



**WELLINGTON NEW ZEALAND**

**PURSUANT** to Section 28 of the Civil Aviation Act 1990

**I, MARK GOSCHE**, Minister of Transport,

**HEREBY MAKE** the following ordinary rules.

**SIGNED AT** Wellington

This *23<sup>rd</sup>* day of *May* 2002

by **MARK GOSCHE**

*John Young*  
*Associate Minister of Transport*  
Minister of Transport

**Civil Aviation Rules**

**Part 91, Amendment 7**

**General Operating and Flight Rules**

*Docket 97/CAR/1255*

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**Rule objective**

The objective of Part 91 Amendment 7 is to revise and update Part 91 General Operating and Flight Rules. The amendments are derived from editorial and legal corrections, issues raised since Part 91 came into force, and exemptions granted from the requirements of some of the Part 91 rules. It was then also necessary to make consequential amendments to Parts 1, 19, 104, 108, 121 and 135.

**Extent of consultation**

A Notice of Proposed Rulemaking 98-1 containing the amendment proposals was issued under Docket 97/CAR/1255 on 11 March 1998.

The publication of this NPRM was advertised in the daily newspapers in the five main provincial centres on 11 March 1998 and in the Gazette on 12 March 1998. The NPRM was published on the CAA web site and mailed to identified stakeholders including representative organisations who were considered likely to have an interest in the proposal.

A period of 36 days was allowed for comment on the proposed rules. Additional consultation on certain issues took place after the 36 day period with certain aviation industry members as well as with members of the CAA Industry Rules Advisory Group (CIRAG) executive. Pursuant to section 34 (1)(d) of the Act, the Environmental Risk Management Authority was consulted on 21 August 2001 in respect of the rules relating to the carriage and discharge of firearms on aircraft.

The submissions and verbal comments were considered and where appropriate the proposed rule was amended to take account of the comments made.

The amendment was then referred to and signed by the Minister of Transport.

**Examination of comments**

Comments may be examined by application to the Docket Clerk at Aviation House between 8:30 am and 4:30 pm on weekdays, except statutory holidays.

**Insertion of Amendments**

The amendments to the rules in this Part are reflected by the revocation of the existing rules and insertion of new rules.

**Effective date of rule**

Amendment 7 to Part 91 comes into force on 1 July 2002. Rule 91.509(a)(15) is however suspended until it is applied, by the Minister, by separate notice in the *Gazette*.

**Availability of rules**

Civil Aviation Rules are available from–

CAA web site: <http://www.caa.govt.nz/>

Freephone: 0800 GET RULES (0800 438 785)

## Part 91 Amendments

**91.7** Portable electronic devices *is revoked and replaced by the following:*

### **91.7** Portable electronic devices

(a) No person may operate, nor may any operator or pilot-in-command of an aircraft allow the operation of, any cellphone or other portable electronic device that is designed to transmit electromagnetic energy, on any aircraft while that aircraft is operating under IFR.

(b) Except as provided in paragraph (c), no person may operate, nor may any operator or pilot-in-command of an aircraft allow the operation of, any portable electronic device on any New Zealand registered aircraft flying under IFR during an instrument approach or departure procedure or during any other critical phase of flight.

(c) Paragraph (b) does not apply to—

- (1) hearing aids;
- (2) heart pacemakers;
- (3) portable voice recorders;
- (4) electric shavers;
- (5) electronic watches; or
- (6) any other portable electronic device if the operator of the aircraft has determined that the portable electronic device to be operated will not cause interference with any aircraft system or equipment in the aircraft on which it is operated.

(d) In the case of—

- (1) an aircraft being operated on air transport operations, the determination required by paragraph (c)(6) must be made by the operator of the aircraft on which the particular device is to be used; and

- (2) any other aircraft, the determination required by paragraph (c)(6) may be made by the pilot-in-command or the operator of the aircraft on which the particular device is to be used.

