



**Australian Government**  
**Civil Aviation Safety Authority**

**Civil Aviation Order 20.11 (as amended)**

made under subregulations 207 (2), 252 (1) and 253 (5) of the *Civil Aviation Regulations 1988*.

This compilation was prepared on 2 February 2009 taking into account amendments up to *Civil Aviation Order 20.11 Amendment Order (No. 1) 2008*.

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**Section 20.11**

**Emergency and life saving equipment and passenger control in emergencies**

**1 Application**

This section applies to all Australian registered aircraft, except where otherwise specified in these Orders.

## 2 Definitions

In this section, unless a contrary intention appears:

**handicapped person** means a person requiring special attention because illness, injury, age, congenital malfunction, or other temporary or permanent incapacity or disability makes that person unable without special facilities or assistance to utilise air transport facilities and services as effectively as persons who are not so affected.

**land aircraft** means all aircraft other than amphibious aircraft when operating on water, helicopters equipped with fixed flotation equipment when operating on water, seaplanes and flying boats.

**portable megaphone** means a portable battery-powered megaphone that meets the performance standards set out in paragraph 6A.5.

## 3 Maintenance of emergency and lifesaving equipment

An operator must ensure that emergency and lifesaving equipment, carried or installed in an aircraft to meet the requirements of this section, is maintained in such condition that it will satisfactorily perform its design function.

## 5 Flotation equipment for overwater flights

### 5.1 Life jackets

5.1.1 Aircraft shall be equipped with 1 life jacket for each occupant when the aircraft is over water and at a distance from land:

- (a) in the case of a single engine aircraft — greater than that which would allow the aircraft to reach land with the engine inoperative; and
- (b) in the case of multi-engine aircraft — greater than 50 miles.

*Note 1* For the purposes of this paragraph, **land** shall mean land suitable for an emergency landing.

*Note 2* Except as specified in paragraph 5.1.2 below, the provisions of this paragraph need not apply to land aircraft departing from or landing at an aerodrome in accordance with a normal navigational procedure for departing from or landing at that aerodrome.

5.1.2 Land aircraft that carry passengers and are engaged in:

- (a) regular public transport operations; or
- (b) charter operations;

shall be equipped with a life jacket or flotation device for each occupant on all flights where the take-off or approach path is so disposed over water that in the event of a mishap occurring during the departure or the arrival it is reasonably possible that the aircraft would be forced to land onto water.

5.1.3 Where required by paragraph 5.1.1 or paragraph 5.1.2, a life jacket or individual flotation device shall be stowed at or immediately adjacent to each seat. In addition, sufficient additional life jackets or individual flotation devices shall be carried in easily accessible positions for use by infants or children for whom a life jacket or individual flotation device is not available at or adjacent to their seated position.

5.1.4 Amphibious aircraft when operating on water, helicopters equipped with fixed flotation equipment when operating on water, and all seaplanes and flying boats on all flights shall be equipped with:

- (a) 1 life jacket for each occupant; and
- (a) an additional number of life jackets (equal to at least one-fifth of the total number of occupants) in a readily accessible position near the exits.

5.1.5 Life jackets shall be so stowed in the aircraft that 1 life jacket is readily accessible to each occupant and, in the case of passengers, within easy reach of their seats.

- 5.1.6 Life jackets must:
- (a) comply with a standard approved by CASA; and
  - (b) be of an inflatable type; and
  - (c) except for an infant life jacket — have a whistle fitted in a suitable stowage.
- 5.1.7 Where life jackets are required to be carried in accordance with subparagraph 5.1.1 (a) each occupant shall wear a life jacket during flight over water. However, occupants of aeroplanes need not wear life jackets during flight above 2 000 feet above the water.
- 5.1.8 Where life jackets are required to be carried in accordance with paragraph 5.1.4 each occupant of a single engine aircraft shall wear a life jacket during flight over water when the aircraft is operated beyond gliding distance from land or water, as appropriate, suitable for an emergency landing. However, occupants need not wear life jackets when the aircraft is taking-off or landing at an aerodrome in accordance with a normal navigational procedure for departing from or arriving at that aerodrome, and occupants of aeroplanes need not wear life jackets during flight above 2 000 feet above the water.
- 5.1.9 Notwithstanding paragraph 5.1.8 above each occupant of a helicopter operating to or from an off-shore landing site located on a fixed platform or vessel shall wear a life jacket during the entire flight over water regardless of the class of operation or the one-engine-inoperative performance capability of the helicopter.

