and boarding of life rafts when applicable, including practical training;
- (5) pilot incapacitation as applicable, including practical training;
- (6) evacuation procedures and use and operation of normal and emergency exits in an emergency including practical training;
- (7) Helicopter Underwater Escape Training (HUWET);
- (8) emergency briefing procedures and preparation for emergency landing and ditching;
- (9) aircraft fire in the air and on the ground;
- (10) post accident vital actions related to the securing of fuel and electrical systems to minimize fire hazards.

Appendix 1 to CAR-AEW.950 Operation on more than one type or variant

(a) When a flight crew member operates more than one aeroplane class, type or variant listed in AMC FCL 1.215A (class-single pilot) and/or AMC FCL 1.220 (type-single pilot), but not within a single licence endorsement, an operator must comply with the following:

- (1) A flight crew member shall not operate more than:
 - (i) three piston engined aircraft types or variants; or
 - (ii) two turbo-propeller aircraft types or variants; or
 - (iii) one turbo-propeller aircraft type or variant and one piston engined aircraft type or variant; or.
 - (vi) one turbo-propeller aircraft type or variant and any aircraft within a particular class.
- (2) CAR-AEW .945 for each type or variant operated unless the operator has demonstrated specific procedures and/or operational restrictions which are acceptable to the Authority.

(b) When a flight crew member operates more than one aeroplane type or variant within one or more licence endorsement as defined by AMC FCL 1.220B(type - multi-pilot), an operator shall ensure that:

- (1) The minimum flight crew complement specified in the Operations Manual is the same for each type or variant to be operated;
- (2) A flight crew member does not operate more than two aircraft types or variants for which a separate licence endorsement is required; and
- (3) Only aircraft within one licence endorsement are flown in any one flight duty period unless the operator has established procedures to ensure adequate time for preparation.

(c) When a flight crew member operates combinations of aeroplanes types or variants as defined by AMC FCL 1.215 (class - single pilot) and Appendix 2 of AMC FCL 1.220 (type - multi pilot) an operator must demonstrate that specific procedures and/or operational restrictions are approved in accordance with CAR-AEW.950.

Appendix 2 to CAR-AEW.950**Operation on more than one type or variant**

(a). For helicopters with a maximum certificated take-off mass exceeding 5 700 kg, or with a maximum approved passenger seating configuration of more than 19:

- (1) The flight crew member should not fly more than two helicopter types;
- (2) A minimum of 3 months and 150 hours experience on the type or variant should be achieved before the flight crew member should commence the conversion course onto the new type or variant;
- (3) 28 days and/or 50 hours flying should then be achieved exclusively on the new type or variant; and
- (4) A flight crew member should not be rostered to fly more than one type or significantly different variant of a type during a single duty period.

(b) In the case of all other helicopters, a flight crew member should not operate more than three helicopter types or significantly different variant.

(c). For a combination of helicopter and aeroplane:

- (1) A flight crew member may fly one helicopter type or variant and one aeroplane type irrespective of their maximum certificated take-off mass or the maximum approved passenger seating configuration that may be carried.
- (2) If the helicopter type is covered by paragraph (a). then paragraphs (a)(2), (a)(3) and (a)(4)2 also apply in this case.

SUBPART O

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SUBPART P – MANUALS**CAR-AEW .1040 General Rules for Operations Manuals**

(a) An operator shall ensure that the Operations Manual contains all instructions and information necessary for operations personnel to perform their duties.

(b) An operator shall ensure that the contents of the Operations Manual, including all amendments or revisions, do not contravene the conditions contained in the Air Operator Certificate (AOC) or any applicable regulations and are acceptable to, or, where applicable, approved by, the Authority

(c) Unless otherwise approved by the Authority, or prescribed by national law, an operator must prepare the Operations Manual in the English language. In addition, an operator may translate and use that manual, or parts thereof, into another language.

(d) An operator may issue an Operations Manual in separate volumes.

(e) An operator shall ensure that all operations personnel have easy access to a copy of each part of the Operations Manual which is relevant to their duties. In addition, the operator shall supply crew members with a personal copy of, or sections from, Parts A and B of the Operations Manual as are relevant for personal study.