**91.9 Carriage and discharge of firearms is revoked and replaced by the following:**

**91.9 Carriage and discharge of firearms**

- (a) Except as provided in paragraphs (c) and (e), no person may—
  - (1) carry a firearm in an aircraft; or
  - (2) cause a firearm to be carried in an aircraft; or
  - (3) permit a firearm to be carried in an aircraft.
- (b) Except as provided in paragraph (d) no person may discharge a firearm while on board an aircraft.
- (c) A firearm may be carried in an aircraft if—
  - (1) the firearm—
    - (i) is stowed in a place that is inaccessible to every person during flight; and
    - (ii) is disabled; or
  - (2) the aircraft is being used solely for the carriage of the person or group of persons associated with the firearm; and—
    - (i) the operator permits the carriage of the firearm; and
    - (ii) the firearm is disabled; or
  - (3) the aircraft is carrying livestock and the operator considers it may be necessary to immobilise livestock for the safety of the aircraft or its occupants; or
  - (4) the aircraft is being used for the purpose of shooting or immobilising animals on the ground if—

- (i) the firearm is not loaded until the aircraft is in the area within which the firearm is intended to be discharged; and
  - (ii) the aircraft carries only those persons performing an essential function associated with the operation of the aircraft or the shooting or immobilisation of animals on the ground.
- (d) A firearm may be discharged—
  - (1) in an aircraft carrying livestock if a crew member considers it necessary to immobilise livestock for the safety of the aircraft or its occupants; or
  - (2) from an aircraft for the purpose of shooting or immobilising animals on the ground if—
    - (i) the discharge of the firearm does not pose a hazard or cause injury or damage to persons or property on the ground; and
    - (ii) the firearm is not discharged over any congested area of a city, town, or settlement or over any open air assembly of persons.
- (e) A firearm may be carried in an aircraft by a person employed by the police, another law enforcement agency, or a military service if—
  - (1) the aircraft is being operated on an air transport or commercial transport operation, carrying fare paying passengers and the person carrying the firearm—
    - (i) is lawfully entitled to carry a firearm in the course of their duties; and
    - (ii) is carrying the firearm in the course of their duties; and
    - (iii) has been approved to carry the firearm on the aircraft by the Director under paragraph (f); and



- (iv) complies with any conditions or restrictions imposed by the Director under paragraph (f); or
  - (2) the aircraft is being operated solely for the carriage of police officers, law enforcement officers, military personnel, and persons under the care of such officers or personnel, and the firearm is unloaded; or
  - (3) the aircraft is being operated for a police, law enforcement, or military operation, and only persons performing an essential function associated with the police, law enforcement, or military operation, or the operation of the aircraft, are carried in the aircraft.
- (f) Upon application from the Commissioner of Police, the head of any other law enforcement agency, or the Chief of the Defence Force, the Director—
- (1) may approve a police officer, a law enforcement officer, or a military service person to carry a firearm in an aircraft that is being operated on an air transport or commercial transport operation, carrying fare paying passengers, if the Commissioner of Police and the operator concerned consent to the carriage of a firearm in the aircraft; and
  - (2) may impose such conditions or restrictions as the Director considers appropriate; and
  - (3) must advise the applicant, the operator, and the Commissioner of Police of the decision.
- (g) Unless otherwise determined by the Director, an application for approval under paragraph (f) must be made, to the Director at least one working day before the air transport or commercial air transport operation is intended to commence.
- (h) Before the commencement of an air operation where a firearm will be carried in an aircraft by a person under paragraph (e)(1), the operator must inform the pilot-in-command of the number of persons carrying firearms and their position in the aircraft.

**91.101 Aircraft airworthiness is revoked and replaced by the following:**

**91.101 Aircraft airworthiness**

(a) Except as provided in paragraph (c), no person may operate an aircraft unless—

- (1) it has a current airworthiness certificate; and
- (2) it is in an airworthy condition.

(b) A person operating an aircraft issued with an airworthiness certificate under Part 21, Subpart H must comply with—

- (1) any operating limitations issued with the airworthiness certificate under 21.173(b); and
- (2) the markings and placards that are required by the Civil Aviation Rules to be displayed in the aircraft.

(c) A person may operate an aircraft without a current airworthiness certificate for the purpose of demonstrating the eligibility of the aircraft for the issue, renewal, or reinstatement of an airworthiness certificate if—

- (1) a type certificate or type acceptance certificate for the aircraft type is in force in accordance with Part 21 Subpart B; and
- (2) the aircraft complies with the requirements in 21.191; and
- (3) a person meeting the requirements in 43.101 certifies that the aircraft is fit for flight; and
- (4) the pilot-in-command is the holder of an appropriate, current pilot licence and type rating issued under Part 61 for the aircraft; and
- (5) no other person is carried unless that person performs an essential function in connection with the operation.