## **5.2 Life rafts**

- 5.2.1 An aircraft that is flown over water at a distance from land greater than the permitted distance must carry, as part of its emergency and lifesaving equipment, sufficient life rafts to provide a place in a life raft for each person on board the aircraft.
- 5.2.1.1 For the purposes of paragraph 5.2.1, the permitted distance is:
- (a) in the case of an aircraft that has:
    - (i) 4 engines; or
    - (ii) 3 turbine engines; or
    - (iii) 2 turbine engines and complies with section 20.7.1B;  
a distance equal to 120 minutes at normal cruising speed, or 400 miles, whichever is the less; or
  - (b) in any other case — a distance equal to 30 minutes at normal cruising speed, or 100 miles, whichever is the less.
- 5.2.2 Notwithstanding the requirements of paragraph 5.2.1, CASA may require the carriage of life rafts on such other overwater flights as CASA considers necessary.
- 5.2.3 Life rafts carried in accordance with paragraph 5.2.1 shall be in addition to life jackets carried in accordance with paragraphs 5.1.1 and 5.1.2.
- 5.2.4 Life rafts carried in accordance with this section shall be stowed so as to be readily accessible in the event of a ditching without appreciable time for preparatory procedures. When life rafts are stowed in compartments or containers, such compartments or containers shall be appropriately and conspicuously marked. Where life raft stowages have to be installed in aircraft to meet the requirements of this section, such stowages shall comply with the requirements of Part 101 appropriate to the certification of the aircraft concerned.
- 5.2.5 Life rafts must comply with a standard approved by CASA.

### 5.3 Helicopter flotation systems

- 5.3.1 A single engine helicopter engaged in passenger carrying charter operations shall be equipped with an approved flotation system whenever the helicopter is operated beyond autorotative gliding distance from land. However, when following a helicopter access lane prescribed in AIP-ERSA, or when departing from or landing at a helicopter landing site in accordance with a normal navigational procedure for departing from or landing at that site, an approved flotation system is not required.
- 5.3.2 A single engine helicopter engaged in regular public transport operations shall be equipped with an approved flotation system whenever the helicopter is operated beyond autorotative gliding distance from land.
- 5.3.3 A multi-engine helicopter engaged in passenger carrying charter or regular public transport operations over water and which is not operated in accordance with one-engine-inoperative accountability procedures shall be equipped with an approved flotation system.

## 6 Emergency signalling equipment

- 6.1 An aircraft required to carry life rafts under paragraph 5.2.1 or 5.2.2 must be fitted with, or carry, the following emergency signalling equipment:
- (a) when 1 life raft is carried — at least 1 approved ELT or 1 approved portable ELT;
  - (b) when more than 1 life raft is carried — at least:
    - (i) 1 approved ELT and 1 approved portable ELT; or
    - (ii) 2 approved portable ELTs;
  - (c) a supply of pyrotechnic distress signals.

*Note* If carrying an approved portable ELT to comply with this paragraph, CASA *recommends* an emergency position indicating radio beacon (an EPIRB).

- 6.2 A single engine aircraft must be fitted with, or carry, at least 1 approved ELT or 1 approved portable ELT if it is:
- (a) on a flight over water; and
  - (b) not required to carry a life raft under paragraph 5.2.1 or 5.2.2; and
  - (c) either:
    - (i) not equipped with radio communication equipment; or
    - (ii) not capable of continuous air-ground communication.

*Note* If carrying an approved portable ELT to comply with this paragraph, CASA *recommends* an emergency position indicating radio beacon (an EPIRB).

- 6.3 If an approved portable ELT that is carried is an emergency position indicating radio beacon (an EPIRB), it must be carried:
- (a) in, or adjacent to, a life raft; or
  - (b) adjacent to an emergency exit used for evacuation of the aircraft in an emergency.
- 6.4 If an approved portable ELT that is carried is a personal locator beacon (a PLB), it must be carried:
- (a) on the person of a member of the operating crew; or
  - (b) in, or adjacent to, a life raft; or
  - (c) adjacent to an emergency exit used for evacuation of the aircraft in an emergency.
- 6.5 The pilot in command of an aircraft must not begin a flight, and the operator must ensure that the flight is not begun, if an approved ELT or approved portable ELT on

board the aircraft for this subsection has not successfully undergone the periodic inspection and testing recommended for it by its manufacturer.

*Note* For the maintenance requirements for emergency locator transmitters see also Part 4A of the *Civil Aviation Regulations 1988*.

6.6 Before an approved ELT or approved portable ELT may be used in an aircraft for this subsection, it must be registered with the Australian Maritime Safety Authority.

6.7 In this subsection:

**approved ELT** has the same meaning as in subregulation 252A (7) of the *Civil Aviation Regulations 1988 (CAR 1988)*.

**approved portable ELT** has the same meaning as in subregulation 252A (7) of CAR 1988.

## **6A Portable megaphones**

6A.1 This subsection applies to an aircraft that:

(a) is engaged in:

(i) regular public transport operations; or

(ii) charter operations for the purpose of carrying passengers; and

(b) has a passenger seating capacity of more than 60 seats; and

(c) is carrying at least 1 passenger.

