



Australian Government

Civil Aviation Safety Authority

I, TERENCE LINDSAY FARQUHARSON, Acting Director of Aviation Safety, on behalf of CASA, make this instrument under paragraph 28BA (1) (b) and subsection 98 (4A) of the *Civil Aviation Act 1988*, subregulations 5 (1) and 209 (1) of the *Civil Aviation Regulations 1988* and subsection 33 (3) of the *Acts Interpretation Act 1901*.

[Signed T. Farquharson]

Terry Farquharson
Acting Director of Aviation Safety

10 December 2014

Civil Aviation Order 82.0 Instrument 2014

1A Name of instrument

- (1) This instrument is the *Civil Aviation Order 82.0 Instrument 2014*.
- (2) This instrument may be cited as *Civil Aviation Order 82.0*.
- (3) A reference in an instrument to section 82.0 of the Civil Aviation Orders is a reference to this instrument.

1B Commencement

This instrument commences on the day of registration.

1C Repeal

Civil Aviation Amendment Order (No. R52) 2004, also known as F2005B00880, including section 82.0 of the Civil Aviation Orders as set out in Schedule 1 of that instrument, as amended, is repealed.

1D Transitional application — aeroplanes with more than 2 engines

The following provisions of this instrument do not apply to an Air Operator's Certificate for the operation of an aeroplane with more than 2 engines until 1 July 2015:

- (a) sub-subparagraph (a) (ii) of the definition of *threshold time* in paragraph 2.1;
- (b) paragraph 3BC.9;
- (c) Appendix 4, clause 7.

1 Application

This Order applies to Air Operators' Certificates authorising aerial work operations, charter operations and regular public transport operations and sets out conditions to which such certificates are subject for the purposes of paragraph 28BA (1) (b) of the Act.

2 Definitions

2.1 In this Part:

Act means the *Civil Aviation Act 1988*.

adequate aerodrome, for an aeroplane, means an aerodrome which:

- (a) meets the physical requirements set out in Appendix 2; and

- (b) provides facilities and services for the aeroplane type, including:
 - (i) meteorological forecasts; and
 - (ii) at least 1 suitable authorised instrument approach procedure.

AFM means aircraft flight manual.

aircraft means an aeroplane, a helicopter or an airship.

certificate means an Air Operator's Certificate issued by CASA under Division 2 of Part III of the Act.

check pilot means a person approved by CASA to conduct flight training and proficiency checks.

configuration maintenance and procedures (CMP) standards document means a document approved by the certification authority for the aeroplane specifying the minimum requirements for an aeroplane configuration, including any special inspections, hardware life limits, flight crew procedures, Master Minimum Equipment List constraints and maintenance practices necessary to establish the suitability of an airframe/engine combination for EDTO.

CTAF radio frequency, in relation to the terminal airspace of an aerodrome, means the very high radio frequency specified under regulation 99A of the *Civil Aviation Regulations 1988* as being the radio frequency for:

- (a) communications between aircraft within the terminal airspace of the aerodrome; and
- (b) communications between aircraft within the terminal airspace and the aerodrome.

EDTO alternate aerodrome means an adequate aerodrome that:

- (a) is listed in the AOC holder's EDTO safety operational specifications as being an aerodrome that may be designated as an alternate in the event of a diversion during an EDTO; and
- (b) for an aerodrome inside Australian territory — is one for which radio carriage is required under regulation 166E of the *Civil Aviation Regulations 1988*; and
- (c) for an aerodrome outside Australian territory — has:
 - (i) air traffic control or air traffic services (with not more than 30 minutes' notice); and
 - (ii) rescue and firefighting services to Manual of Standards Part 139H category 4 (with not more than 30 minutes' notice).

Note This definition applies for flight planning and does not limit the discretion of the pilot in command during flight.

EDTO entry point means the first point on an EDTO route where the relevant threshold time is exceeded.

EDTO, or **extended diversion time operation**, means any flight by a turbine-engined aeroplane where the flight time at the 1 engine inoperative cruise speed (in ISA and still air conditions) from a point on the route to an adequate aerodrome is greater than the threshold time.

ground-based radiocommunication service, in relation to an aerodrome, means a radiocommunication service that:

- (a) is operated, on the CTAF radio frequency for the terminal airspace of the aerodrome, by:
 - (i) a certificate holder; or
 - (ii) the aerodrome operator; or

- (iii) a person authorised for that purpose by a certificate holder or the aerodrome operator; and
- (b) provides information about the wind direction and the runway or runways in use.

high capacity aircraft means an aircraft that is certified as having a maximum seating capacity exceeding 38 seats or a maximum payload exceeding 4 200 kg. **ISA**, or **international standard atmosphere**, means the atmospheric standard as described in ICAO Document 7488 — *Manual of the ICAO Standard Atmosphere*.

night vision device, or **NVD**, means night vision enhancement equipment, fitted to, or mounted in or on, an aircraft, or worn by a person in the aircraft, and that can:

- (a) detect and amplify light in both the visual and near infra-red bands of the electromagnetic spectrum; or
- (b) provide an artificial image representing topographical displays.

non-controlled aerodrome has the meaning given by paragraph 2.2.

operational support personnel means persons employed by an operator to carry out duties associated with fuelling, loading or dispatching aircraft.

passenger means a person who is not an operating crew member.

radiocommunication confirmation system, in relation to an aerodrome, means a radiocommunication system that:

- (a) is operated by:
 - (i) a certificate holder; or
 - (ii) the aerodrome operator; or
 - (iii) a person authorised for that purpose by a certificate holder or the aerodrome operator; and
- (b) confirms CTAF radio frequency selection by pilots of aircraft operating in the terminal airspace of the aerodrome.

remote island means:

- (a) Christmas Island; or
- (b) Lord Howe Island; or
- (c) Norfolk Island.

TAWS-B+ system means a terrain awareness and warning system that is equipped with a visual display and complies with the requirements for Class B equipment expressed in TSO-C151, TSO-C151a or TSO-C151b.

threshold time means:

- (a) for an aeroplane certificated to carry more than 19 passengers or having a maximum payload capacity exceeding 3 410 kg:
 - (i) for a twin-engine aeroplane — 90 minutes; or
 - (ii) for an aeroplane with more than 2 engines — 180 minutes; and
- (b) for an aeroplane engaged in passenger-carrying operations but not certificated to carry more than 19 passengers — 180 minutes.

2.2 An aerodrome is a **non-controlled aerodrome** during any time when an air traffic control service is not provided at the aerodrome.

2.3 The **minimum safe fuel** for an aeroplane undertaking a flight to a remote island is:

- (a) the minimum amount of fuel that the aeroplane should carry on that flight, according to the operations manual of the aeroplane's operator, revised (if

applicable) as directed by CASA to ensure that an adequate amount of fuel is carried on such flights; or

- (b) if the operations manual does not make provision for the calculation of that amount or has not been revised as directed by CASA — whichever of the amounts of fuel mentioned in paragraph 2.4 is the greater.

2.4 For the purposes of subparagraph 2.3 (b), the amounts of fuel are:

- (a) the minimum amount of fuel that will, whatever the weather conditions, enable the aeroplane to fly, with all its engines operating, to the remote island and then from the remote island to the aerodrome that is, for that flight, the alternate aerodrome for the aircraft, together with any reserve fuel requirements for the aircraft; and
- (b) the minimum amount of fuel that would, if the failure of an engine or a loss of pressurisation were to occur during the flight, enable the aeroplane:
 - (i) to fly to its destination aerodrome or to its alternate aerodrome for the flight; and
 - (ii) to fly for 15 minutes at holding speed at 1 500 feet above that aerodrome under standard temperature conditions; and
 - (iii) to land at that aerodrome.

2.4.1 An amount of fuel mentioned in paragraph 2.4 is to be worked out by using:

- (a) if the aeroplane is a transport category aircraft — the performance data, and the fuel consumption data, for the aeroplane contained in the aeroplane's flight manual; or
- (b) in any other case:
 - (i) the performance data for the aeroplane provided by the manufacturer of the aircraft's airframe or contained in the aeroplane's flight manual, the operations manual of the aeroplane's operator or the pilot's operating handbook for the aeroplane; and
 - (ii) the fuel consumption data for the aeroplane obtained from 1 of the sources mentioned in sub-subparagraph (i) or provided by the manufacturer of the aeroplane's engines;

or, if any of those data need to be amended because of the issue of a supplemental type certificate for the aeroplane, those data as so amended; or

- (c) in all cases — the performance data, and the fuel consumption data, for the aeroplane obtained in the course of a flight test of the aeroplane carried out in an approved manner.

2.5 For the purposes of this Part:

- (a) a GPWS has a ***predictive terrain hazard warning function*** if it employs an aircraft navigation system and a terrain data base to compute a display of terrain along, and in the vicinity of, the flight path of an airborne aeroplane in order to provide the flight crew of the aeroplane with a warning of any terrain that may endanger the aeroplane if its flight path were to remain unchanged; and
- (b) the GPWS is taken to be approved only if it meets:
 - (i) the requirements set out in FAA notice N 8110.64 as in force on 15 August 1999; or
 - (ii) the standard for the Class A Terrain Awareness Warning System specified in TSO C-151, TSO C-151a or TSO C-151b.

3 Conditions relating to “borrowed” certificates

- 3.1 Each certificate authorising charter, or regular public transport, operations is subject to the condition that its holder (“the AOC holder”) must not, without the prior written approval of CASA, enter into an arrangement with a person whose certificate is suspended or cancelled (“the other person”) under which the AOC holder agrees:
- (a) to use, in any operation covered by the AOC holder’s certificate, any aircraft that the other person was authorised to operate under the certificate that is suspended or cancelled; or
 - (b) to use, in connection with any operation covered by the AOC holder’s certificate, any person employed or engaged by, or otherwise working for, the other person in connection with any operation covered by the certificate that is suspended or cancelled; or
 - (c) to conduct any operation, or any part of an operation, that the other person intended to conduct under the certificate that is suspended or cancelled.
- 3.2 Each certificate authorising charter, or regular public transport, operations is subject to the condition that its holder (“the AOC holder”) must not, without the prior written approval of CASA, enter into an arrangement with a person whose certificate has been varied (“the other person”), under which the AOC holder agrees:
- (a) to use, in any operation covered by the AOC holder’s certificate, any aircraft that the other person:
 - (i) was, immediately before the variation, authorised to operate under the other person’s certificate; but
 - (ii) is no longer authorised to operate under the certificate as varied; or
 - (b) to use, in connection with any operation covered by the AOC holder’s certificate, any person employed or engaged by, or otherwise working for, the other person in connection with any operation that the other person:
 - (i) was, immediately before the variation, authorised to conduct under the other person’s certificate; but
 - (ii) is no longer authorised to conduct under the certificate as varied; or
 - (c) to conduct any operation, or any part of an operation that the other person:
 - (i) intended to conduct under the other person’s certificate as it had effect immediately before the variation; but
 - (ii) is no longer authorised to conduct under the certificate as varied.
- 3.3 Each certificate authorising charter, or regular public transport, operations is subject to the condition that its holder (“the AOC holder”) must not, without the prior written approval of CASA, enter into an arrangement with a person whose application for a certificate is still pending (“the other person”) under which the AOC holder agrees:
- (a) to use, in any operation covered by the AOC holder’s certificate, any aircraft proposed to be covered by the certificate sought; or
 - (b) to use, in connection with any operation covered by the AOC holder’s certificate, any person proposed to be employed or engaged by the other person in connection with any operation proposed to be covered by the certificate sought; or
 - (c) to conduct any operation, or any part of an operation, proposed to be covered by the certificate sought.

3A Conditions for passenger-carrying charter operations to remote islands

- 3A.1 Each certificate authorising charter operations for the carriage of passengers is subject to the condition that an aeroplane operated under the certificate is to carry passengers on a flight to a remote island only if:
- (a) the aeroplane has more than 1 engine; and
 - (b) the total amount of fuel carried by the aeroplane at the start of the flight is not less than the minimum safe fuel for the aeroplane for that flight; and
 - (c) the alternate aerodrome for the aeroplane for that flight is not an aerodrome located on a remote island.