(f) An operator shall ensure that the Operations Manual is amended or revised so that the instructions and information contained therein are kept up to date. The operator shall ensure that all operations personnel are made aware of such changes that are relevant to their duties.

(g) Each holder of an Operations Manual, or appropriate parts of it, shall keep it up to date with the amendments or revisions supplied by the operator.

(h) An operator shall supply the Authority with intended amendments and revisions in advance of the effective date. When the amendment concerns any part of the Operations Manual which must be approved, this approval shall be obtained before the amendment becomes effective. When immediate amendments or revisions are required in the interest of safety, they may be published and applied immediately, provided that any approval required has been applied for.

(i) An operator shall incorporate all amendments and revisions required by the Authority.

(j) An operator must ensure that information taken from approved documents, and any amendment of such approved documentation, is correctly reflected in the Operations Manual and that the Operations Manual contains no information contrary to any approved documentation. However, this requirement does not prevent an operator from using more conservative data and procedures.

(k) An operator must ensure that the contents of the Operations Manual are presented in a form in which they can be used without difficulty.

(l) An operator may be permitted by the Authority to present the Operations Manual or parts thereof in a form other than on printed paper. In such cases, an acceptable level of accessibility, usability and reliability must be assured.

CAR–AEW.1045 Operations Manual – structure and contents

(See Appendix 1 to CAR–AEW.1045)

)

(a) An operator shall ensure that the main structure of the Operations Manual is as follows:

Part A. General/Basic

This part shall comprise all non type-related operational policies, instructions and procedures needed for a safe operation.

Part B. Aircraft Operating Matters

This part shall comprise all type-related instructions and procedures needed for a safe operation. It shall take account of any differences between types, variants or individual aircraft used by the operator.

Part C. Route and Aerodrome Instructions and Information

This part shall comprise all instructions and information needed for the area of operation.

Part D. Training

This part shall comprise all training instructions for personnel required for a safe operation.

(b) An operator shall ensure that the contents of the Operations Manual are in accordance with Appendix 1 to CAR–AEW.1045 and relevant to the area and type of operation.

(c) An operator shall ensure that the detailed structure of the Operations Manual is acceptable to the Authority.

CAR–AEW.1055 Standard Operating Procedures

(a) Every air operator shall, for each of its aircraft that is required to be operated by two or more pilots, establish and maintain standard operating procedures that enable the crew members to operate the aircraft within the limitations specified in the aircraft flight manual and

(b) An air operator that has established standard operating procedures for an aircraft shall ensure that a copy of the standard operating procedures is carried on board the aircraft

Appendix 1 to CAR-AEW.1045 Operations Manual Structure

1 CAR-AEW.1045(a) prescribes the main structure of the Operations Manual as follows:

Part A – General/Basic;

Part B – Aircraft Operating Matters – Type related;

Part C – Route and Aerodrome Instructions and Information;

Part D – Training.

2 CAR-AEW.1045 (c) requires the operator to ensure that the detailed structure of the Operations Manual is acceptable to the Authority.

3 Appendix 1 to CAR-AEW.1045 contains a comprehensively detailed and structured list of all items to be covered in the Operations Manual. Since it is believed that a high degree of standardization of Operations Manuals will lead to improved overall flight safety, it is strongly recommended that the structure described in this appendix should be used by operators as far as possible.

4 Manuals which do not comply with the recommended structure may require a longer time to be accepted/approved by the Authority.

5 To facilitate comparability and usability of Operations Manuals by new personnel, formerly employed by another operator, operators are recommended not to deviate from the numbering system used in Appendix 1 to CAR-AEW.1045. If there are sections which, because of the nature of the operation, do not apply, it is recommended that operators maintain the numbering system described below and insert 'Not applicable' or 'Intentionally blank' where appropriate.