6A.2 An aircraft to which this subsection applies must carry:

(a) if it has a passenger seating capacity of less than 100 seats — 1 portable megaphone; or

(b) otherwise — 2 portable megaphones.

6A.3 If 1 megaphone is carried in an aircraft under this subsection, it must be kept in a place where it is readily accessible from a crew member's seat.

6A.4 If 2 megaphones are carried in an aircraft under this subsection, they must be distributed through the passenger cabin or cabins so as to be readily accessible to crew members.

6A.5 Each portable megaphone must meet the following performance standards:

(a) it must be able to perform its function throughout any flight on which it is carried; and

(b) it must be designed for ease of handling and use with 1 hand; and

(c) it must have a volume control or adequate acoustic feedback suppression.

## **7 Survival equipment**

7.1 An aircraft shall carry survival equipment for sustaining life appropriate to the area being overflown on the following flights:

(a) where the carriage of life rafts are required by paragraphs 5.2.1 and 5.2.2;

(b) during operations within or through the remote areas specified in Appendix III;

(c) on such other flights as may be directed by CASA.

## **8 Accessories for water operations**

8.1 Amphibious aircraft when operating over water and all seaplanes and flying boats shall carry at least 1 sea anchor (drogue) and appropriate fittings shall be provided for the attachment of the sea anchor to the aircraft.

## **9 Illumination of emergency exits**

- 9.1 Where an aircraft, which is equipped with an emergency lighting system in compliance with airworthiness directive Part 39-105 AD/General/4, is in flight and less than 1 000 feet above the terrain or on the ground with passengers on board, then either:
- (a) the emergency lighting system shall be switched on; or
  - (b) the normal cabin lights shall be switched on and the emergency lighting system shall be armed.

## **10 Emergency procedures**

- 10.1 The operator of an aircraft engaged on charter or regular public transport operations shall specify in the aircraft's operations manual the procedures for handling:
- (a) emergency decompression, where appropriate; and
  - (b) fire on the ground or in the air; and
  - (c) flight crew compartment impact drill; and
  - (d) emergency evacuation; and
  - (e) ditching, where appropriate.

## **11 Assignment of emergency duties**

- 11.1 The operator and, where appropriate, the pilot in command, of an aircraft engaged on charter or regular public transport operations shall assign to each category of required crew member, as appropriate, the necessary functions to be performed in an emergency or situation requiring emergency evacuation. These functions shall be realistic, practicable and such as to ensure that any reasonably anticipated emergency can be adequately handled and shall take into consideration the possible incapacitation of individual crew members.

## **12 Crew member proficiency in the execution of emergency procedures**

- 12.1 A crew member shall not be assigned or accept assignment to emergency duties in an aircraft engaged in a charter or a regular public transport operation unless he has undertaken and passed the proficiency test specified in Appendix IV of this section on that type of aircraft.
- 12.2 Subject to paragraph 12.6, the proficiency test shall be taken and passed annually.
- 12.3 Subject to paragraph 12.3.1, the proficiency test to be undertaken by a crew member of an aircraft is to be conducted by:
- (a) CASA; or
  - (b) a person approved by CASA for the purpose; or
  - (c) the person appointed as Chief Pilot by the operator of the aircraft.
- 12.3.1 To remove any doubt, it is stated that a Chief Pilot who is a crew member of an aircraft cannot conduct the proficiency test that, as a crew member, he or she is required to undertake.
- 12.4 Upon satisfactory completion of the proficiency test a certificate to the effect that the crew member has passed the test shall be issued to the operator by the person who conducted the test. A certificate issued under this paragraph shall be current for a period of twelve months after the date of issue thereof.
- 12.5 An operator shall retain all certificates issued to him in accordance with paragraph 12.4 and shall keep and maintain a record containing the following particulars:
- (a) the names of crew members who have undertaken the proficiency test;

- (b) the dates on which a member has undertaken the proficiency test;
- (c) the results of all proficiency tests undertaken by any crew member.

12.6 A proficiency test undertaken within a period of ninety days immediately preceding the expiry date of a certificate issued under paragraph 12.4 shall be deemed to have been undertaken on the expiry date of that certificate.

## **13 Cabin attendants**

### **13.1 Number of attendants**

Aircraft engaged in the carriage of passengers on regular public transport operations shall contain at least the number of cabin attendants specified in section 20.16.3.

### **13.2 Seating position**

At all times when they are required to wear seat belts cabin attendants shall be distributed uniformly throughout the passenger compartment or compartments, seated as near as practicable to emergency exits and each section of the aisle(s) shall be under the surveillance of at least 1 cabin attendant.

### **13.3 Training**

Cabin attendants shall not be assigned to emergency duties on an aircraft unless in addition to the requirements of subsection 12 they have been given instruction in the following on that aircraft:

- (a) a general description of the aircraft;
- (b) a knowledge of all crew member's assignment, functions and responsibilities during an evacuation or ditching;
- (c) briefing of passengers;
- (d) use of public address system, where fitted, and means of communicating with the cockpit; and
- (e) location and use of first aid equipment.