3B Performance requirements for 3 or 4 engine aeroplanes

- 3B.1 Each certificate authorising charter, or regular public transport, operations in a 3 or 4 engine aeroplane to which Civil Aviation Order 20.7.1B (*CAO 20.7.1B*) applies and carrying passengers for hire or reward is subject to the condition set out in paragraph 3B.2.
- 3B.2 The aeroplane must not be operated more than 90 minutes flight time, calculated at normal cruising speed, away from an aerodrome at which it will meet the performance requirements applicable at its expected landing weight unless compliance with the flight path obstacle clearance rules of paragraphs 12.5, 12.6 and 12.7 of CAO 20.7.1B can be shown, assuming 2 engines failed at the most critical point along the route that is in excess of 90 minutes flight time at normal cruising speed from such an aerodrome.

3BA Distance limitations — piston-engined aeroplanes

- 3BA.1 Each certificate authorising charter, or regular public transport, operations in a piston-engined aeroplane having a maximum take-off weight exceeding 5 700 kg is subject to the condition set out in paragraph 3BA.2.
- 3BA.2 The aeroplane must not be operated on a route containing a point more than 60 minutes at the 1 engine inoperative cruise speed (in ISA and still air conditions) from an adequate aerodrome.

3BB Distance limitations — 19 passengers or less and exceeding 5 700 kg

- 3BB.1 Each certificate authorising charter, or regular public transport, operations for the carriage of passengers in a turbine-engined aeroplane is subject to the condition set out in paragraph 3BB.2 if the aeroplane:
- (a) is not certificated to carry more than 19 passengers; and
 - (b) has a maximum take-off weight exceeding 5 700 kg.
- 3BB.2 The AOC holder may only conduct an EDTO if the operation has been approved, in writing, by CASA in accordance with Appendix 3.

3BC Distance limitations — more than 19 passengers or 3 410 kg payload

- 3BC.1 Each certificate authorising charter, or regular public transport, operations for the carriage of passengers in a turbine-engined aeroplane certificated to carry more than 19 passengers is subject to the conditions set out in this subsection.
- 3BC.2 Each certificate authorising charter, or regular public transport, operations in a turbine-engined aeroplane having a payload capacity exceeding 3 410 kg is subject to the conditions set out in this subsection.

- 3BC.3 The AOC holder may only conduct an EDTO if:
- (a) the operation has been approved, in writing, by CASA in accordance with Appendix 4; and
 - (b) the AOC holder complies with the requirements of Appendix 5.
- 3BC.5 The AOC holder may operate a twin turbine-engined aeroplane on a route containing a point more than 60 minutes at the 1 engine inoperative cruise speed (in ISA and still air conditions) from an adequate aerodrome only if the operation complies with paragraph 3BC.6, 3BC.7 or 3BC.8.
- 3BC.6 If:
- (a) a twin turbine-engined aeroplane meets the appropriate type design requirements to operate more than 60 minutes from an adequate aerodrome at the 1 engine inoperative cruise speed (in ISA and still air conditions); and
 - (b) the aeroplane is configured, maintained and operated in accordance with the relevant CMP standards document for the applicable diversion time; and
 - (c) the approved system of maintenance for the aeroplane includes procedures equivalent to the procedures specified in paragraph 9.2 (c) of Appendix 5 regarding maintenance on multiple identical systems;
- the AOC holder may operate the aeroplane to whichever is the lesser of:
- (d) the limit of its type design specification; or
 - (e) 90 minutes from an adequate aerodrome at the 1 engine inoperative cruise speed (in ISA and still air conditions).
- 3BC.7 If:
- (a) a twin turbine-engined aeroplane meets the appropriate type design requirements to operate more than 90 minutes from an adequate aerodrome at the 1 engine inoperative cruise speed (in ISA and still air conditions); and
 - (b) the aeroplane is operated in accordance with the requirements for an EDTO under paragraph 3BC.3;
- the AOC holder may operate the aeroplane on a route containing a point that is more than 90 minutes from an adequate aerodrome at the 1 engine inoperative cruise speed (in ISA and still air conditions).
- 3BC.8 If:
- (a) a twin turbine-engined aeroplane does not meet the appropriate type design requirements to operate more than 60 minutes from an adequate aerodrome at the 1 engine inoperative cruise speed (in ISA and still air conditions); and
 - (b) the approved system of maintenance for the aeroplane includes procedures equivalent to the procedures specified in paragraph 9.2 (c) of Appendix 5 regarding maintenance on multiple identical systems; and \
 - (c) the aeroplane conforms to the requirements of FAA Federal Aviation Regulation Part 25 (Fire Protection) for fire detection and suppression for cargo baggage compartments or an equivalent standard acceptable to CASA;
- the AOC holder may operate the aeroplane on a route containing a point that is not more than 75 minutes from an adequate aerodrome at the 1 engine inoperative cruise speed (in ISA and still air conditions).

3BC.9 The AOC holder may operate an aeroplane with more than 2 turbine engines in passenger-carrying operations on a route containing a point more than 180 minutes from an adequate aerodrome at the 1 engine inoperative cruise speed (in ISA and still air conditions) only if the aeroplane is operated in accordance with the requirements for an EDTO under paragraph 3BC.3.

3BD Polar operations

3BD.1 Each certificate authorising charter, or regular public transport, operations is subject to the conditions set out in this subsection.

3BD.2 The AOC holder may conduct a polar operation only with a CASA approval, issued following written application from the AOC holder in accordance with Appendix 6.

3BD.3 A polar operation approved by CASA must be conducted in accordance with:

- (a) the strategies, procedures and plans mentioned in Appendix 6; and
- (b) any conditions set out in the CASA approval.

Note For example, CASA may, as a condition, require an operator to provide a passenger recovery plan for a designated alternate aerodrome.

3BD.4 In this subsection:

polar operation means an operation within the area:

- (a) north of 78 degrees north latitude; or
- (b) south of 60 degrees south latitude.

Note If a polar operation involves a flight that exceeds a relevant EDTO threshold time, the relevant EDTO provisions in this Order also apply to the flight.

3C Conditions relating to charter substitutions

3C.1 In this subsection:

scheduled flight means a flight:

- (a) advertised to persons generally; and
- (b) in accordance with fixed schedules; and
- (c) to and from fixed terminals.

3C.2 A certificate authorising regular public transport, or charter, operations is subject to the condition that its holder must not enter into a charter substitution arrangement unless CASA has given written approval for the arrangement.

3C.3 For this subsection, a ***charter substitution arrangement*** is an arrangement:

- (a) between the holder of a certificate authorising charter operations (the ***charter operator***) and another person; and
- (b) that provides for the charter operator to carry a passenger who has entered into a contract of carriage with the other person to be carried on a scheduled flight or a flight substituting it.

3C.4 However, an arrangement is not a charter substitution arrangement if the charter operator:

- (a) is the holder of a certificate authorising regular public transport operations on the same route as the flight mentioned in subparagraph 3C.3 (b); and
- (b) conducts the flight in accordance with the authorisation.

3C.5 For paragraph 3C.2, an approval may contain conditions that are necessary in the interests of the safety of air navigation.

3D Condition for use of NVD by an AOC holder

3D.1 Each certificate is subject to the condition that the certificate holder may only use NVD as the primary means of terrain avoidance for safe air navigation by

means of visual surface reference external to an aircraft in accordance with a CASA approval, including any exemptions, conditions, directions, instructions, specifications or other matter contained in the approval.

Note Approval to use NVD will only be given in accordance with Civil Aviation Order 82.6.

3E Condition for use of flight crew with MP(A)L

- 3E.1 Each certificate is subject to the condition that the holder must supply CASA with written reports in accordance with this subsection.
- 3E.2 The reports are in relation to each pilot who holds an initial multi-crew pilot (aeroplane) licence (**MP(A)L**) that was issued by CASA less than 24 months before the pilot conducts any operation under the certificate.
- 3E.3 The reports must be compiled immediately after the first and each subsequent check of the pilot by the holder's CAR 217 organisation.
- 3E.4 Each report must be supplied to CASA not later than 30 days after completion of the check to which it relates.
- 3E.5 Each report must clearly identify the holder, the CAR 217 organisation and the relevant pilot.
- 3E.6 Each report must contain for each pilot the data specified in the form in Appendix 7.

Note The data to be collected corresponds to that mentioned in ICAO documents attached to State letter AN 12/50-07/37.

- 3E.7 The holder must ensure that, before the first check of each pilot by the holder's CAR 217 organisation, the pilot is informed in writing that the reports are made to CASA under this Order to monitor the quality and effectiveness of the MP(A)L.
- 3E.8 In this subsection:

CAR 217 organisation means the operator's training and checking organisation for regulation 217 of the *Civil Aviation Regulations 1988*.

4 General conditions

- 4.1 Each certificate is subject to the condition that CASA may, by notice in writing given to the certificate holder, issue safety operational specifications to be complied with by the certificate holder.

Note For EDTO, the safety operational specifications issued by CASA will include the following:

- (a) the authorised area(s) of operations;
 - (b) the EDTO alternate aerodromes;
 - (c) the specific approved airframe/engine combinations;
 - (d) the maximum EDTO for the applicable airframe/engine combinations;
 - (e) the approved 1 engine inoperative cruise speed(s) for the applicable airframe/engine combinations.
- 4.2 Each certificate is subject to the condition that, where CASA issues safety operational specifications to the certificate holder, the holder must publish the material in a separate section of the operations manual reserved solely for those specifications, and that material may not be varied without the approval of CASA.
 - 4.3 Each certificate is subject to the condition that, where the certificate holder is unable to comply with the safety operational specifications so issued, the holder will cease operations under the certificate until the holder is able to comply with those specifications.

5 Chief Pilot

- 5.1 Where a Chief Pilot is required by this Part to be appointed by an operator, it is a condition of the operator's certificate that the operator will comply with the requirements of Appendix 1 of this section.

6 Variation of conditions or obligations

- 6.1 A certificate holder may apply in writing to CASA for a variation in the conditions and obligations applicable to the certificate.
- 6.2 An application must be made in a form that provides details of the proposed variation.

7 Primacy of synthetic training devices in training

- 7.1 In this subsection, and subsection 10:

available, for the availability of a qualified synthetic training device (**QSTD**) to an operator (**the operator**), means that the QSTD:

- (a) exists in Australia or a recognised foreign State, as the case requires; and
- (b) is offered for use on a commercial basis; and
- (c) is serviceable and available to an operator to use or reserve for the operator's use.

checking, in training and checking, means a check, approved by CASA, and described in the training and checking manual, to test the competency of a flight crew member for an aircraft type for subregulation 217 (2) of the *Civil Aviation Regulations 1988 (CAR 1988)*.

co-pilot training means co-pilot training for subsection 8.

maximum certificated passenger seating capacity means the maximum number of seats for persons (excluding flight crew and cabin crew) in an aircraft as specified in the aircraft's type certificate data sheet.

non-normal exercise (or **exercise**) means an aircraft operation which involves a simulated system failure of a kind that affects, or would be likely to affect, the flying performance or handling characteristics of the aircraft beyond the parameters of normal operation.

Note For example, CASA would consider any exercise involving the use of an emergency checklist (e.g. engine failure) or other procedure (e.g. stall recovery) to recover from a situation specified in the aircraft flight manual, to be a non-normal exercise.

passenger seating capacity means maximum certificated passenger seating capacity.

qualified, for a synthetic training device, means:

- (a) if the synthetic training device is available in Australia — qualified under Part 60 of the *Civil Aviation Safety Regulations 1998 (CASR 1998)* for relevant activity; or
- (b) if the synthetic training device is only available in a recognised foreign State — approved by the national airworthiness authority (NAA) of the State for use equivalent to the use the device could be put to if it were qualified under Part 60 of CASR 1998 for relevant activity.

recognised foreign State means a foreign State approved by CASA for this subsection and includes the following:

- (a) Canada;
- (b) Hong Kong (Special Administrative Region of China);
- (c) New Zealand;
- (d) United States of America;

- (e) the following European Aviation Safety Agency (EASA) member States:
 - (i) Belgium;
 - (ii) Czech Republic;
 - (iii) Denmark;
 - (iv) Finland;
 - (v) France;
 - (vi) Germany;
 - (vii) Ireland;
 - (viii) Italy;
 - (ix) Netherlands;
 - (x) Norway;
 - (xi) Portugal;
 - (xii) Spain;
 - (xiii) Sweden;
 - (xiv) Switzerland;
 - (xv) United Kingdom.

relevant activity means any training for flight carried out by or for an operator, including training and checking, non-normal exercises and co-pilot training.

training, in training and checking, means training, approved by CASA, and described in the training and checking manual, to ensure that a flight crew member maintains his or her competency for an aircraft type for subregulation 217 (1) of CAR 1988.