**91.105 Special category airworthiness certificates – Operating limitations is revoked and replaced by the following:**

**91.105 Special category airworthiness certificates – Operating limitations**

(a) Except as provided in paragraph (b), no person may operate an aircraft that has a special category airworthiness certificate for the carriage of persons or goods for hire or reward.

(b) Paragraph (a) does not apply to a person operating an aircraft for the carriage of persons for hire or reward where the person being carried is—

- (1) the holder of a flight instructor rating issued under Part 61; and
- (2) giving conversion instruction to the operator.

(c) Except in the case of take-off and landing, no person may operate an aircraft that has a special category airworthiness certificate over a congested area of a city or town unless the aircraft has been authorised to do so by the Director in writing.

(d) A person operating an aircraft that has a special category airworthiness certificate must advise each person carried in the aircraft of the category of airworthiness certificate held.

**91.111 Documents to be carried *is revoked and replaced by the following:*****91.111 Documents to be carried**

No person may operate an aircraft unless the following documents are carried in the aircraft:

- (1) except where 91.101(c) applies, the current airworthiness certificate or a certified copy of the current airworthiness certificate;
- (2) the aircraft flight manual;
- (3) for New Zealand registered aircraft, the technical log required under 91.629, unless for aircraft operating under an air operator certificate from a fixed base an alternative means

acceptable to the Director is used to inform the pilot of the maintenance status of the aircraft:

- (4) the certificate of registration, or a certified copy of the certificate of registration, for—
  - (i) New Zealand registered aircraft operating outside New Zealand; and
  - (ii) foreign registered aircraft when operating within New Zealand.

***Insert new rule 91.112 after rule 91.111:***

**91.112 Daily flight records**

(a) Except as provided in paragraph (c), an operator of an aircraft must keep accurate daily flight records that contain for each flight the following—

- (1) the name of the operator:
- (2) the name of the pilot-in-command:
- (3) the names of other crew members:
- (4) the registration markings of the aircraft:
- (5) the date of the flight:
- (6) the purpose of the flight:
- (7) the time of commencement of the flight:
- (8) the name of the departure aerodrome:
- (9) the flight time of the flight.

(b) An operator must retain each daily flight record for a period of 12 months after the date of the flight.

(c) A person required to keep daily flight records in accordance with 135.857 is not required to comply with paragraphs (a) and (b).

**91.115 Flight attendant requirements is revoked and replaced by the following:**

**91.115 Flight attendant requirements**

(a) Except as provided in paragraph (b), no person may operate an aircraft carrying more than 19 passengers unless the minimum number of flight attendants carried as crew members on the aircraft are as follows—

- (1) for aircraft carrying more than 19 but less than 51 passengers, at least one flight attendant;
- (2) for aircraft carrying more than 50 but less than 101 passengers, at least two flight attendants;
- (3) for aircraft carrying more than 100 passengers, at least two flight attendants plus one additional flight attendant per every 50 passengers carried in addition to the first 100 passengers carried.

(b) A flight attendant is not required to be carried—

- (1) in an aircraft that is carrying persons engaged in parachute operations; or
- (2) in a balloon; or
- (3) in a DHC6-300 or DHC6-310 aircraft type; or
- (4) in an aircraft when the only passengers being carried in excess of 19 are children under 4 years of age who are carried in accordance with 91.207(d)(1) and the total number of passengers does not exceed 24.

(c) No person may operate an aircraft carrying flight attendants who are not—

- (1) familiar with the necessary functions to be performed—
  - (i) in an emergency; and
  - (ii) in a situation requiring emergency evacuation; and

- (2) capable of using the emergency equipment installed in that aircraft.

**91.125 Simulated instrument flight *is revoked and replaced by the following:***

**91.125 Simulated instrument flight**

(a) Except as provided in paragraph (b), no person may operate an aircraft in simulated instrument flight unless—

- (1) the aircraft has two pilot stations and one pilot station is occupied by a safety pilot who is the holder of a current pilot licence; and
- (2) the safety pilot has—
  - (i) adequate vision forward and to each side of the aircraft; or
  - (ii) a competent observer to adequately supplement the vision of the safety pilot; and
- (3) the aircraft is equipped with—
  - (i) fully functioning dual controls; or
  - (ii) pitch, roll, yaw, and engine power controls that can be operated from either pilot station.

(b) A person may operate an aircraft in simulated instrument flight that does not comply with paragraph (a)(3) if—

- (1) the simulated flight is performed outside controlled airspace; and
- (2) the means of simulating instrument flight can be removed rapidly by the pilot-in-command.