## **14 Briefing of passengers**

### **14.1 General**

14.1.1 The operator of an aircraft shall ensure that all passengers are orally briefed before each take-off on:

- (a) smoking, including the prohibition of smoking in toilets; and
- (b) the use and adjustment of seat belts; and
- (c) the location of emergency exits; and
- (d) the use of oxygen where applicable; and
- (e) the use of flotation devices where applicable; and
- (f) stowage of hand luggage; and
- (g) the presence on board of special survival equipment where applicable.

14.1.2 The operator of an aircraft shall ensure that a handicapped person, and the person assisting the handicapped person, if any, is given individual briefing appropriate to the needs of that person in the procedures to be followed in the event of emergency evacuation of the aircraft. The briefing should include which emergency exit to use and when to move to the exit. The person giving the briefing should also enquire as to the most appropriate manner of assisting the handicapped person so as to prevent pain or injury to that person.

- 14.1.3 The operator of a charter or regular public transport aircraft with a seating capacity of more than 6, including crew, shall supplement the oral briefing required by paragraph 14.1.1 with printed matter carried in convenient locations for the use of passengers and containing:
- (a) diagrams of the emergency exits and methods of operating; and
  - (b) other instructions necessary for the use of emergency equipment; and
  - (c) the brace position for emergency landing or ditching.
- 14.1.4 Each card required by paragraph 14.1.3 shall contain only information that is pertinent to the type and model aircraft being used for the flight. Different seating configuration for a particular aircraft may be included on 1 card providing the oral briefing includes advice of the configuration in use.
- 14.1.5 In the case of aircraft engaged on charter or regular public transport operations, the procedures to be followed in the briefing required by paragraph 14.1.1 shall be specified in the aircraft's operations manual or in another document specified in the operations manual.
- 14.1.6 Aircraft engaged on regular public transport operations with a passenger seating capacity of 10 seats or more shall be equipped with an approved and serviceable electronic public address system for the purpose of making announcements relative to emergency procedures. The system shall be an integral part of the aircraft and shall be accessible and capable of immediate operation by the pilot in command, the co-pilot or an appropriately trained crew member. The transmission shall be audible throughout the passenger cabin.

## **14.2 Overwater operations**

- 14.2.1 In addition to the oral briefing required by paragraph 14.1.1, the operator of an aircraft required to carry life jackets or other individual flotation devices, and where appropriate life rafts, in accordance with paragraphs 5.1.1, 5.1.2, 5.1.4, 5.2.1 and 5.2.2 shall ensure that all passengers are orally briefed by a crew member on the location and use of any individual flotation devices, including the method of donning and inflating a life jacket, and the location of life rafts. In the case of aircraft engaged on charter or regular public transport operations required to carry life jackets in accordance with paragraphs 5.1.1 or 5.1.4, this briefing shall include a demonstration of the method of donning and inflating a life jacket.
- 14.2.2 In the case of aircraft engaged on charter or regular public transport operations, the procedure to be followed in the briefing required by paragraph 14.2.1 shall be specified in the aircraft's operations manual or in another document called up by the operations manual.
- 14.2.3 Where an aircraft proceeds directly overwater after take-off, the briefing required by paragraph 14.2.1 shall be done before take-off.
- 14.2.4 Where the aircraft does not proceed directly overwater after take-off, no part of the briefing required by paragraph 14.2.1 need be given before take-off, but the complete briefing must be given before the aircraft reaches the overwater part of the flight.



## **15 Demonstration of emergency evacuation procedures**

### **15.1 Emergency evacuation requirements**

- 15.1.1 This subsection applies to an operator of a type and model of aircraft having a seating capacity of more than 44 passengers that is to be used in passenger carrying operations:
- (a) upon the initial introduction by the operator of that type and model of aircraft into passenger carrying operations; or
  - (b) if the operator's emergency evacuation procedures for that type and model have previously been accepted by CASA as satisfactory — upon increasing by more than 5% the passenger seating capacity of that type and model; or
  - (c) upon a major change in the passenger cabin interior configuration that will affect the emergency evacuation of passengers.
- 15.1.2 The type and model of aircraft must be shown to have satisfied the requirements of the United States Federal Aviation Regulations 25.803 (or any other requirements that CASA accepts as being of an equivalent standard) at the time it was granted its type certificate.
- 15.1.3 The operator must not operate that type and model of aircraft unless the operator has satisfied CASA that the evacuation procedures and training introduced by the operator will enable crew members to achieve an evacuation capability equivalent to that achieved when the type and model of aircraft satisfied the requirements of FAR 25.803 or other requirements accepted by CASA in accordance with paragraph 15.1.2.
- 15.1.4 For the purposes of paragraph 15.1.3, CASA may require the operator, under simulated emergency conditions, to carry out an evacuation of all or part of the full seating capacity, including the number of crew members required for the aircraft, in accordance with any conditions that it considers necessary.