7.2 This subsection applies to an AOC authorising aerial work operations, charter operations or regular public transport operations if the AOC holder (the **operator**):

- (a) is required to have a training and checking organisation under regulation 217 of CAR 1988; and
- (b) under the AOC, operates:
 - (i) a multi-engine aircraft with a passenger seating capacity of at least 10 but not more than 19 seats; or
 - (ii) any aircraft with a passenger seating capacity of at least 20 seats; or
 - (iii) an aircraft, or an aircraft type, specified in, but subject to the conditions mentioned for it in, Appendix 8 of this Order.

Note 1 CASA may amend this Order to include other particular aircraft or aircraft types for which it emerges that aviation safety requires that they should be supported by training using a QSTD in accordance with this Order.

Note 2 If aviation safety requires it, CASA may opt, under paragraph 28BB (1) (b) of the Act, to impose conditions on the AOC of a holder not otherwise covered by subsection 7, requiring the holder to use QSTDs in the same or similar circumstance to those set out in subsection 7.

7.3 Subject to paragraph 7.4, unless CASA approves otherwise in writing on the basis of a written safety case prepared by the operator, on and from 1 April 2013, for a relevant activity:

- (a) the operator of a multi-engine aircraft with a passenger seating capacity of at least 10 but not more than 19 seats must use a QSTD for the type if one is available in Australia; and
- (b) the operator of an aircraft with a passenger seating capacity of at least 20 seats must use a QSTD for the type if one is available in Australia or in a recognised foreign State; and

- (c) the operator of an aircraft, or aircraft type, specified in Appendix 8 must use a QSTD for the aircraft or aircraft type if one is available, in accordance with the requirements of Appendix 8.

Note Synthetic training device user approvals are issued under regulation 60.055 of CASR 1998. Where a QSTD for an aircraft type operated by an operator is available in Australia or in a recognised foreign State, the obligation is on the operator to obtain the appropriate user approval in order to avoid non-compliance with paragraph 7.3 in relation to the relevant activity.

7.4 Paragraph 7.3 does not apply to an operator if:

- (a) the operator requires a flight crew member to conduct an aircraft operation to determine competency or gain experience; and
- (b) the operation does not involve a non-normal exercise.

8 Pilot with co-pilot endorsement

8.1 On and from 1 April 2013, an operator to whom sub-subparagraph 10.1 (a) (i) or (ii), or subparagraph 10.1 (b) applies must not permit a pilot with a co-pilot (aeroplane) endorsement to be a flight crew member of an aeroplane unless the pilot completes, in the QSTD for the aeroplane type, training consistent with that required by paragraphs 1 (a) and 1 (d) in Appendix III of Civil Aviation Order 40.1.0.

8.2 Paragraph 8.1 does not affect the operation of subsection 10.

8A Aircraft ratings — aeroplanes

8A.1 Each certificate authorising regular public transport, or charter, operations is subject to the condition that the AOC holder must ensure that the requirements of this subsection are met.

8A.2 A person authorised by Part 61 of CASR 1998 to fly an aeroplane with a maximum take-off weight of more than 5 700 kg must not act as pilot in command of such an aeroplane if:

- (a) the aeroplane is engaged in charter operations or regular public transport operations; and
- (b) the aeroplane's flight manual specifies that it may be flown under the I.F.R.; and
- (c) the holder does not satisfy the aeronautical experience requirements mentioned in paragraph 8A.3.

8A.3 Unless CASA otherwise approves, the pilot's aeronautical experience must consist of:

- (a) at least 50 hours of flight time as pilot in command or pilot acting in command under supervision in that type of aeroplane; or
- (b) at least:
 - (i) 25 hours of flight time as pilot in command or pilot acting in command under supervision in that type of aeroplane; and
 - (ii) the successful completion of an approved training course conducted in an approved flight simulator.

8A.4 Unless CASA otherwise directs, the flight time mentioned in subparagraph 8A.3 (a) and sub-subparagraph 8A.3 (b) (i) must include at least 10 flights each of at least 45 minutes.

8A.6 CASA may approve:

- (a) a training course; and
- (b) a flight simulator;

for the purposes of sub-subparagraph 8A.3 (b) (ii).

8B Recent experience requirements — aeroplanes

- 8B.1 Each certificate authorising regular public transport operations in aeroplanes certified for multi-crew operations is subject to the condition that the AOC holder must ensure that the requirements of this subsection are met, subject to the written approval of CASA.
- 8B.2 Subject to paragraph 8B.8, the holder of an air transport pilot licence with an aeroplane category rating must not act as pilot in command of an aeroplane in regular public transport operations or relieve the pilot in command under Part 48 of the Civil Aviation Orders unless the holder has satisfactorily completed, in that type of aeroplane or an aircraft simulator for that type of aeroplane, within the preceding 15 months, the proficiency check mentioned in Appendix 8B.
- 8B.3 Where the holder of an air transport pilot licence with an aeroplane category rating has not flown a type of aeroplane within the preceding 90 days, the holder must not act as pilot in command of that type of aeroplane in regular public transport operations or relieve the pilot in command under Part 48 of the Civil Aviation Orders until the holder has completed a flight check in that type of aeroplane to the satisfaction of CASA or a check pilot.
- 8B.4 Where the holder of an air transport pilot licence with an aeroplane category rating has not flown a type of aeroplane, including completion of 1 take-off and 1 landing in that type of aeroplane, within the preceding 45 days, the holder must not act as pilot in command of that type of aeroplane in regular public transport operations until the holder has completed in that type of aeroplane or an aircraft simulator for that type of aeroplane:
- (a) 2 take-offs and 2 landings; or
 - (b) 1 hour flight time including 1 take-off and 1 landing.
- 8B.5 Subject to paragraph 8B.8, the holder of an air transport pilot licence with an aeroplane category rating must not act as pilot in command of an aeroplane in regular public transport operations at night or relieve the pilot in command at night under Part 48 of the Civil Aviation Orders unless the holder has complied with the provision of paragraphs 8B.3 and 8B.4 and has:
- (a) within the preceding 15 months satisfactorily completed the night flight section of the proficiency check mentioned in clause 5 of Appendix 8B; and
 - (b) within the preceding 90 days completed 1 take-off and landing at night.
- 8B.6 The holder of an air transport pilot licence with an aeroplane category rating must not act as co-pilot in an aeroplane engaged in regular public transport operations unless:
- (a) within the preceding 45 days, the holder has flown as a pilot crew member in that type of aeroplane; or
 - (b) within the preceding 45 days, the holder has undertaken the operator's approved simulator refresher course in an aircraft simulator for that type of aircraft, being a course of not less than 1 hour's duration; or
 - (c) the other control seat is occupied by a check pilot or a pilot appointed by the operator of the aeroplane to exercise supervision for the purposes of this paragraph.
- 8B.7 Subject to paragraph 8B.8, the holder of an air transport pilot licence with an aeroplane category rating must not act as co-pilot of an aircraft engaged in regular public transport operations unless the holder has successfully completed within the preceding 15 months a proficiency check, in that type of aeroplane or an aircraft simulator for that type of aeroplane, as set out in Appendix 8B.

- 8B.8 The holder is taken to meet the requirements of paragraphs 8B.2, 8B.5 and 8B.7 if the holder is successfully participating in an operator's approved training and checking system that covers an aircraft of that type.

8C Aircraft ratings — helicopters

- 8C.1 Each certificate authorising regular public transport, or charter, operations is subject to the condition that the AOC holder must ensure that the requirements of this subsection are met.
- 8C.2 A person must not fly as pilot in command of a helicopter that is engaged in regular public transport, or charter, operations unless the person has the minimum aeronautical experience in that type of helicopter as pilot in command or as pilot acting in command under supervision mentioned in Appendix 8C, having regard to:
- (a) whether the helicopter is single-engine or multi-engine; and
 - (b) whether the operation is conducted under the V.F.R. or the I.F.R.; and
 - (c) whether a permitted reduction applies.

9 Training and checking manuals

- 9.1 An operator who is required to use a QSTD for a relevant activity under paragraph 7.3 must include in its training and checking manual details of course outlines, syllabuses and completion standards for any relevant activity in the synthetic training device.
- 9.2 Paragraph 9.1 does not affect any other legislative requirements imposed on the operator in relation to the content of training and checking manuals.

Note Appendix 2 in each of CAO 82.1, 82.3 and 82.5 also deals with the contents of a training and checking manual.

10 Mandatory training and checking in synthetic training devices

- 10.1 An operator who is required to use a QSTD for a relevant activity under paragraph 7.3, must include in its training and checking manual provision for each flight crew member of an aircraft operated under its AOC to undertake, each calendar year, at least the following number of sessions of training and at least the following number of checks in a QSTD for the aircraft type:
- (a) if the QSTD for the operator's aircraft type is available in Australia:
 - (i) for a multi-engine aircraft with a passenger seating capacity of at least 10 but not more than 19 seats — 2 sessions of training and 2 checks; and
 - (ii) for an aircraft with a passenger seating capacity of at least 20 seats — 2 sessions of training and 2 checks; and
 - (b) if a QSTD for the operator's aircraft type is only available in a recognised foreign State, then, for an aircraft with a passenger seating capacity of at least 20 seats — 2 sessions of training and 2 checks; and
 - (c) if an aircraft or an aircraft type is specified in Appendix 8 of this Order — the number of sessions of training and the number of checks specified in Appendix 8 for the aircraft or the aircraft type.

Note If aviation safety requires it, CASA may opt, under paragraph 28 BB (1) (b) of the Act, to impose conditions on the AOC of a holder not otherwise covered by subsections 7 and 10, requiring that the holder must not permit a pilot to be a member of the flight crew unless the person has completed training and checks, in a QSTD, similar to those provided for under subsection 10.

- 10.2 Each session of training mentioned in paragraph 10.1 must be at intervals of not less than 4 months.

10.3 Each check mentioned in paragraph 10.1 must be at intervals of not less than 4 months.

Note Nothing prevents additional sessions of training or checks being conducted at intervals of less than 4 months. However, any such session or check does not count towards the minimum number required under paragraph 10.1.

10.4 Nothing in paragraph 10.2 or 10.3 prevents a session of training in a QSTD being immediately followed by a check in the same device.

10.5 The requirements in paragraph 10.1 are shown in a simplified form in the following table for guidance only. The table is not to affect the meaning of subsection 10.

Pax seat capacity	If Australian QSTD available — sessions of training and checks	If QSTD only available overseas — sessions of training and checks
1 to 9 any aircraft	No requirement	No requirement
10 to 19, single-engine aircraft	No requirement	No requirement
10 to 19, multi-engine aircraft	2 and 2	No requirement
20 or more, any aircraft	2 and 2	2 and 2

10.6 Subsection 10 does not affect any other legislative requirements imposed on the operator in relation to the use of synthetic training devices in training and checking.

Note Appendix 2 in each of CAOs 82.1, 82.3 and 82.5 also deals with training and checking for operators to whom subsection 10 may apply.

11 Use of electronic flight bags (EFB)

11.1 If the pilot in command of an aircraft operated under an AOC uses an EFB as a means of complying, or partially complying, with paragraph 233 (1) (h) of CAR 1988, each certificate authorising operations under the AOC is subject to the condition that the AOC holder must comply with, and ensure flight crew compliance with, the applicable requirements in Appendix 9.