Operations Manual Structure (List of Contents)**Part A GENERAL/BASIC****0 ADMINISTRATION AND CONTROL OF OPERATIONS MANUAL**

- 0.1. Introduction
- 0.2 System of amendment and revision

1 ORGANISATION AND RESPONSIBILITIES

- 1.1 Organizational structure
- 1.2 Names of nominated postholders
- 1.3 Responsibilities and duties of operations management personnel
- 1.4 Authority, duties and responsibilities of the Pilot in Command.
- 1.5 Duties and responsibilities of crew members other than the Pilot in Command

2 OPERATIONAL CONTROL AND SUPERVISION

- 2.1 Supervision of the operation by the operator
- 2.2 System of promulgation of additional operational instructions and information

- 2.3 Accident prevention and flight safety programme
- 2.4 Operational control
- 2.5 Powers of Authority

3 QUALITY SYSTEM

4 CREW COMPOSITION

- 4.1 Crew Composition
- 4.2 Designation of the Pilot in Command
- 4.3. Flight crew incapacitation
- 4.4 Operation on more than one type

5 QUALIFICATION REQUIREMENTS

- 5.1 Description of license, qualification/competency, training, checking requirements etc.
- 5.2 Flight crew
- 5.3 Cabin crew
- 5.4 Training, checking and supervisory personnel
- 5.5 Other operations personnel

6 CREW HEALTH PRECAUTIONS

- 6.1 Crew health precautions

7 FLIGHT TIME LIMITATIONS

- 7.1 Flight and Duty Time limitations and Rest requirements
- 7.2 Exceedances of flight and duty time limitations and/or reduction of rest periods

8 OPERATING PROCEDURES

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 - 8.1.1 Minimum Flight Altitudes
 - 8.1.2 Criteria for determining the usability of aerodromes
 - 8.1.3 Methods for the determination of Aerodrome Operating Minima
 - 8.1.4 En-route Operating Minima for VFR flights or VFR portions of a flight
 - 8.1.5 Presentation and Application of Aerodrome and En Route Operating Minima
 - 8.1.6 Interpretation of meteorological information
 - 8.1.7 Determination of the quantities of fuel, oil and water methanol carried
 - 8.1.8 Mass and Centre of Gravity
 - 8.1.9 ATS Flight Plan
 - 8.1.10 Operational Flight Plan
 - 8.1.11 Operator's Aircraft Technical Log
 - 8.1.12 List of documents, forms and additional information to be carried
- 8.2 Ground Handling Instructions
 - 8.2.1 Fuelling procedures
 - 8.2.2 Aircraft, passengers and cargo handling procedures related to safety
 - 8.2.3 Procedures for the refusal of embarkation
 - 8.2.4 De-icing and Anti-icing on the Ground
- 8.3 Flight Procedures
 - 8.3.1 VFR/IFR policy
 - 8.3.2 Navigation Procedures
 - 8.3.3 Altimeter setting procedures
 - 8.3.4 Altitude alerting system procedures
 - 8.3.5 Ground Proximity Warning System procedures

- 8.3.6 Policy and procedures for the use of TCAS/ACAS
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12 AIRCRAFT SYSTEMS**Part C ROUTE AND AERODROME INSTRUCTIONS AND INFORMATION****Part D TRAINING****1 TRAINING SYLLABI AND CHECKING PROGRAMMES – GENERAL****2 TRAINING SYLLABI AND CHECKING**

- 2.1 Flight Crew
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- 2.3 Operations Personnel including Crew Members
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3 PROCEDURES

- 3.1 Procedures for training and checking
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- 3.3 Procedures to ensure that abnormal or emergency situations are not simulated during commercial air transportation flights

4 DOCUMENTATION AND STORAGE

SUBPART Q – FLIGHT and DUTY TIME LIMITATIONS**CAR AEW.1080 Flight Time Limitations**

No operator shall assign a crew member for flight time, and no crew member shall accept such an assignment, if the crew member's total flight time in all flights conducted under this CAR will, as a result, exceed

- (1) 900 hours in any 12 consecutive months;
- (2) 110 hours in any one calendar month.
- (3) where the crew member conducts single-pilot IFR flights, 8 hours in any 24 consecutive hours.