### **15.2 Ditching demonstration**

- 15.2.1 Before each type and model of aircraft with a seating capacity of more than 44 passengers is used for the carriage of passengers on charter or regular public transport operations where life rafts are required by subsection 5 the operator shall unless specifically exempted by CASA, show by demonstration in accordance with Appendix II of this section that the ditching procedures allow for the removal of the rafts and the evacuation of the occupants from the aircraft in an orderly and expeditious manner. The exits selected for the demonstration shall be approved by CASA.
- 15.2.1.1 When considering whether to grant an exemption against the requirement for a ditching demonstration, CASA shall take into account the availability and realism of training equipment, ditching demonstrations carried out by the operator on similar aircraft types, and such other factors as he may consider relevant.
- 15.2.2 Where a significant re-arrangement is made in the location of the life rafts or in the passenger cabin interior configuration for which a successful demonstration has been conducted, the need for further demonstration shall be referred to CASA for consideration.

## **Appendix II**

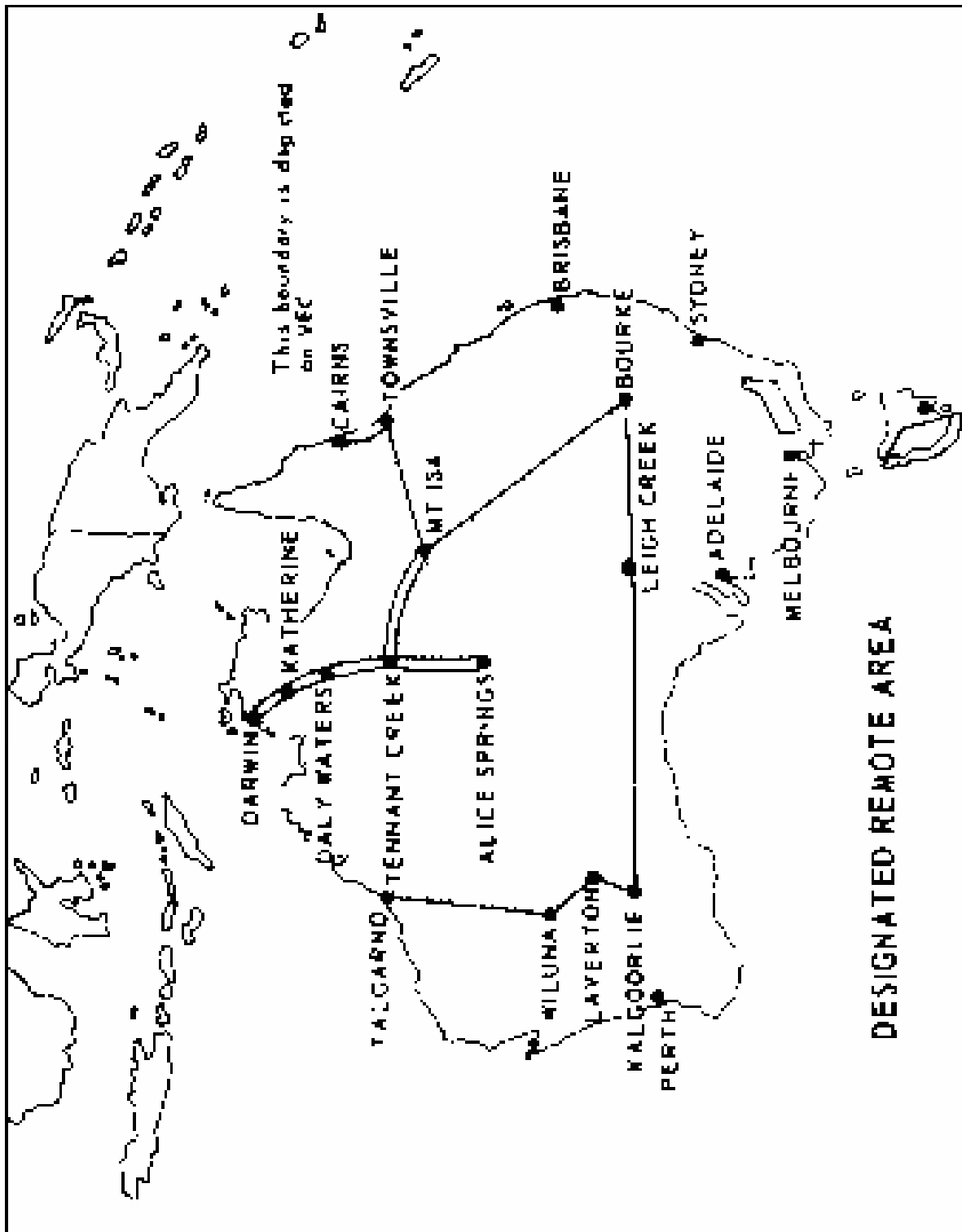
### **Criteria for ditching demonstration**