**91.127 Use of aerodromes *is revoked and replaced by the following:***

**91.127 Use of aerodromes**

- (a) No person may use any place as an aerodrome unless that place is suitable for the purpose of taking off or landing of the aircraft concerned.
- (b) No person may operate an aircraft at an aerodrome unless—
- (1) that person complies with any limitations and operational conditions on the use of the aerodrome notified by the aerodrome operator; and
  - (2) the runway, heliport, or water channel, is equipped with operable lighting, appropriate to that type of aircraft, when landing or taking off at night, and the lighting is activated; and
  - (3) that person manoeuvres the aircraft clear of any manoeuvring area or part of any manoeuvring area that has been notified or marked as unsafe for aircraft use by the aerodrome operator; and
  - (4) the runway, heliport, or water channel, is clear of all persons, animals, vehicles, vessels, or other obstructions during landing or take-off, other than persons, vehicles, or vessels essential to the operation.
- (c) No pilot may operate an aircraft in an aerodrome traffic circuit unless the aircraft can be manoeuvred—
- (1) clear of any obstructions; and
  - (2) without conflicting with the aerodrome traffic circuit or instrument approach procedure of any other aerodrome.
- (d) In addition to fulfilling the requirements of paragraphs (a), (b), and (c), no person may operate a helicopter without ensuring that—
- (1) any place used as a heliport or as a place to hover within a congested area of a city, town, or settlement has—
    - (i) physical characteristics; and

- (ii) obstacle limitation surfaces; and
- (iii) visual aids—

commensurate with the ambient light conditions and the characteristics of the helicopter being operated; and

- (2) any place used as a heliport or as a place to hover that is outside a congested area of a city, town, or settlement—
  - (i) is suitable for the helicopter to hover clear of obstructions; and
  - (ii) for a heliport, has a surface area suitable for touchdown and lift-off; and
- (3) unless the helicopter is a performance Class 1 helicopter, any place used as a heliport or as a place to hover has such approach and take-off paths that an autorotative landing can be conducted without causing a hazard to any persons or property on the surface.

**91.129 Restricted and danger areas is revoked and replaced by the following:**

**91.129 Restricted and danger areas**

- (a) No pilot may operate an aircraft within a restricted area designated under Part 73 unless that pilot has approval to operate within that area from the controlling authority specified for the area under Part 73.
- (b) No person may operate an aircraft within a danger area designated under Part 73 unless that person has established, after due consideration of the type of activity for which that area is designated as a danger area, that the activity will not affect the safety of the aircraft.

**91.201 Safety of aircraft is revoked and replaced by the following:**

**91.201 Safety of aircraft**

A pilot-in-command of an aircraft must—



- (1) before operating the aircraft, be satisfied that the aircraft is airworthy and in a condition for safe flight, after—
  - (i) the documents required under 91.111 have been inspected; and
  - (ii) the aircraft has been inspected; and
- (2) during the flight, ensure the safe operation of the aircraft and the safety of its occupants; and
- (3) on completion of the flight, record in the technical log or other document acceptable to the Director any aircraft defects that are identified by the pilot-in-command during the flight.

**91.207 Occupation of seats and wearing of restraints *is revoked and replaced by the following:***

**91.207 Occupation of seats and wearing of restraints**

- (a) A pilot-in-command of an aircraft must require each passenger to occupy a seat or berth and to fasten their safety belt, restraining belt or, if equipped, shoulder harness or single diagonal shoulder belt—
  - (1) during each take-off and landing; and
  - (2) when the aircraft is flying at a height of less than 1000 feet above the surface; and
  - (3) at other times when the pilot-in-command considers it necessary for their safety; and
  - (4) during aerobatic flight; and
  - (5) at all times in an open cockpit aircraft.
- (b) A pilot-in-command of an aircraft may permit a passenger to unfasten a shoulder harness or single diagonal shoulder belt—
  - (1) during take-off and landing; and

- (2) when the aircraft is flying at a height of less than 1000 feet above the surface—

if the pilot-in-command is satisfied that such action is necessary for the passenger's performance of an essential function associated with the purpose of the flight.

(c) A pilot-in-command of an aircraft must require each passenger to place their seat in the take-off and landing configuration during take-off and landing.