11.2 For this subsection, **EFB** has the meaning given to it in Appendix 9.

1 Approval of Chief Pilot by CASA

- 1.1 A person must not be appointed as, or act as, a Chief Pilot unless the person's appointment has been approved in writing by CASA after application in writing by the operator.
- 1.2 The application must include the following details in relation to the person:
 - (a) current licences, ratings and endorsements held;
 - (b) total flight time, total time as pilot in command and, where applicable, total instrument flight time and multi-engine aircraft experience;
 - (c) a comprehensive outline of flying history, including experience in commercial operations.
- 1.3 The appointment may be approved only if the person has:
 - (a) in the opinion of CASA, maintained a satisfactory record in the conduct or management of flying operations; and
 - (b) been assessed, by an examiner appointed by CASA, as suitable to carry out the responsibilities of a Chief Pilot; and
 - (c) passed an oral examination, conducted by an examiner appointed by CASA, covering the regulatory requirements for the safe conduct of commercial operations; and
 - (d) passed a flight planning, loading and performance examination, conducted by an examiner appointed by CASA, based on the operator's most complex aircraft; and
 - (e) if required by CASA — flown with a person nominated by CASA to demonstrate his or her suitability for appointment.
- 1.4 CASA must:
 - (a) give written notice of the approval, or refusal of approval, to the operator and to the person; and
 - (b) if CASA refuses to approve the appointment — include in the notice the reasons for the refusal.
- 1.5 An approval:
 - (a) relates only to the operator mentioned in the notice of approval; and
 - (b) may be subject to conditions mentioned in the notice of approval; and
 - (c) remains in force:
 - (i) for the period mentioned in the notice of approval; or
 - (ii) if no period is mentioned — while the person maintains a satisfactory standard of performance.

2 Responsibilities of Chief Pilot

- 2.1 The Chief Pilot for an operator is to have control of all flight crew training and operational matters affecting the safety of the flying operations of the operator.
- 2.2 The responsibilities of a Chief Pilot must, unless CASA otherwise specifies in writing, include the following responsibilities:
 - (a) ensuring that the operator's air operations are conducted in compliance with the Act, the *Civil Aviation Regulations 1988*, the *Civil Aviation Regulations 1998* and the Civil Aviation Orders;
 - (b) arranging flight crew rosters;

- (c) maintaining a record of licences, ratings, and route qualifications held by each flight crew member, including:
 - (i) validity; and
 - (ii) recency; and
 - (iii) type endorsements and any applicable licence restrictions;
- (d) maintaining a system to record flight crew duty and flight times to ensure compliance with duty and flight time limitations in accordance with Part 48 of the Orders;
- (e) ensuring compliance with loading procedures specified for each aircraft type used by the operator and proper compilation of loading documents, including passenger and cargo manifests;
- (f) monitoring operational standards, maintaining training records and supervising the training and checking of flight crew of the operator;
- (g) conducting proficiency tests in the execution of emergency procedures and issuing certificates of proficiency as required by section 20.11;
- (h) training flight crew in the acceptance and handling of dangerous goods as required by the *Civil Aviation Regulations 1988* or the Orders;
- (i) maintaining a complete and up-to-date reference library of operational documents as required by CASA for the class of operations conducted;
- (j) allocating appropriate aircraft.

3 Delegation by Chief Pilot

A Chief Pilot, in exercising any responsibility, may delegate duties to other members of the operator's staff, but may not delegate training and checking duties without the written approval of CASA.

4 Qualifications of Chief Pilot

- 4.1 A Chief Pilot must, unless CASA otherwise approves in writing, hold at least the minimum qualifications set out in Table A.
- 4.2 Where the operator engages in operations under the instrument flight rules, the Chief Pilot must hold an instrument rating appropriate to the category and class of operations conducted by the operator.
- 4.3 Unless otherwise approved in writing by CASA, a Chief Pilot must hold a licence with the appropriate endorsements and ratings to permit him or her to act as pilot in command of all operations authorised by the operator's certificate.

6 Cancellation or suspension of approval

- 6.1 In spite of subclause 5.5, an approval may be cancelled or suspended at any time if, in the opinion of CASA, the performance of the Chief Pilot is no longer of an acceptable standard.
- 6.2 Where CASA cancels or suspends a person's appointment as a Chief Pilot CASA must:
 - (a) notify the person and the operator in writing of the cancellation or suspension; and
 - (b) provide the person and the operator with reasons for the cancellation or suspension.

Table A

Operator's fleet Type	Number	Minimum total flight time on relevant kind of aircraft	Experience in commercial operations	Remarks
Single-engine	1 aircraft	300 hours	6 months	The Chief Pilot may be employed on a part-time basis by the operator but may not be Chief Pilot with another operator.
Single-engine	More than 1 aircraft	500 hours	9 months	The Chief Pilot must be employed full-time by the operator and may not be Chief Pilot with another operator.
Multi-engine	1 aircraft	500 hours, including 50 hours in command of multi-engined aircraft	9 months	The Chief Pilot must be employed full-time by the operator and may not be Chief Pilot with another operator.
Multi-engine	More than 1 aircraft	1 000 hours, including 200 hours in command of multi-engined aircraft	12 months	The Chief Pilot must be employed full-time by the operator and may not be Chief Pilot with another operator.
Multi-engine aircraft for which 2 or more flight crew are required	Any number	2 000 hours, including 400 hours in command of multi-engined aircraft for which 2 or more flight crew are required	2 years	The Chief Pilot must be employed full-time by the operator and may not be Chief Pilot with another operator. The 400 hours in command of multi-engined aircraft for which 2 or more flight crew are required may be waived by CASA in the case of existing Chief Pilots of operators obtaining such aircraft for the first time.

Appendix 2

Adequate aerodrome — physical requirements

- 1 The landing distance available must be not less than that required for an aeroplane under subsection 11 of CAO 20.7.1B.
- 2 The surface and strength of the manoeuvring area must allow the aeroplane to land without the likelihood of:
 - (a) damage to the aeroplane; or
 - (b) the aerodrome being rendered unusable for other operations.
- 3 The taxiways and apron areas must allow the aeroplane to park so that it is clear of the remaining movement areas and does not render the aerodrome unusable for other operations.
- 4 The aerodrome lighting must be as set out in AIP En Route under the heading “Suitability of Aerodromes”.

Appendix 3

EDTO approval for turbine-engined aeroplanes not certified to carry more than 19 passengers and exceeding 5 700 kg

- 1 The AOC holder may only conduct an EDTO if the operation has been approved, in writing, by CASA.
- 2 The approval may be issued subject to conditions that CASA considers are necessary in the interests of safety.
- 3 The AOC holder must apply, in writing, for EDTO approval setting out details of the matters mentioned in clause 4.
- 4 In deciding whether to give approval, and what conditions, if any, to apply to the approval, CASA must consider:
 - (a) the AOC holder's aviation experience and abilities; and
 - (b) the particular airframe/engine combination to be operated; and
 - (c) the route to be flown.
- 5 The approval may specify aerodromes for which the holder must prepare a passenger recovery plan.

Appendix 4

EDTO approval for turbine-engined aeroplanes certificated to carry more than 19 passengers or having a payload capacity exceeding 3 410 kg

1 Definitions

In this Appendix, words and phrases have the following meanings:

airframe system means any system on an aeroplane that is not a part of the propulsion system.

EDTO qualified maintenance personnel means maintenance personnel who have completed the operator's EDTO maintenance training.

EDTO significant system means:

- (a) the aeroplane propulsion system; and
- (b) any other aeroplane system whose:
 - (i) failure could adversely affect the safety of an EDTO flight; or
 - (ii) functioning is important to continued safe flight and landing during a diversion.

engine means a unit used, or intended to be used, for aircraft propulsion, which consists of at least those components and equipment necessary for functioning and control, excluding the propeller (if any).

FQIS means fuel quantity indicating system.

IFSD, or **in-flight shutdown**, means an engine:

- (a) ceasing to function normally in flight for any reason; or
- (b) shutting down, whether the shutting down is:
 - (i) self-induced; or
 - (ii) crew initiated; or
 - (iii) caused by some other external influence.

Note Examples of some other external influence include flameout, foreign object ingestion, icing, and the inability to obtain or control the thrust necessary for normal operations.

multiple identical system maintenance, for a twin turbine-engined aeroplane, means a maintenance action performed on the same element of identical but separate EDTO significant systems during the same routine or non-routine maintenance actions.

performance deterioration allowance, or **PDA**, means the difference between an aeroplane manufacturer's published fuel consumption model and the actual fuel consumption applicable to a specific aeroplane.

propulsion system means a system consisting of an engine and all other equipment used to provide the functions necessary to sustain, monitor and control the power and thrust output of any 1 engine following its installation on the airframe.

Note For this definition, an auxiliary power unit (APU) is not an engine.

proving flight means a flight conducted under clause 8 of this Appendix to demonstrate that the AOC holder has the capability and competence to safely conduct and adequately support proposed or approved EDTO with a particular airframe/engine combination.

system includes all items of equipment necessary for the control and performance of a system, including the equipment specifically provided for the function in question and other basic equipment such as that necessary to supply power for the operation of the system or of specific items of equipment.

time-limited system means any system:

- (a) on whose availability the duration of the flight depends; and
- (b) whose capacity has a time limit.

2 Application for EDTO approval

2.1 The AOC holder must apply to CASA, in writing, for EDTO approval.

Note The application must be received in sufficient time before the EDTO for CASA to issue the safety operational specifications and for the AOC holder to publish the details in the reserved section of the operations manual in accordance with paragraphs 4.1 and 4.2 of Civil Aviation Order 82.0.

2.2 In addition to any other requirements imposed by this Appendix, the application must include the following:

- (a) details of the particular airframe/engine combination, including the latest revision number of the CMP standards document required for EDTO as normally identified in the AFM, the type certificate data sheet or supplemental type certificate;
- (b) details of the requested areas of operations;
- (c) details of the maximum diversion time, at the approved 1 engine inoperative cruise speed (in ISA and still air conditions) that the aeroplane may be from a suitable aerodrome for landing;
- (d) details of the fuel and oil policy as it relates to EDTO;
- (e) a list of the EDTO alternate aerodromes en route that are designated for the operation;
- (f) either:
 - (i) a statement confirming that each EDTO alternate aerodrome will have the facilities to ensure the care and safety of a full complement of passengers and crew; or
 - (ii) details of the recovery plan for diversion to any EDTO alternate aerodrome that can ensure the protection and well-being of a full complement of passengers and crew at the aerodrome itself or in its immediate area until the passengers and crew are transported to another place that will provide for their care and safety.

2.3 In addition to any other requirements imposed by this Appendix, in considering whether to give EDTO approval, CASA must take into account safety compensating factors, including the number of airports in the region, the weather conditions normally prevailing in the area, the availability of communications, the safety and reliability of operations with the particular airframe/engine combination and any additional MEL restrictions.

2.4 CASA may issue an approval with or without conditions.

Note To ensure the safety of air navigation, conditions on an EDTO approval may impose obligations on an AOC holder additional to the requirements mentioned in clause 4, 5, 6 or 7 of this Appendix or additional to the requirements mentioned in Appendix 5.

2.5 An approval may specify aerodromes for which the holder must prepare a passenger recovery plan.

2.6 If it is considered necessary in the interests of safety, CASA may:

- (a) refuse to give an approval; or
- (b) suspend or cancel an approval.

Note An EDTO approval is a civil aviation authorisation under the *Civil Aviation Act 1988* (the *Act*) and, therefore, suspension and cancellation are enforceable under the serious and imminent risks to air safety provisions in Division 3A of Part III of the Act which provide for suspension or cancellation of civil aviation authorisations. However, suspension or cancellation of an

approval may also arise on grounds similar to those mentioned in subregulation 269 (1) of CAR 1988.

3 Aeroplane eligibility for EDTO

For the AOC holder to be eligible for EDTO approval, each relevant aeroplane for EDTO must:

- (a) have an EDTO type design approval contained in:
 - (i) the AFM or supplement; or
 - (ii) the type certificate data sheet or supplemental type certificate; or
- (b) meet an equivalent standard acceptable to CASA.

4 EDTO approval requirements — general

4.1 This clause applies to applications for EDTO approvals to conduct EDTO.

4.2 The AOC holder requesting approval to conduct the EDTO must give CASA details to show that:

- (a) the proposed airframe/engine combination has been type design approved for at least the EDTO time requested; and
- (b) except if clause 7 applies — the CMP standards document of the proposed airframe/engine combination supports the EDTO time requested; and
- (c) the AOC holder has an approved operations training program that specifically addresses significant operational factors with respect to the EDTO time requested; and
- (d) except if clause 7 applies — the AOC holder has an approved system of maintenance that specifically addresses significant maintenance factors with respect to the EDTO time requested; and
- (e) the AOC holder has an approved MEL appropriate to the EDTO time requested; and
- (f) the time limit specified in the AFM for the aeroplane's most time-limited system will not be less than the EDTO time requested, based on a diversion time (in ISA and still air conditions) at the 1 engine inoperative cruise speed plus a 15 minute allowance for holding, approach and landing.