- 1 The demonstration may be done under daylight conditions.
- 2 The aircraft's normal electrical power sources shall be de-energised at the commencement of the evacuation.
- 3 The demonstration shall include the pre-ditching procedures prescribed in the relevant aircraft operations manual and full use shall be made of the emergency equipment normally available. Where rafts and accessories are relocated in accordance with these procedures, they shall be restrained so as to prevent them moving under the maximum accelerations to be expected in a ditching.
- 4 Not more than 50 per cent of the aircraft's emergency exits shall be used for the demonstration and they shall be representative of all the emergency exits on the aircraft. At least 1 exit used shall be a floor level exit. Exits not nominated for use in the demonstration shall be so indicated by red lights, red tape, or other acceptable means, placed outside the exits to indicate fire or other reason that the exits are unusable.
- 5 Platforms or stairs shall be placed at each emergency exit and adjacent to the wings for escape from overwing exits with the top of the platforms or stairs at a height simulating the water level following a ditching.
- 6 A crew complement not exceeding the number normally carried shall be on board the aircraft and each crew member shall be a member of a regularly scheduled line crew.
- 7 The seating density and arrangement of the aircraft shall be representative of the highest passenger version of that aircraft the operator operates or proposes to operate.
- 8 A representative passenger load of persons in normal health, none of them crew members, training personnel, aircraft engineers or traffic officers, shall be used. At least 10 per cent of the passengers shall be above 50 years of age, at least 30 per cent shall be above 40 years of age and at least 60 per cent shall be above 30 years of age. At least 30 per cent of the passengers shall be females prorated through the age group 18 years to 60 years and at least 5 per cent but no more than 10 per cent shall be children under 12 years of age, prorated through that age group. Three life-size dolls, in addition to the total passenger load, shall be carried by passengers to simulate infants 2 years old or younger. The clothing worn by the passengers shall be as normally worn when travelling by air.
- 9 No crew member or passenger shall have participated in an emergency evacuation demonstration within the preceding 6 months.
- 10 No crew member or passenger shall be given prior knowledge of the emergency exits available for the demonstration.
- 11 To prevent disclosure of the emergency exits to be used, either all passenger and cockpit windows shall be blacked out, or mats on the ground or the wings, or ramps or stands with stairs (or similar devices) at the wings, shall be placed at emergency exit positions in equal number on each side of the aircraft.
- 12 The operator shall not rehearse the demonstration for the participants, nor inform the passengers of the nature of the exercise except that they may be advised that they will be participating in an evaluation of safety procedures.