(d) Paragraphs (a)(1), (2), and (3) do not apply to a child under 4 years of age if the child—

- (1) is held by an adult who is occupying a seat or berth, and the child is secured by a safety belt attached to the adult's safety belt; or
- (2) occupies a seat equipped with a child restraint system, if the child does not exceed the specified weight limit for that system and is accompanied by a parent, guardian, or by an attendant designated by the child's parent or guardian to attend to the safety of the child during the flight.

(e) Paragraph (a) does not apply to passengers carried in balloons or engaged in parachute operations.

**91.209 Use of oxygen equipment is revoked and replaced by the following:**

**91.209 Use of oxygen equipment**

(a) A pilot-in-command of an unpressurised aircraft must, during any time that the aircraft is being operated above 13 000 feet AMSL and during any period of more than 30 minutes that the aircraft is being operated between 10 000 feet and up to and including 13 000 feet AMSL, require—

- (1) each crew member and each passenger to use supplemental oxygen; and

- (2) each crew member to use portable oxygen equipment, including a regulator and attached oxygen mask, for any duty requiring movement from their usual station.
- (b) A pilot-in-command of a pressurised aircraft must—
- (1) during any time the cabin pressure altitude is above 10 000 feet AMSL, require—
    - (i) each crew member to use supplemental oxygen; and
    - (ii) each crew member to use portable oxygen equipment, including a regulator and attached oxygen mask, for any duty requiring movement from their usual station; and
  - (2) during any time the aircraft is being operated from flight level 350 up to and including flight level 410, require—
    - (i) one pilot at a pilot station to wear and use an oxygen mask that either supplies supplemental oxygen at all times or automatically supplies supplemental oxygen whenever the cabin pressure altitude exceeds 13 000 feet AMSL; or
    - (ii) two pilots to be at their pilot stations and each pilot to have access to an oxygen mask that can be placed on the face and supplying oxygen within 5 seconds; and
  - (3) during any time the aircraft is being operated above flight level 410, require one pilot at a pilot station to wear and use a demand oxygen mask at all times.
- (c) A pilot-in-command of a pressurised aircraft must, following pressurisation failure, require each passenger to use supplemental oxygen during any time that the cabin pressure is above 14 000 feet AMSL, unless the aircraft can descend to 14 000 feet AMSL or below within 4 minutes.

**91.211 Passenger briefing is revoked and replaced by the following:**

**91.211 Passenger briefing**

(a) A person operating an aircraft carrying passengers must ensure that each passenger has been briefed on—

- (1) the conditions under which smoking is permitted; and
- (2) the applicable requirements specified in 91.121 and 91.207; and
- (3) the location and means for opening the passenger entry doors and emergency exits; and
- (4) when required to be carried by this Part—
  - (i) the location of survival and emergency equipment for passenger use; and
  - (ii) the use of flotation equipment required under 91.525 for a flight over water; and
  - (iii) the normal and emergency use of oxygen equipment installed in the aircraft for passenger use; and
- (5) procedures in the case of an emergency landing; and
- (6) the use of portable electronic devices in accordance with 91.7.

(b) The briefing required under paragraph (a)—

- (1) must be given by the pilot-in-command, a member of the crew, a person nominated by the operator, or by a recorded presentation; and
- (2) must, for flights above FL 250, include a demonstration on the use of supplemental oxygen equipment; and
- (3) must include a demonstration on the use of life preservers when required to be carried by this Part; and

- (4) must include a statement, as appropriate, that Civil Aviation Rules require passenger compliance with lighted passenger signs and crew member instructions; and
  - (5) may be supplemented by printed cards for the use of each passenger containing—
    - (i) diagrams of, and methods of operating the emergency exits; and
    - (ii) other instructions necessary for the use of emergency equipment intended for use by passengers; and
  - (6) is not required if the pilot-in-command determines that all the passengers are familiar with the contents of the briefing.
- (c) Where printed cards are used in accordance with paragraph (b)(5), the operator must place them in convenient locations on the aircraft for the use of each passenger and ensure that they contain information that is pertinent only to the type and model of aircraft on which they are carried.

**91.215 Carriage of cargo is revoked and replaced by the following:**

**91.215 Carriage of cargo**

- (a) An operator must not permit cargo to be carried in an aircraft unless it is—
- (1) carried on a seat, in a cargo rack or bin, or in a cargo or baggage compartment; and
  - (2) properly secured by a safety belt or other restraining device having enough strength to ensure that the cargo does not shift under all normally anticipated flight and ground conditions; and
  - (3) packaged and covered to avoid injury to passengers.
- (b) An operator who permits the carriage of cargo in an aircraft must not permit cargo—

- (1) to exceed the load limitation for the seats, berths, or floor structure as prescribed by the aircraft flight manual, or by placards; or
- (2) to be located in a position that restricts the access to or use of any required emergency exit, or the use of the aisle between the crew and the passenger compartments.