4.3 The AOC holder must give CASA details of any changes or amendments to flight manuals, operations manuals, maintenance requirements, or safety operational specifications necessitated by the proposed EDTO.

5 Additional requirements for EDTO approvals — 180 to 240 minutes, twin-engine

5.1 This clause applies to applications for EDTO approvals to conduct EDTO in twin turbine-engined aeroplanes on a route containing a point more than 180 minutes but not more than 240 minutes from an EDTO alternate aerodrome at 1 engine inoperative cruise speed (in ISA and still air conditions).

5.2 CASA may only give the approval if:

- (a) for the airframe/engine combination listed in the application the AOC holder holds a current EDTO approval under clause 4 for a route containing a point not more than 180 minutes from an adequate aerodrome at 1 engine inoperative cruise speed (in ISA and still air conditions); and
- (b) in addition to the MEL limitations for the current approval mentioned in paragraph (a), the following systems are serviceable for dispatch:
 - (i) FQIS; and
 - (ii) if required for EDTO — the APU (including electrical and pneumatic supply to its designated capability); and

- (iii) the auto throttle system; and
- (iv) a communication system, in addition to any mentioned in the AIP, capable of providing direct communication of landline voice quality between the flight crew and air traffic services, and the flight crew and the operator.

5.3 The EDTO approval requirements mentioned in subclauses 4.2 and 4.3 also apply for this clause.

6 Additional requirements for EDTO approvals — more than 240 minutes, twin-engine

- 6.1 This clause applies to applications for EDTO approvals for EDTO in twin turbine-engined aeroplanes on a route containing a point more than 240 minutes from an EDTO alternate aerodrome at 1 engine inoperative cruise speed (in ISA and still air conditions).
- 6.2 CASA may only give the approval for the specific airframe/engine combination if:
- (a) the operator has been operating under a clause 4 or a clause 5 approval, or a combination of these approvals, for at least the 24 months immediately before the approval under this clause would take effect; and
 - (b) the operator has been operating under a clause 5 approval for the specific air frame/engine combination for at least the 12 months immediately before the approval under this clause would take effect; and
 - (c) the EDTO approval requirements mentioned in subclauses 4.2 and 4.3 and 5.2 are also complied with.

7 EDTO approvals — aeroplanes with more than 2 engines

- 7.1 This clause applies to applications for EDTO approvals for EDTO in aeroplanes with more than 2 engines on a route containing a point more than 180 minutes from an EDTO alternate aerodrome at 1 engine inoperative cruise speed (in ISA and still air conditions).
- 7.2 CASA may give the approval only if:
- (a) the EDTO approval requirements mentioned in paragraphs 4.2 (a), (c), (e) and (f) and subclause 4.3 of this Appendix are complied with; and
 - (b) the following systems are operational for dispatch:
 - (i) the FQIS;
 - (ii) if it is required for EDTO — the APU (including electrical and pneumatic supply to its designated capability);
 - (iii) a communication system, in addition to any mentioned in the AIP, that is capable of providing direct communication of landline voice quality between the flight crew and air traffic services, and the flight crew and the operator.

8 EDTO proving flights

- 8.1 In addition to any other requirements imposed by this Appendix, in considering whether to give an AOC holder an EDTO approval, CASA may require the AOC holder to conduct a proving flight to demonstrate that the AOC holder has the capability and competence to safely conduct and adequately support the intended operation.
- 8.2 If a proving flight is required, CASA must give the AOC holder a statement of the conditions that will apply for the flight, including the presence of CASA officers as observers on the flight.

- 8.3 Any condition of the proving flight stated by CASA to be critical to airworthiness, crew workload or performance risks must be successfully demonstrated during the proving flight unless CASA has witnessed a successful demonstration for that particular condition before the proving flight.

Appendix 5

General conditions for EDTO approval for a turbine-engined aeroplane certificated to carry more than 19 passengers or having a payload capacity exceeding 3 410 kg

1 Definitions

In this Appendix, words and phrases have the same meaning as in Appendix 4.

2 General prerequisites for EDTO

The AOC holder must ensure that an EDTO flight does not commence unless:

- (a) the safety operational specifications of the Air Operator's Certificate permits the EDTO; and
- (b) procedures for the EDTO to meet the requirements for EDTO mentioned in this Order are set out in the AOC holder's operations manual.

3 Flight dispatch requirements for EDTO

- 3.1 The AOC holder must ensure that an aeroplane is only dispatched on an EDTO if the communication facilities required by the AIP are available.
- 3.2 The AOC holder must ensure that an aeroplane is only dispatched on an EDTO if it meets the requirements of the CMP standards document for the EDTO flight.
- 3.3 The AOC holder must ensure that an aeroplane is only dispatched on an EDTO if the required take-off, destination and alternate aerodromes, including EDTO alternate aerodromes to be used in the event of engine shutdown or aeroplane system failure which require a diversion, are listed in the cockpit documentation.
- 3.4 The AOC holder must ensure that an aeroplane is only dispatched on an EDTO if EDTO alternate aerodromes are identified and listed in the EDTO dispatch release.
- 3.5 The AOC holder must ensure that an aerodrome is listed as an EDTO alternate only if:
 - (a) the latest available forecast weather conditions for a period from the earliest to the latest time of landing at the aerodrome, equal or exceed the relevant aerodrome planning minima for an EDTO alternate aerodrome in clause 7 of this Appendix; and
 - (b) the forecast cross-wind component, including gusts, for the landing runway expected to be used is not more than the maximum permitted cross-wind for a 1 engine inoperative landing.

Note For the purposes of this provision, forecast probabilities of less than 40% may be disregarded. However, INTER and TEMPO conditions, when forecast, must be taken into account when calculating fuel requirements.

- 3.6 In spite of subclause 3.5, if a forecast for the required period is not available, an aeroplane may be despatched on an EDTO flight if the flight does not proceed beyond the point of sole reliance on the designated EDTO alternate aerodrome unless and until the pilot in command receives a valid forecast that satisfies the requirements of subclause 3.5.

4 Additional flight dispatch requirements for EDTO — more than 180 minutes

- 4.1 The AOC holder must ensure that an aeroplane is only dispatched on an EDTO more than 180 minutes from an EDTO alternate aerodrome if an additional communication facility will be available to provide direct landline quality voice

communication at all stages of flight between the flight crew and air traffic services, and the flight crew and the operator.

- 4.2 The AOC holder must ensure that an aeroplane is only dispatched on the EDTO if:
- (a) the time limit specified in the AFM for the aeroplane cargo fire suppression system will not be less than the EDTO time requested, based on a diversion time:
 - (i) at the all-engines-operating cruise speed; and
 - (ii) that includes appropriate corrections for wind and temperature; and
 - (iii) that includes the addition of a 15 minute allowance for holding, approach and landing; and
 - (b) the time limit specified in the AFM for the aeroplane's most time-limited system, other than the cargo fire suppression system, will not be less than the EDTO time requested, based on a diversion time:
 - (i) at the 1 engine inoperative cruise speed; and
 - (ii) that includes appropriate corrections for wind and temperature; and
 - (iii) that includes the addition of a 15 minute allowance for holding, approach and landing.

5 En route for EDTO

- 5.1 Before an EDTO flight proceeds beyond the applicable EDTO entry point the AOC holder for the aeroplane must ensure that the pilot in command is notified of any significant changes in forecast weather, aerodrome availability, or any other required services at EDTO alternate aerodromes designated for the flight.
- 5.2 The AOC holder must ensure that:
- (a) changes notified under subclause 5.1 are evaluated by the pilot in command; and
 - (b) if any changes are identified that would preclude a safe approach and landing at an EDTO alternate aerodrome during the time of landing mentioned in paragraph 3.4 (a), the pilot in command selects an acceptable EDTO alternate aerodrome where a safe approach and landing can be made.
- 5.3 The AOC holder must ensure that the pilot in command of an EDTO flight does not proceed beyond an extended diversion time entry point unless:
- (a) the meteorological forecast for each required aerodrome nominated as an EDTO alternate aerodrome indicates that it will be at, or above, the approved aerodrome landing minima for the expected approach during the possible period of use; and
 - (b) no other event has occurred that makes the aerodrome unusable.
- 5.4 The AOC holder must ensure that before the aeroplane goes beyond the EDTO entry point, the pilot in command ensures that the aeroplane complies with the in-flight operational requirements of the CMP standards document for the EDTO flight.
- 5.5 After an EDTO flight goes beyond the applicable EDTO entry point, the AOC holder must ensure that the pilot in command:
- (a) is informed of any significant changes in conditions at designated EDTO alternate aerodromes; and

- (b) if:
 - (i) the meteorological forecast is subsequently revised below the EDTO alternate aerodrome landing minima for a required EDTO alternate aerodrome; or
 - (ii) any other event occurs that makes the aerodrome unusable; only continues the flight if the pilot in command is satisfied that doing so would be safer than an alternative course of action.

6 Fuel requirements for EDTO

- 6.1 The AOC holder for an aeroplane conducting an EDTO flight must ensure that the aeroplane carries at least the fuel required by subclauses 6.2 and 6.3.
- 6.2 The amount of fuel on board the aeroplane on departure must be whichever is the greater of:
 - (a) that determined under the operations manual for a similar non-EDTO flight; or
 - (b) that required under subclause 6.3.
- 6.3 The AOC holder must ensure that the aeroplane does not commence a flight, planned as an EDTO flight unless, considering the known and forecast weather conditions, or using a wind forecast model acceptable to CASA, the aeroplane carries sufficient fuel to satisfy the following requirements:
 - (a) when departing as an EDTO flight, the aeroplane must carry whichever is the greatest of the following:
 - (i) sufficient fuel to fly to an EDTO alternate assuming a rapid decompression at the most critical point followed by a descent to a safe altitude in compliance with regulation 178 of the *Civil Aviation Regulations 1988 (CAR 1988)* and the oxygen requirements of Civil Aviation Order 20.4 (*CAO 20.4*);
 - (ii) sufficient fuel to fly to an EDTO alternate at the approved 1 engine inoperative cruise speed assuming a rapid decompression and a simultaneous engine failure at the most critical point followed by a descent to a safe altitude in compliance with regulation 178 of CAR 1988 and the oxygen requirements of CAO 20.4;
 - (iii) sufficient fuel to fly to an EDTO alternate at the approved 1 engine inoperative cruise speed assuming an engine failure at the most critical point followed by a descent to the 1 engine inoperative cruise altitude;
 - (b) on reaching the EDTO alternate aerodrome, the aeroplane must have sufficient fuel for the pilot in command to:
 - (i) hold for 15 minutes at 1 500 feet above the aerodrome elevation; and
 - (ii) conduct an instrument approach and land;
 - (c) if the AOC holder is using a wind forecast model acceptable to CASA, to allow for errors in wind forecasting, the AOC holder must add a 5% wind speed factor (i.e. as an increment to a headwind or as a decrement to a tailwind) on the actual or forecast wind used to calculate the fuel requirements of paragraph (a);
 - (d) if the AOC holder is using a wind forecast model that is not acceptable to CASA, to allow for errors in the model's wind data, the AOC holder must ensure that the aeroplane carries an additional 5% of the fuel calculated under the requirements of paragraph (a);

- (e) when calculating the fuel required under paragraph (a), the AOC holder must compensate for whichever is the greater of:
 - (i) the effect of airframe icing for 10% of the time during which icing is forecast (including taking into account the fuel that would be used by the use of engine and wing anti-ice during the same period); or
 - (ii) the fuel that would be used by use of engine anti-ice, and if appropriate wing anti-ice, for the entire time during which icing is forecast;
- (f) when calculating the fuel required under subparagraphs (a) (i) to (a) (iii), the AOC holder must increase the fuel supply by 5% as a performance deterioration allowance unless the operator has a program established to monitor aeroplane in-service deterioration in cruise fuel burn performance, and includes in fuel supply calculations fuel sufficient to compensate for any such deterioration;
- (g) if an APU is a required power source, the operator must account for its fuel consumption during all phases of flight where it may be used;
- (h) any additional fuel consumption due to the minimum equipment list or the configuration deviation list.