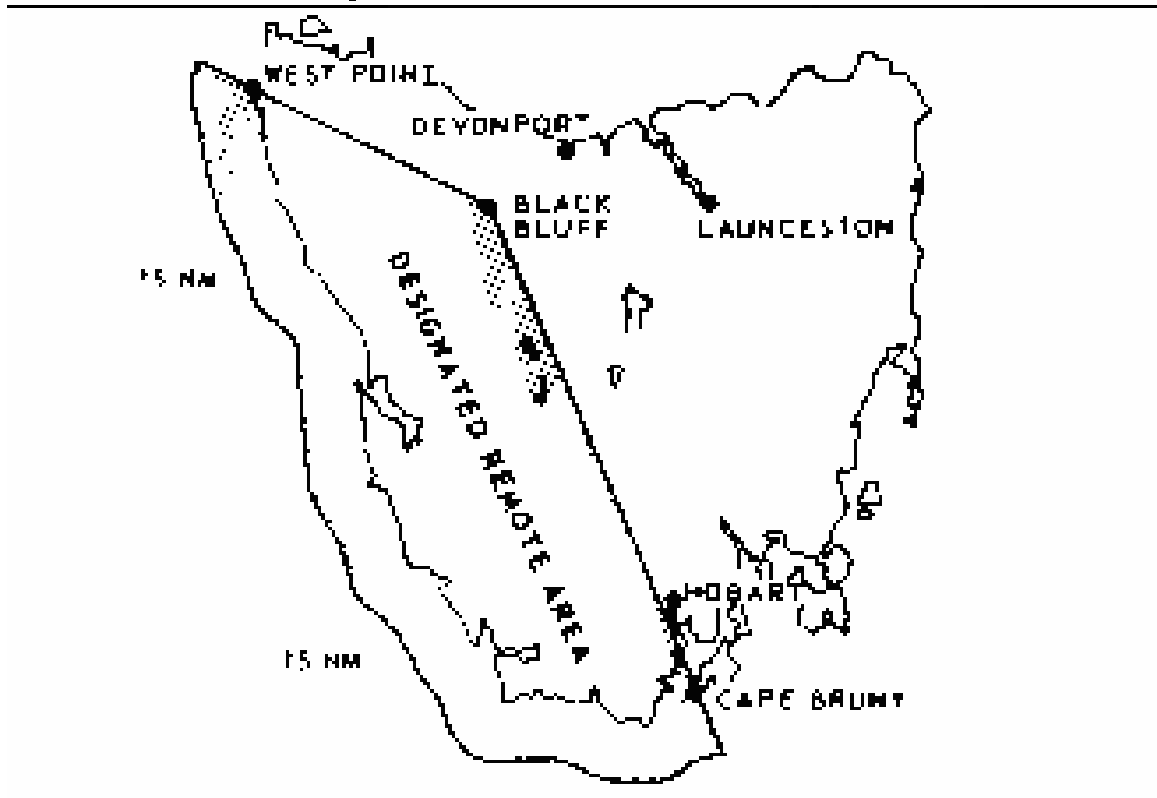
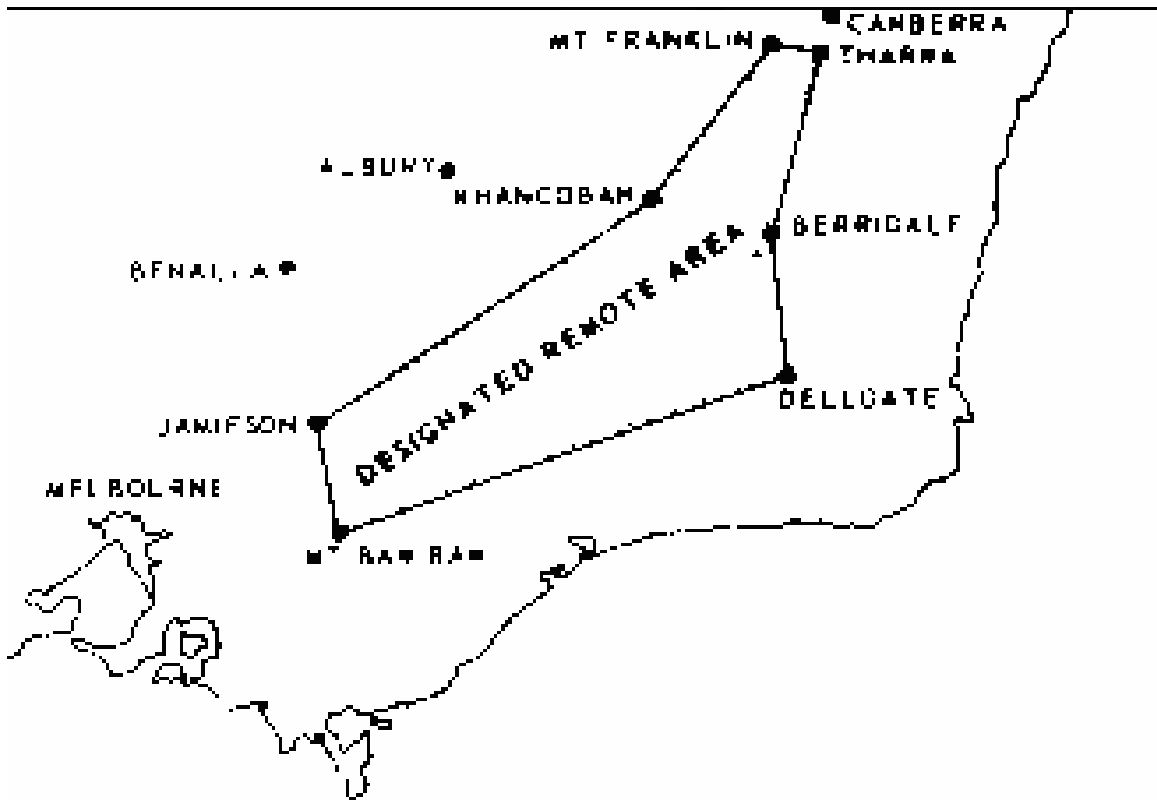
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- 13 Passengers shall not be assigned to specified seats but CASA may require that passengers be assigned to different seats.
- 14 All emergency equipment must be installed as for normal flight.
- 15 Each external door and exit, and each internal door or curtain, shall be in position as for normal flight.
- 16 Each crew member shall be in his/her seat normally assigned for a ditching prior to the commencement of the evacuation and shall remain seated until the signal to evacuate is given.
- 17 Each occupant shall don a life jacket before the commencement of the evacuation and shall wear the jacket when leaving the aircraft.
- 18 All the occupants shall have their safety belts and shoulder harnesses (where fitted) fastened at the time of the simulated ditching.
- 19 The demonstration shall include the removal of the rafts and accessories from the aircraft but the rafts and accessory packs need not be opened.