**91.217 Preflight action is revoked and replaced by the following:**

**91.217 Preflight action**

Before commencing a flight, a pilot-in-command of an aircraft must obtain and become familiar with all information concerning that flight including—

- (1) where practicable, the current meteorological information; and
- (2) the fuel requirements; and
- (3) the alternatives available if the planned flight cannot be completed; and
- (4) any known or likely traffic delays that have been notified by ATS; and
- (5) the status of the communication and navigation facilities intended to be used; and
- (6) the current conditions of the aerodrome and runway lengths at aerodromes of intended use; and
- (7) any take-off and landing distance data contained in the aircraft flight manual; and
- (8) in the case of aircraft powered by two or more engines—
  - (i) engine inoperative procedures; and
  - (ii) one engine inoperative performance data.

**91.237 Aircraft speed is revoked and replaced by the following:**

**91.237 Aircraft speed**

(a) Except as provided in paragraph (b), a pilot must not operate an aircraft at an indicated speed of more than 250 kts below an altitude of 10 000 feet AMSL when—

- (1) that aircraft is operated IFR in Class D, E, F, or G airspace; or
- (2) that aircraft is operated VFR in Class C, D, E, F, or G airspace.

(b) Paragraph (a) does not apply when—

- (1) the minimum safe speed of the aircraft prescribed in the flight manual is more than 250 kts and the aircraft is operated at that minimum safe speed; or
- (2) the aircraft is being operated at an aviation event in accordance with 91.703.

**91.239 Altimeter settings is revoked and replaced by the following:****91.239 Altimeter settings**

(a) A pilot of an aircraft must maintain the cruising altitude or flight level of that aircraft by reference to an altimeter that is set—

- (1) when operating at or above flight level 130, to 1013.2 hPa; and
- (2) when operating at or below 11 000 feet, to the appropriate zone or aerodrome QNH altimeter setting; and
- (3) when operating between 11 000 feet and flight level 130, as authorised by ATC.

(b) A pilot of an aircraft must—

- (1) when ascending above 11 000 feet, set the altimeter to 1013.2 hPa; and

- (2) when descending through flight level 130, set the altimeter to the appropriate zone or aerodrome QNH.

**91.245 Operations in designated and classified airspace is revoked and replaced by the following:**

**91.245 Operations in designated and classified airspace**

(a) Unless ATC clearance has been obtained, a pilot-in-command of an aircraft must not enter controlled airspace classified under Part 71 as—

- (1) Class A, B, C, or D; or
- (2) Class E airspace, where the operation is performed under IFR, or under VFR at night.

(b) A pilot-in-command of an aircraft operating in Class A airspace must—

- (1) perform the operation under IFR; and
- (2) unless otherwise authorised by ATC, maintain two-way communications with ATC on the prescribed frequency.

(c) Unless otherwise authorised by ATC, a pilot-in-command of an aircraft operating in—

- (1) Class B, C, or D airspace; or
- (2) Class E airspace under IFR, or under VFR at night—

must maintain two-way radio communications with ATC on the prescribed frequency.

(d) Where different classes of airspace adjoin one above the other, at the common level, a pilot may comply with the requirements of the less restrictive class of airspace.

**91.247 Use of SSR transponder and altitude reporting equipment is revoked and replaced by the following:**



**91.247 Use of SSR transponder and altitude reporting equipment**

(a) Except as provided in paragraph (d), a pilot-in-command of an aircraft operating in transponder-mandatory airspace designated under Part 71 must, unless otherwise authorised or instructed by ATC—

- (1) operate the transponder, including Mode C or Mode S equipment if equipped; and
- (2) except where paragraph (3) applies or when operating Mode S equipment, set the transponder—
  - (i) to the code assigned by ATC for the flight; or
  - (ii) if not assigned a code by ATC, in accordance with Table 2; and
- (3) in the event of an in flight emergency, loss of radio communications, or an act of unlawful interference, set the transponder to the appropriate code in accordance with Table 3.