Note A wind aloft forecasting distributed worldwide by the World Area Forecast System (WAFS) is an example of a wind forecast model acceptable to CASA.

7 Standard EDTO alternate aerodrome planning minima

Unless CASA approves otherwise in accordance with clause 8, for flight planning and aeroplane dispatch, the AOC holder must ensure that the requirements of an EDTO alternate aerodrome are met by satisfying the criteria of 1 of the aerodrome planning minima set out in Table 1.

Table 1 Standard EDTO alternate aerodrome planning minima

Facilities available at suitable alternate	Ceiling	Visibility
<p>Two or more separate precision approach equipped runways</p> <p><i>Note</i> One runway and its reciprocal does not satisfy this requirement.</p>	<p>A cloud base that is the higher of:</p> <p>(a) 400 feet; or</p> <p>(b) 200 feet above the lowest authorised aerodrome landing minima</p>	<p>Visibility that is the greater of:</p> <p>(a) 1 500 metres; or</p> <p>(b) 800 metres above the lowest authorised aerodrome landing minima</p>
<p>A single precision approach</p>	<p>A cloud base that is the higher of:</p> <p>(a) 600 feet; or</p> <p>(b) 400 feet above the lowest authorised aerodrome landing minima</p>	<p>Visibility that is the greater of:</p> <p>(a) 3 000 metres; or</p> <p>(b) 1 500 metres above the lowest authorised aerodrome landing minima</p>
<p>Non-precision approach</p>	<p>A cloud base that is the higher of:</p> <p>(a) 800 feet; or</p> <p>(b) 400 feet above the lowest authorised aerodrome landing minima</p>	<p>Visibility that is the greater of:</p> <p>(a) 4 000 metres; or</p> <p>(b) 1 500 metres above the lowest authorised aerodrome landing minima</p>

8 Lower than standard EDTO alternate aerodrome planning minima

CASA may approve lower EDTO alternate aerodrome planning minima than those set out in the Table in clause 7 if the aerodrome permits Category II or III precision approach and landing operations.

9 Maintenance elements for EDTO

9.1 This clause only applies to an AOC holder approved to conduct EDTO using a twin turbine-engined aeroplane.

9.2 The AOC holder must have the following:

- (a) a system that ensures compliance with the minimum requirements set out in the latest revision of:
 - (i) for each airframe/engine combination:
 - (A) the CMP standards document; or
 - (B) the type design document; and
 - (ii) any relevant airworthiness directives;
- (b) an approved system of maintenance for the aeroplane approved to conduct an EDTO flight that:
 - (i) is based on the aeroplane type certificate holder's maintenance program; and
 - (ii) is supplemented for each EDTO airframe/engine combination; and
 - (iii) includes the following:
 - (A) a pre-departure service check that must be completed immediately before an EDTO flight and certified as completed by an EDTO qualified maintenance person;
 - (B) a list of EDTO significant systems acceptable to CASA;
 - (C) procedures for corrective action to an EDTO significant system;
 - (D) a list, or other form of identification, of EDTO specific procedures or tasks that must be accomplished or verified by EDTO qualified maintenance personnel;
 - (E) a procedure to verify the status of the aeroplane and that EDTO significant systems and equipment are serviceable for an intended flight;
- (c) detailed procedures to prevent multiple identical system maintenance actions and the procedures to be followed if any such maintenance actions cannot be avoided;
- (d) a parts control program that ensures:
 - (i) the type certification standard is maintained; and
 - (ii) the proper identification of parts to maintain the EDTO configuration;
- (e) an EDTO reliability program acceptable to CASA that is designed for the early identification and prevention of EDTO-related problems and that contains a reporting procedure for any significant events detrimental to EDTO;

Note A manufacturer's support program may be an integral part of the reliability program.

- (f) a supplement to the air operator's maintenance control manual for use by all personnel involved in EDTO that:
 - (i) lists all EDTO supporting programs; and
 - (ii) references all the EDTO systems of maintenance; and

- (iii) specifies the maintenance procedures, duties and responsibilities of all relevant maintenance personnel; and
- (iv) indicates where more detailed information on each of these matters may be found in the operator's document system.

Note The supplement need not be exhaustive provided it complies with subparagraph (iv).

- 9.3 The AOC holder must ensure that each of the following events is reported to CASA within 72 hours of the event occurring:
- (a) IFSD;
 - (b) diversion or turnback;
 - (c) uncommanded power change or surge;
 - (d) inability to control a propulsion engine or to obtain desired power;
 - (e) malfunction of an EDTO significant system;
 - (f) any other event detrimental to EDTO.
- 9.4 The AOC holder must conduct an investigation into the cause of any event mentioned in subclause 9.3.
- 9.5 The AOC holder must establish an engine condition monitoring program designed to detect engine deterioration at an early stage and allow for corrective action before safe operation is affected.
- 9.6 The engine condition monitoring program mentioned in subclause 9.5 must describe:
- (a) the parameters to be monitored, the methods of data collection and analysis, and the corrective action process; and
 - (b) the procedures to ensure that engine limit margins are maintained so that a prolonged engine inoperative diversion may be conducted without exceeding approved engine limits at all approved power levels and expected environmental conditions.
- 9.7 The AOC holder must establish an engine oil consumption monitoring program that ensures:
- (a) that sufficient oil is carried and available for each engine and APU (if an APU is required for EDTO) to allow completion of a scheduled EDTO flight; and
 - (b) the oil consumption of an engine or APU (if an APU is required for EDTO) does not exceed the manufacturer's recommendation; and
 - (c) monitoring of all oil added to an approved EDTO engine or APU (if an APU is required for EDTO) of an approved EDTO airframe/engine combination whether or not a flight is an EDTO flight.
- 9.8 If APU in-flight start capability is required for EDTO, the AOC holder must have a cold soak in-flight APU start and run reliability program acceptable to CASA.
- 9.9 The AOC holder must establish an airframe/engine combination maintenance training program to ensure it provides adequate training on each specific airframe/engine combination to any person involved in the EDTO maintenance of the particular airframe/engine combination.
- 9.10 The AOC holder must ensure that a person has successfully completed the training mentioned in subclause 9.9 before the person is assigned to conduct any EDTO maintenance on a specific airframe/engine combination.
- 9.11 The maintenance training program mentioned in subclause 9.9 must provide for the recurrent training of each EDTO maintenance person at intervals not exceeding 24 months.

10 Flight crew training and evaluation

- 10.1 The AOC holder must have a program for EDTO training of flight crew members, with associated recurrent training, competency evaluation and proficiency checking.
- 10.2 The program must include initial and recurrent training, competency evaluation and proficiency checking for the following:
- (a) if standby sources of electrical power significantly degrade cockpit instrumentation to the pilots — simulation of aerodrome approaches using standby power as the sole power source;
 - (b) contingency procedures for each area of operation intended to be used;
 - (c) evaluation of, and response to, probable propulsion and airframe systems failures;
 - (d) diversion procedures and diversion decision-making processes;
 - (e) the EDTO regulatory framework and operational approvals.

11 Quarterly EDTO reports

- 11.1 An AOC holder approved to conduct EDTO using a twin turbine-engined aeroplane must prepare for CASA a summary report on each of the following for the period of 3 months after receiving EDTO approval, and for every 3 month period after that:
- (a) aeroplane operations and utilisation;
 - (b) engine operations and utilisation;
 - (c) for each flight — interruptions, delays or cancellations due to technical reasons;
 - (d) unscheduled termination or diversion from a route caused by actual or suspected technical malfunctions;
 - (e) IFSD rates;
 - (f) reportable defects and events, including those mentioned in subclause 9.2;
 - (g) system defect summary reports which have exceeded their alert level;
 - (h) minimum equipment list usage;
 - (i) unscheduled component removals;
- 11.2 The AOC holder must ensure that the summary report is received by CASA not later than 14 days after the end of each 3 month period mentioned in subclause 11.1.

Appendix 6

Polar operations

1 Applications

An application for approval to conduct a polar operation must be in writing.

2 Strategies procedures and plans

The application must be accompanied by copies of the following strategies, procedures and plans:

- (a) a fuel-freeze strategy and the procedures for monitoring fuel freezing;
- (b) a communications plan that will ensure communication capability for the duration of the operation;
- (c) a polar operations training plan for the aircraft's flight crew and maintenance personnel;
- (d) a plan for mitigating flight crew and passenger exposure to radiation during solar flare activity;
- (e) a plan for providing in the aircraft at least 2 serviceable, cold weather, anti-exposure suits, to protect crew members from extreme climatic conditions during outside activity at a diversion aerodrome, unless the season of the year makes the equipment unnecessary and CASA has, in writing, relieved the operator from the requirement to comply with it.

3 Ensuring compliance

The application must include details of how the operator will ensure that the strategies, procedures and plans have been, and are, complied with before and during the operation.

Appendix 7

MP(A)L Line Check — ICAO Evaluation Form

Operator ¹ :		Aircraft type ² :		
Pilot's name		Pilot's ARN		
Line check ³ Initial <input type="checkbox"/> Second <input type="checkbox"/> Repeat Failure <input type="checkbox"/>				
Overall grade: <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory				
Leg ⁴ 1: From: _____ To: _____	Leg 2: From: _____ To: _____	Organisation responsible for the pilot's MP(A)L training: _____		
Task grade: 0 = Incomplete/unobserved 1 = Unsatisfactory 2 = Debrief required 3 = Standard 4 = Excellent <i>Grade all activities performed</i>	Reason codes A = Airspeed S = SOP ⁵ AM = Automation R = Radio communication E = Execution C = Communications H = Heading D = Decision making K = Knowledge T = Teamwork P = Procedure W = Workload management/planning skills			
TASK or PHASE OF FLIGHT	Leg 1 <input type="checkbox"/> PF <input type="checkbox"/> PNF	Leg 2 <input type="checkbox"/> PF <input type="checkbox"/> PNF	Reason Code	Comments
AIRCRAFT GROUND AND PRE-FLIGHT OPERATIONS				
1. Flight preparation				
2. Briefings				
3. Starting engines				
4. Taxi operations				

¹ ICAO 3-letter code of the operator.

² ICAO aircraft type designator.

³ Line check results are recorded for the initial and second line check after the graduation as MPL pilot. In case of a re-check after a failed check, tick the "Repeat after failure" checkbox as well as the appropriate "Initial" or "Second" check box.

⁴ A minimum of 2 sectors is required, 1 as PF and the other as PNF. Enter 4-letter ICAO codes for the departure and arrival aerodromes.

⁵ SOP = Standard operating procedures used by the operator.

TAKE-OFF				
1. Pretake-off/line-up				
2. Take-off roll				
3. Rotation/lift-off				
CLIMB				
1. Relevant checklists				
2. Airspeed control				
3. Departure procedure				
CRUISE				
1. Monitor flight progress				
2. FMS/Navigation				
DESCENT				
1. Descent planning				
2. Checklists and descent profile/speed				
3. Holding (if applicable)				
APPROACH				
1. Approach briefing				
2. Precision approach				
3. Non-precision approach				
4. Visual approach				
LANDING				
1. Flare/touchdown				
2. Normal landing				
3. Cross-wind landing				
AFTER LANDING and POST-FLIGHT OPERATIONS				
1. Taxi operations				
2. Relevant checklists				
3. Parking procedure				
ATC communications: <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory				
Comments				

Data⁶ on initial operational line training on type before first successful line check	
Number of sectors _____	Number of hours _____
Handflown landings _____	Handflown landing (x/w>10kts) ⁷ _____
Additional comments	

⁶ This data is required but only for the initial line training after MPL graduation.

⁷ Insert the total number of hand-flown landings and, among those, the number of handflown cross-wind landings (>10 kts cross-wind component) performed by the MPL pilot as PF during line training.

Requirements for use of qualified synthetic training devices for other aircraft and aircraft types

Reserved for future amendment to include other particular aircraft or aircraft types for which it emerges that aviation safety requires that they should be supported by training using a qualified synthetic training device in accordance with this Order.