CAR AEW.1085 Flight Duty Time Limitations and Rest Periods

(a) Subject to CAR AEW.1090 and CAR AEW.1095, no operator shall assign a crew member for flight duty time, and no crew member shall accept such an assignment, if the flight crew member's flight duty time will, as a result, exceed

- (1) 14 consecutive hours in any 24 consecutive hours; or
- (2) 15 consecutive hours in any 24 consecutive hours, where
 - (i) the crew member's total flight time in the previous 30 consecutive days does not exceed 70 hours, or
 - (ii) the rest period prior to the flight is at least 24 hours.

(b) An operator shall ensure that, prior to any flight duty period, a crew member has completed a rest period at least as long as the preceding duty period or 11 hours, whichever is the greater plus any additional rest period required by this CAR.

(c) The crew member's rest shall not be interrupted by the operator during the rest period.

(d) A crew member shall use the rest periods referred to in subsection (b) to obtain the necessary rest and shall be adequately rested prior to reporting for flight duty.

CAR AEW.1090 Split Flight Duty Time

(a) Where flight duty time includes a rest period, flight duty time may be extended beyond the maximum flight duty time referred to in CAR AEW. 1085 (a) by one-half the length of the rest period, to a maximum of 4 hours, if

- (1) the operator provides the crew member with advance notice of the extension of flight duty time; and
 - (2) the operator provides the crew member with a rest period of at least 4 consecutive hours in suitable accommodation.
 - (3) the crew member's rest is not interrupted by the operator during the rest period.
- (b) The minimum rest period following flight duty time referred to in subsection (a) shall be increased by an amount at least equal to the extension to the flight duty time.

CAR AEW.1095 Unforeseen Operational Circumstances

Flight duty time may be extended beyond the maximum flight duty times referred to in CAR AEW. 1085 (a) and CAR AEW. 1090 (a) with a maximum of 2 hours if:

- (1) the Pilot in Command, after consultation with the other crew members, considers it safe to do so;
- (2) the flight duty time is extended as a result of unforeseen operational circumstances.

CAR AEW.1100 Delayed Reporting Time

Where a crew member is notified of a delay in reporting time within the two hours preceding that reporting time and the delay is in excess of three hours, the crew member's flight duty time starts three hours after the original reporting time.

CAR AEW.1105 Requirements for Time Free from Duty

An operator shall provide each crew member with the following time free from duty:

- (1) at least one period of 36 consecutive hours within each 7 consecutive days; or
- (2) at least one period of 3 consecutive calendar days within each 17 consecutive days.

CAR AEW.1110 Crew Positioning

Where a crew member is required by an operator to travel for the purpose of positioning after the completion of flight duty time, the operator shall provide the crew member with an additional rest period at least equal to one-half the time spent travelling that is in excess of crew member's maximum flight duty time.

Note:**Terminology**

For the purpose of this Subpart:

- (a) *Duty* - Any task that a crewmember is required to carry out and which is associated with the business of an AOC holder.
- (b) *Flight duty period (FDP)* - A period which commences when an operating crewmember is required to report for a duty period that includes a flight and which finishes at the end of the block time on the final flight on which the crew member is an operating crew member.
- (c) *Unforeseen operational circumstances delays* – Delays that are beyond the control of the operator such as those that would be caused by weather, aircraft equipment malfunction, and air traffic control delays. It would not include late arriving passengers, late food service, late fuel trucks, delays in loading baggage-freight-mail, or similar events.
- (d) *Positioning* - The transferring of a crewmember from place to place, excluding “travelling” as defined below, at the behest of an operator.
- (e) *Rest period* - An uninterrupted and defined period of time during which a crewmember is free of all duties and/or standby.
- (f) *Split duty* - A flight duty period, which consists of two duties separated by a break.
- (g) *Suitable accommodation* - A suitably furnished bedroom, with single occupancy if required by the crew member, which is subject to minimum noise, is well ventilated and should have the facility to control the levels of light and temperature.
- (h) *Travelling* - All reasonable planned travelling time spent by a crew member in transit between his place of rest provided by the operator and the place of duty and vice versa.

SUBPART R

RESERVED

SUBPART S

RESERVED