Appendix III



Note 3 Mainland within 50 n.m. of Darwin excluded from Designated Remote Area.



## Appendix IV

### Crew member emergency procedures proficiency test

The proficiency test shall cover all of those emergency procedures that the crew member may be called upon to perform. It shall include at least the following.

#### 1 Practical operation

- 1.1 **Emergency evacuation procedures.** Operation and use of each type of normal and emergency exit, evacuation slide and escape rope and procedures for evacuation.
- 1.2 **Fire extinguishing.** Method of operation of each type of portable fire extinguisher.
- 1.3 **Oxygen.** Methods of use of fixed and portable oxygen equipment.
- 1.3A **Portable megaphones.** Method of operation of each type of portable megaphone.
- 1.4 **Ditching procedures,** where applicable:
  - (a) fitting and inflation of life jackets and location and use of equipment stowed as part of the life jacket. Additionally, for initial qualification each crew member shall demonstrate competency in the use of the life jacket in the water; and
  - (b) removal from stowage, launching and inflation of life rafts. For initial qualification each crew member shall demonstrate proficiency in his or her assigned duties. Thereafter all crew members shall be given an annual demonstration of launching and inflation and shall demonstrate competency in boarding procedures and the use of the life raft and its equipment; and
  - (c) use of signalling equipment; and
  - (d) use of first aid kits.
- 1.5 Subject to the approval of CASA, realistic mock-ups of emergency equipment may be used. Where the replacing of a particular item of equipment such as rafts, exits, slides, etc., would involve an excessive amount of maintenance action an operator may, subject to the approval of CASA, provide a group demonstration of the operation of the equipment. In this event the group demonstration must be supported by an approved pictorial presentation. Each crew member must satisfy the person certifying to competency that he has an adequate knowledge of the emergency operation of equipment and, if necessary, that he has physically assessed the difficulty involved in operating it.
- 1.6 When operation or use of the emergency mechanism may cause damage to the aircraft or equipment or be a hazard to personnel an approved pictorial or simulated presentation may be used. For the proficiency test the crew member must satisfy the person certifying to competency that he has an adequate knowledge of the emergency operation of the mechanism.

#### 2 Theoretical knowledge

- 2.1 Fire extinguishing:
  - (a) a knowledge of the location and types of extinguishers carried and of fires for which each type of extinguisher should be used; and
  - (b) a knowledge of whether the contents of the fire extinguishers and the products of extinguishing fires are toxic or likely to adversely affect breathing; and
  - (c) any precautions to be observed in the operation of fire extinguishers.

- 2.2 Oxygen. Applicable to operations on pressurised aircraft and where the provision of oxygen is required.
- (a) A knowledge of the effects of altitude on:
    - (i) respiration; and
    - (ii) hypoxia; and
    - (iii) duration of consciousness at various altitudes without supplemental oxygen; and
    - (iv) gas expansion; and
    - (v) gas bubble formation.
  - (b) A knowledge of:
    - (i) the physical phenomena of decompression; and
    - (ii) precautions in use of oxygen; and
    - (iii) location of oxygen equipment carried.
- 2.3 Survival. Knowledge of survival methods on land and water, including stowage location of survival beacons, etc.
- 2.4 Control of passengers during emergencies including emergency evacuation:
- (a) methods of control, e.g. psychological, physical; and
  - (b) stowage location and correct use of restraint equipment; and
  - (c) handling of disabled passengers; and
  - (d) handling of deranged passengers and others whose conduct might jeopardise the safety of the aircraft; and
  - (e) action to be taken in the event of a hijack or attempted hijack.

## Notes to Civil Aviation Order 20.11

### Note 1

The Civil Aviation Order (in force under the *Civil Aviation Act 1988*) as shown in this compilation comprises Civil Aviation Order 20.11 amended as indicated in the Tables below.

#### Table of Orders

Year and number	Date of notification in <i>Gazette</i> / registration on FRLI	Date of commencement	Application, saving or transitional provisions
CAO 2004 No. R13	8 December 2004	8 December 2004 (see s. 2)	
CAO 20.11 2007 No. 1	FRLI 23 July 2007	24 July 2007 (see s. 2)	
CAO 20.11 2007 No. 2	FRLI 31 October 2007	1 November 2007 (see s. 2)	
CAO 20.11 2008 No. 1	FRLI 20 January 2009	1 February 2009 (see s. 2)	

#### Table of Amendments

ad. = added or inserted   am. = amended   rep. = repealed   rs. = repealed and substituted

Provision affected	How affected
s. 20.11	rs. 2004 No. R13
subs. 5	am. CAO 20.11 2007 No. 1; CAO 20.11 2007 No. 2
subs. 6	rs. CAO 20.11 2008 No. 1