Appendix 8B

Proficiency Check

1 General flying

A flight check on an air route embracing:

- (a) flight planning and air navigation; and
- (b) preparation for flight; and
- (c) airways operating procedures; and
- (d) all manoeuvres associated with the normal operation of the aircraft type.

2 Instrument flight

The manoeuvres and procedures mentioned in the Part 61 Manual of Standards for an instrument proficiency check.

3 Emergency manoeuvres (multi-engine aircraft)

3.1 Asymmetric flight

In respect of a multi-engine aircraft, a holder must satisfy CASA or a check pilot that the holder has:

- (a) an adequate knowledge of the performance of the aircraft at the authorised maximum take-off weight with the critical engine inoperative, in the various configurations associated with take-off; and
- (b) an adequate knowledge of the performance of the aircraft at the authorised maximum landing weight with the critical engine inoperative, during the execution of a baulked approach from the landing configuration; and
- (c) a correct appreciation of the piloting techniques, the control forces and aircraft attitudes involved.

3.1.1 Take-off

- (a) Twin-engined aircraft: attaining optimum performance following simulated failure of 1 engine at a point immediately after take-off critical speed is reached.
- (b) Four-engined aircraft: attaining optimum performance following simulated failure of an outboard engine at a point immediately after take-off critical speed is reached.

Note This sequence is not required if CASA or the check pilot considers that the asymmetric take-off required for the instrument proficiency check adequately covers the visual case.

3.1.2 Approach and landing

- (a) Twin-engined aircraft:
 - (i) approach and landing following simulated failure of 1 engine; and
 - (ii) use of asymmetric reverse thrust where applicable.
- (b) Four-engined aircraft:
 - (i) approach to land following simulated failure of an outboard engine (either a three-engined landing or a three-engined baulked approach must be carried out); and
 - (ii) approach and landing following simulated failure of 2 engines on 1 side; and
 - (iii) use of asymmetric reverse thrust where applicable.

Note Correct handling of engine ancillary controls and adherence to engine limitations as applicable is a requirement for satisfactory performance of these manoeuvres. The aeroplane

used in these sequences must be loaded to a weight which will give a positive indication of flight and handling characteristics.

3A Emergency manoeuvres (single-engine turbine-powered aeroplanes)

In respect of a single-engine turbine-powered aeroplane, a holder must satisfy CASA or a check pilot, that the holder has an adequate knowledge of the procedures to be followed in the aeroplane with the engine inoperative or malfunctioning:

- (a) in the various configurations associated with take-off; and
- (b) while the aeroplane is climbing, cruising or descending; and
- (c) while the aircraft is carrying out an approach or landing.

4 Circling approach manoeuvre

A circuit, approach and landing within the lowest ceiling and visibility limits of the most critical aerodrome approach procedure that the pilot is authorised to conduct.

5 Night flight (annual requirement)

A flight check on an air route embracing all manoeuvres associated with the normal operation of an aeroplane. Where difficulty is experienced in meeting this requirement 1 take-off and 1 landing may be substituted for the route check provided that a route is completed once in every 2 years.

6 Emergency procedures

The holder must satisfy CASA, or a properly qualified person designated for the purpose by CASA, either orally or by demonstration where required, that the holder is competent in the operation of all the aircraft emergency systems (e.g. fire extinguishers, emergency exit, oxygen, hydraulics, electrical instruments, radio, etc.) and in the application of the emergency procedures set out in the Operations Manual (e.g. action in the event of engine fires, belly compartment fires, heater fires, ditching, landing with a wheel or wheels not locked down, action in the event of decompression, boost out approach and landing, etc.).

Note Where an operator has an approved simulator training course, item 6 of this proficiency check may be completed in a simulator.

Appendix 8C

Minimum aeronautical experience requirements to conduct charter, or regular public transport, operations in a type of helicopter

Type of helicopter	Minimum aeronautical experience as pilot in command or acting in command under supervision for single-pilot operations		Minimum aeronautical experience as pilot in command or acting in command under supervision for multi-pilot operations	
	Night V.F.R./Day V.F.R.	I.F.R.	Night V.F.R./Day V.F.R.	I.F.R.
A type of single-engine helicopter	5 hours	N/A	10 hours	N/A
A type of multi-engine helicopter	10 hours	15 hours	15 hours	20 hours

Permitted reductions in minimum aeronautical experience

- 1 For an operation in a single-engine helicopter under the V.F.R. with a single pilot — if a pilot has 5 hours' aeronautical experience on another type of single-engine helicopter, the minimum aeronautical experience as pilot in command, or acting in command under supervision, is to be reduced from 5 hours to 3 hours.
- 2 For an operation in a single-engine helicopter under the V.F.R. with more than 1 pilot — if a pilot has 10 hours' aeronautical experience on another type of single-engine helicopter, the minimum aeronautical experience as pilot in command, or acting in command under supervision, is to be reduced from 10 hours to 5 hours.
- 3 For an operation in a multi-engine helicopter under the V.F.R. with a single pilot — if a pilot has 10 hours' aeronautical experience on another type of multi-engine helicopter, the minimum aeronautical experience as pilot in command, or acting in command under supervision, is to be reduced from 10 hours to 5 hours.
- 4 For an operation in a multi-engine helicopter under the I.F.R. with a single pilot — if a pilot has 15 hours' aeronautical experience on another type of multi-engine helicopter, the minimum aeronautical experience as pilot in command, or acting in command under supervision, is to be reduced from 15 hours to 10 hours.
- 5 For an operation in a multi-engine helicopter under the V.F.R. with more than 1 pilot — if a pilot has 15 hours' aeronautical experience on another type of multi-engine helicopter, the minimum aeronautical experience as pilot in command, or acting in command under supervision, is to be reduced from 15 hours to 10 hours.
- 6 For an operation in a multi-engine helicopter under the I.F.R. with more than 1 pilot — if a pilot has 20 hours' aeronautical experience on another type of multi-engine helicopter, the minimum aeronautical experience as pilot in command, or acting in command under supervision, is to be reduced from 20 hours to 15 hours.

Appendix 9

Requirements to be met for the use of an EFB

1 Definitions

1.1 In this Appendix:

AFM means the aircraft flight manual for the aircraft to which the abbreviation refers.

aircraft means an aircraft operated under the AOC of the AOC holder mentioned in subclause 11.1 of this CAO.

Note Subclause 11.1 of this CAO is above, in the main body of the CAO, under the heading **Use of electronic flight bags (EFB)**.

aircraft-installed, for an EFB, means fitted to an aircraft:

- (a) by the aircraft manufacturer in accordance with the type certificate, or supplemental type certificate, for the aircraft issued by the NAA of a recognised foreign country; or
- (b) in accordance with a supplemental type certificate under Subpart 21E of CASR 1998; or
- (c) in accordance with Subpart 21M of CASR 1998.

approved mount means a mount, approved in writing by CASA, which:

- (a) does not require the use of tools for mounting the EFB or dismounting it; and
- (b) whether or not the mount is holding the EFB, and whether or not a screen-protector is used, does not:
 - (i) obstruct the flight crew when entering or leaving the flight deck; or
 - (ii) affect the flight crew's physical or visual access to the operational controls and displays on the flight deck; or
 - (iii) affect the flight crew's external vision from the flight deck; or
 - (iv) if the EFB is connected to aircraft power or an external antenna — affect the operation of the aircraft or the safety of the flight crew; or
 - (v) present, including through cabling or other connectivity, a safety hazard to the flight crew at any time, including in an emergency.

authorised EFB custodian means a person who is authorised in writing by the HFO to have custody of an AOC holder's EFB.

backup EFB means an EFB that is:

- (a) of at least the same class and functionality level as the permitted EFB of the most senior flight crew member to whom an EFB was issued (**designated EFB member**); and
- (b) available to be used in the event of the failure or malfunction of the EFB of the designated EFB member.

Note The EFB issued to flight crew member, other than the designated EFB member, may be used as the backup EFB. Under subclause 3.7 of this Appendix, any requirements of this Appendix that apply to, or in relation to, a flight crew EFB, also apply to the backup EFB.

class means a Class 1 EFB or a Class 2 EFB.

Class 1 EFB means an EFB that is portable but not mounted.

Class 2 EFB means an EFB that is portable and mounted.

Note A Class 3 EFB means an EFB that is aircraft-installed. This Order does not deal with Class 3 EFB.

CAR 1988 means the *Civil Aviation Regulations 1988*.

CASR 1998 means the *Civil Aviation Safety Regulations 1998*.

data means digital data primarily used for the operation of an aircraft, including aeronautical maps, charts, and any other written, numerical, diagrammatic or cartographic information or instructions.

EFB system means the hardware, the operating system, the loaded software and any antennae, connections and power sources, used for the operation of an EFB.

electronic flight bag, or EFB, means the portable electronic device of an EFB system that satisfies all of the following requirements:

- (a) it is not an instrument, equipment or navigation computer to which any of the following apply:
 - (i) regulation 207 of CAR 1988;
 - (ii) regulation 232A of CAR 1988;
 - (iii) Civil Aviation Order 20.18;
- (b) it provides, as a minimum, data storage, search, computational and display capabilities;
- (c) it uses a screen which displays data in a size and form that is at least as easily read and used as it would be in a paper document for which the EFB would be a substitute;
- (d) it is used primarily on the flight deck of an aircraft by the flight crew of the aircraft for the purpose of accessing and using data relevant to the operation of the aircraft.

flight crew EFB means the permitted EFB which the AOC holder must ensure each operating flight crew member has the exclusive use of on the flight deck of an aircraft.

Note See subclause 3.5 of this Appendix.

functionality level means 1 of the following functionality levels mentioned in subclause 1.3:

- (a) functionality level 1;
- (b) functionality level 2;
- (c) functionality level 3;
- (d) functionality level 4.

HFO, for an AOC holder, means the head of flying operations (however described).

mounted has the meaning given in paragraph (b) of the definition of **portable**, and includes a mount that is:

- (a) attached to the aircraft; or
- (b) not attached to the aircraft but secured to a flight crew member, for example, a kneepad.

Note The mount for an EFB that is mounted to the aircraft structure requires airworthiness approval under Subpart 21.M of the CASR 1998.

operating flight crew member means a member of the minimum flight crew required for operation of an aircraft under its AFM.

portable, for an EFB, means designed by its manufacturer to be carried by hand, and carried by hand onto the flight deck of an aircraft by a flight crew member or an authorised EFB custodian, for use:

- (a) without a mount; or

- (b) when mounted in the flight deck by a flight crew member on an approved mount.

recognised foreign country has the same meaning as in regulation 21.012 of CASR 1998.

1.2 In this Appendix:

- (a) a reference to **training** is taken to include a reference to the contemporaneous assessment, by the trainer, of the person who has been trained; and
- (b) a reference to carrying a portable EFB **onto the flight deck of an aircraft** includes carrying the EFB off the flight deck after use.

1.3 For the definition of **functionality level**:

- (a) **functionality level 1** means that the EFB:
 - (i) is used to view the aeronautical maps, charts, and other aeronautical information and instructions mentioned in paragraph 233 (1) (h) of CAR 1988, but without the functionality to change any of that data; and
 - (ii) may have a flight planning tool to facilitate the use of the data mentioned in subparagraph (i); and
 - (iii) may be 1 or more of the following:
 - (A) subject to subparagraph (iv) — held in the hand;
 - (B) mounted on an approved mount;
 - (C) attached to a stand-alone kneeboard secured to a flight crew member;
 - (D) connected to aircraft power for battery re-charging;
 - (E) connected to an installed antenna intended for use with the EFB for situational awareness but not navigation; and
 - (iv) unless secured in accordance with sub-subparagraph (iii) (B) or (C) — must be stowed:
 - (A) during take-off and landing; and
 - (B) during an instrument approach; and
 - (C) when the aircraft is flying at a height less than 1 000 feet above the terrain; and
 - (D) in turbulent conditions; and
 - (v) has no data connectivity with the avionics systems of the aircraft; and
 - (vi) may have wireless or other connectivity to receive or transmit information for EFB administrative control processes only; and
- (b) **functionality level 2** means that the EFB:
 - (i) must have the functionality of functionality level 1; and
 - (ii) subject to subclause 1.4, has 1 or more software applications that use algorithms requiring manual input to satisfy operational requirements; and
 - (iii) has no data connectivity with the avionics systems of the aircraft; and
 - (iv) may have wireless or other connectivity to receive or transmit information for EFB administrative control processes only; and

Note Examples of “software applications that use algorithms requiring manual input to satisfy operational requirements” include weight and balance calculations, or performance calculations required by the aircraft’s approved flight manual.

- (c) **functionality level 3** means that the EFB has:
 - (i) the functionality of functionality levels 1 and 2; and

- (ii) 1 or more software applications that permit one-way only acceptance of data directly from the aircraft systems for use by the flight crew to satisfy operational requirements; and
- (iii) data connectivity with the avionics systems of the aircraft:
 - (A) on a one-way, read-only basis; or
 - (B) to receive or transmit information for aircraft administrative control processes only; and

Note For example, the link may be via Wi-Fi and as a data link must have system security.

- (d) **functionality level 4** means that the EFB has:
 - (i) the functionality of functionality levels 1, 2 and 3; and
 - (ii) 1 or more software applications that permit acceptance of data directly from the aircraft systems for direct input to the aircraft's flight management system to satisfy operational requirements; and
 - (iii) data connectivity with the avionics systems of the aircraft that:
 - (A) is secure; and
 - (B) does not have adverse effects on the avionic systems of the aircraft; and
 - (C) has High Intensity Radiated Fields and lightning protection; and
 - (D) is capable of being overridden by manual input in the event of an EFB malfunction or failure; and
 - (E) may receive or transmit information for aircraft administrative control processes.

Note This bi-directional link may be via wireless connectivity, for example, Wi-Fi, and system security must prevent external interference.

2 Software application validation

- 2.1 This clause applies for a software application (*SA*) of the kind mentioned in subparagraph (b) (ii) of the definition of **functionality level 2** in subclause 1.3 (including when functionality level 2 is adopted for functionality level 3 or functionality level 4).
- 2.2 Before first use of the SA, or after any updating of the SA, the AOC holder must:
 - (a) validate the output from the SA for the aircraft to ensure that it complies with the performance limitations set out in the AFM; and
 - (b) retain written evidence of the completion of this validation for the duration of the validation; and
 - (c) make the written evidence mentioned in paragraph (b) available to CASA on request.
- 2.3 If the SA is for use in weight and balance calculations for an aircraft, the suitability of the SA must be validated in writing by a weight control officer (within the meaning of Civil Aviation Order 100.7).

3 Permitted EFB

- 3.1 The AOC holder's operations manual (the **operations manual**) must clearly identify the EFB which the holder permits a flight crew member to use (a **permitted EFB**).
- 3.2 The identification of a permitted EFB in the operations manual must indicate its class and functionality level.

- 3.3 An AOC holder may make an EFB a permitted EFB for an aircraft only if he or she has first demonstrated and documented that the EFB is suitable for:
- (a) use in the aircraft for operational purposes, taking into account, for example, radiation, electromagnetic interference, and other electronic devices, instruments and equipment carried on, or installed in, the aircraft; and
 - (b) the operating conditions in which the EFB is to be used, including, for example, the expected ranges of temperature, humidity, lighting, turbulence and altitude.
- 3.4 The AOC holder must ensure that a flight crew member of an aircraft must not use an EFB other than a permitted EFB.
- 3.5 The AOC holder must issue each operating flight crew member with a permitted EFB for his or her exclusive use on the flight deck of an aircraft.
- 3.6 The AOC holder must ensure that, at the point of aircraft despatch, there is available on the flight deck and accessible to the pilot in command:
- (a) a backup EFB capable of substituting, in all respects, for the EFB of the most senior flight crew member to whom an EFB was issued; or

Note See Definitions in subclause 1.1.

- (b) paper versions of the latest editions of the documents mentioned in paragraph 233 (1) (h) of CAR 1988 for which the EFB of the pilot in command was intended to be a substitute.

- 3.7 Any requirements of this Appendix that apply to, or in relation to, flight crew EFB, also apply to a backup EFB.

Note To avoid doubt, a backup EFB does not require a further backup EFB.

4 EFB Administrator

- 4.1 The AOC holder must designate a person to be his or her EFB Administrator.
- 4.2 The EFB Administrator must be a person who has undergone training in the use, management and administration of a permitted EFB, as specified in the operations manual.
- 4.3 The AOC holder must ensure that the EFB Administrator has the authority and responsibility to manage and administer, on behalf of the AOC holder and in accordance with any requirements set out in the operations manual, the obligations imposed on the AOC holder under this Appendix, including in relation to:
- (a) the continuing accuracy of the identification, class and functionality level of the permitted EFB; and
 - (b) the currency, reliability and security of the permitted EFB and EFB system; and
 - (c) the validations required under clause 2 for a software application of the kind mentioned in subparagraph (b) (ii) of the definition of **functionality level 2** in subclause 1.3 (including when functionality level 2 is adopted for functionality level 3 or functionality level 4); and
 - (d) flight crew training for, and use of, a permitted EFB; and
 - (e) permitted EFB user obligations imposed on members of the flight crew by the operations manual; and
 - (f) human factors and flight deck resource management in relation to the use of a permitted EFB; and
 - (g) backup EFB; and

- (h) the validity of authorisations and certifications required for data link security for the permitted EFB system.
- 4.4 The EFB Administrator must be accountable to the AOC holder's HFO for:
 - (a) managing and administering flight crew use of a permitted EFB; and
 - (b) ensuring that the detailed operational procedures for the use of a permitted EFB are complied with.
- 4.5 To avoid doubt, the operations manual must set out relevant requirements for each of the matters mentioned in subclause 4.3.

5 EFB Administrator training

- 5.1 The AOC holder must establish, and set out in the operations manual:
 - (a) the nature, content and duration of the training that an EFB Administrator must have successfully completed before exercising responsibilities as the EFB Administrator; and
 - (b) the recurrent training that the EFB Administrator must complete while exercising those responsibilities.
- 5.2 The training and recurrent training must be:
 - (a) provided by a person approved in writing by the AOC holder; and
 - (b) specific for the functionality level and class of the permitted EFB.
- 5.3 The training and recurrent training must provide competency in the use, management and administration of a permitted EFB, including in the requirements and operational procedures set out in the operations manual and this Appendix.
- 5.4 Before approving a person to provide EFB Administrator training in permitted EFB, the AOC holder must establish that the training and recurrent training to be offered by the person complies with the recommendations set out for training in CAAP 233-1 (0) and later versions as in force from time to time.

6 Flight crew training

- 6.1 The AOC holder must establish, and set out in the operations manual, the nature, content and duration of the training that each flight crew member of an aircraft must have successfully completed before using a permitted EFB.
- 6.2 The training must be completed before a person may use the permitted EFB, and must include training in:
 - (a) the instructions and recommendations of the manufacturer of the permitted EFB as hardware; and
 - (b) the instructions and recommendations of the developer and installer of the permitted EFB's software; and
 - (c) the procedures to be followed if the permitted EFB carried on an aircraft fails or malfunctions during the operation of the aircraft.
- 6.3 If the pilot in command of an aircraft uses a permitted EFB as a means of only partially complying with paragraph 233 (1) (h) of CAR 1988, the training in the use of the EFB must ensure continuing flight crew proficiency in the non-EFB documents used to complement EFB use.
- 6.4 The training must be provided by a person approved by the HFO, and be specific for the functionality level and class of the permitted EFB.
- 6.5 In deciding to approve a person to provide flight crew training in permitted EFB, the HFO must be satisfied that the training to be offered by the person will meet the recommendations set out for training in CAAP 233-1 (0) and later versions as in force from time to time.

7 Certification of completion of EFB training

For clauses 5 and 6, the operations manual must require the AOC holder's HFO to certify in writing to the AOC holder that, for the following persons:

- (a) the EFB Administrator;
- (b) each flight crew member of an aircraft under the AOC who may use the permitted EFB;

the HFO is satisfied that the person:

- (c) has been trained and assessed in accordance with the operations manual; and
- (d) is competent:
 - (i) for the EFB Administrator — to manage and administer, in accordance with the requirements set out in the operations manual and this Appendix, flight crew use of the permitted EFB; and
 - (ii) for a flight crew member — to use a permitted EFB, in accordance with the requirements set out in the operations manual and this Appendix.

8 Hardware integrity for aircraft-installed EFB

The AOC holder must establish, and set out in the operations manual, procedures which make it clear that the EFB Administrator is not responsible for the management and administration of the hardware of, and that is associated with, an aircraft-installed EFB.

9 Hardware integrity for EFBs

9.1 Without affecting clause 8, the AOC holder must establish, and set out in the operations manual, procedures to safely manage the hardware of, and accessories for, a permitted EFB, including:

- (a) its removal, repair, replacement, re-installation and maintenance; and
- (b) its storage when off the aircraft, and its stowage when on the aircraft and not mounted.

9.2 For subclause 9.1, *hardware* and *accessories* include the following:

- (a) the electronic device constituting the hardware of the permitted EFB;
- (b) any mount for the EFB;
- (c) cables and antennae for the EFB;
- (d) screen protectors for the EFB;
- (e) batteries and other portable power sources for the EFB.

10 Data integrity for permitted EFBs

The AOC holder must establish, and set out in the operations manual, procedures for the following for a permitted EFB:

- (a) the loading of software on to the EFB (including who may do this and how it is to be done);
- (b) the entry of data into, and the verification of data in, the EFB (including who may do this and how it is to be done);
- (c) ensuring that any data loaded on to the EFB is current and up-to-date for any time that it is used in an aircraft operation;
- (d) protection of the EFB system, including protection of data in the EFB, and data links, from unauthorised use, electronic interference, corruption or viruses;
- (e) ensuring the tracking of the EFB database expiry dates, and ensuring the accurate and reliable updating of data bases;

- (f) flight crew error and defect reporting for the EFB;
- (g) procedures to be followed if a permitted EFB wholly or partially fails or malfunctions during an aircraft operation;
- (h) testing of the EFB following:
 - (i) the loading or unloading of software; or
 - (ii) EFB hardware maintenance; or
 - (iii) the occurrence of a circumstance mentioned in paragraph (g).

11 Flight crew procedures

The AOC holder must establish for a permitted EFB, and set out in the operations manual, flight crew procedures for the following:

- (a) who may use the EFB;
- (b) when the EFB may be used and the purposes for which it may be used;
- (c) how the EFB is to be used;

Note As defined above, EFB means both the hardware and the software of the device.

- (d) if there are 2 or more sources on board the aircraft for the same operational data, one of which is the permitted EFB of the flight crew — establishing the order of precedence for the use of the sources;
- (e) the cross-checks to be carried out by each flight crew member to verify EFB data before it is relied upon, in particular safety-critical EFB data;
- (f) how the following are to be avoided or minimised in the use of the EFB:
 - (i) flight crew member error;
 - (ii) flight crew member overload;
- (g) the power sources to be used for the EFB;
- (h) the backup data, data sources and power sources to be carried on board an aircraft for the contingency of an EFB or EFB power-source failure.

12 Maintenance control for EFB

- 12.1 The AOC holder must ensure that the hardware of a permitted EFB and an EFB system is maintained in accordance with this clause.
- 12.2 The AOC holder must establish, and set out in an appropriate document (for example, a maintenance control manual), detailed operational procedures for the maintenance control of a permitted EFB and EFB system.
- 12.3 The procedures must ensure that only the original manufacturer of the permitted EFB, or a person approved in writing by the original manufacturer, may maintain the hardware of a permitted EFB.
- 12.4 The procedures must ensure that only the original manufacturer of the permitted EFB, or a person approved in writing by the original manufacturer, may modify the operating system of the permitted EFB.
- 12.5 The procedures must ensure that only the original producer of a software application loaded on to a permitted EFB, or a person approved in writing by the original producer, may modify that software application for use on the EFB.

13 Safety paramount

- 13.1 The procedures to be included in the operations manual, and the appropriate document mentioned in subclause 12.2, in relation to EFBs must be designed to achieve the highest practicable level of safety in the use of the permitted EFB.

13.2 The AOC holder must ensure that each member of the holder's personnel who has obligations under the operations manual in relation to the permitted EFB or EFB system complies with those obligations.