(b) No person may operate an aircraft with Mode S transponder equipment installed unless the Director has assigned that aircraft a unique Mode S address code.

(c) A pilot-in-command of an aircraft requesting an ATC authorisation to operate without a transponder must make the request to the ATC facility having jurisdiction over the relevant airspace within the following time periods:

- (1) for operation of aircraft with an operating transponder but without automatic pressure-altitude reporting equipment having a Mode C capability, the request may be made at any time;
- (2) for operation of an aircraft with an inoperative transponder to the flight planned destination aerodrome, including any intermediate stops, or to proceed to a place where suitable repairs can be made, the request may be made at any time:

- (3) for operation of an aircraft that is not equipped with a transponder, the request must be made at least 30 minutes before the start of the proposed operation.

(d) For formation flight, only one of the aircraft is required to operate a transponder in accordance with paragraph (a).

**Table 2.** Airspace SSR Codes

Flight rules	Type of aircraft	SSR Code
IFR	All	2000
VFR	Civil aeroplanes other than gliders	1200
VFR	Gliders or balloons	1300
VFR	Powered aircraft in designated general aviation areas	1400
VFR	Civil Helicopters	1500
VFR	Defence aeroplanes	6000
VFR	Defence helicopters	6077

**Table 3.** Emergency SSR Codes

Occurrence	SSR Code
Unlawful interference	7500
Loss of radio communication	7600
In flight emergency when no code has been allocated by ATC	7700

**91.249 Aircraft callsigns is revoked and replaced by the following:****91.249 Aircraft callsigns**

(a) When required to communicate by radiotelephony under the Civil Aviation Rules, a pilot-in-command of a New Zealand registered aircraft must use one of the following radiotelephony callsigns—

- (1) the telephony designator of the aircraft operating agency as approved by the Director, followed by the flight identification; or
- (2) the telephony designator of the aircraft operating agency as approved by the Director followed by the last three letters of the aircraft registration marking; or
- (3) the last three letters of the aircraft registration marking.

(b) Notwithstanding paragraph (a)(2), the pilot-in-command may, after establishing two-way communication with an appropriate ATS unit, use an abbreviated callsign consisting of the last three letters of the aircraft registration marking.

(c) The Director may only approve the callsigns prescribed in paragraphs (a)(1) and (2) for the use of—

- (1) the holder of an air operator certificate issued under Part 119 or Part 129 conducting—
  - (i) a regular air transport service; or
  - (ii) a search and rescue flight; or
  - (iii) a medical transfer or medical emergency flight; and
- (2) aircraft being flown on a police operation that is authorised by the Commissioner of Police.

(d) An applicant for the approval of a telephony designator must submit to the Director in writing the name of the aircraft operating agency and a payment of the appropriate application fee prescribed by regulations made under the Act.

**91.311 Minimum heights for VFR flights *is revoked and replaced by the following:***

**91.311 Minimum heights for VFR flights**

(a) Except as provided in paragraphs (b), (c), and (d), a pilot-in-command of an aircraft must not operate an aircraft under VFR—

- (1) over any congested area of a city, town, or settlement, or over any open air assembly of persons, at a height of less than 1000 feet above the highest obstacle within a horizontal radius of 2000 feet from the aircraft position; or
- (2) over any other area—
  - (i) at a height of less than 500 feet above the surface; or
  - (ii) at a horizontal distance of less than 500 feet from any obstacle, person, vehicle, vessel, or structure; and
- (3) for any operation, at a height less than that required to execute an emergency landing in the event of engine failure without hazard to persons or property on the surface.

(b) Paragraph (a) does not apply to a pilot-in-command of an aircraft—

- (1) conducting a take-off, or landing; or
- (2) conducting a bailed landing or discontinued approach; or
- (3) taxiing.

(c) Paragraph (a)(2) does not apply to a pilot-in-command of an aircraft if the *bona fide* purpose of the flight requires the aircraft to be flown at a lower height or at a lesser horizontal distance; and

- (1) the flight is performed without hazard to persons or property on the surface; and
- (2) only persons performing an essential function associated with the flight are carried on the aircraft; and
- (3) the aircraft is not flown at a height lower than that required for the purpose of the flight; and
- (4) the horizontal distance that the aircraft is flown from any obstacle, person, vessel, vehicle, or structure, is not less than that necessary for the purpose of the flight, except that in the case of an aeroplane, the aeroplane remains outside a horizontal radius of 500 feet of any person, vessel, vehicle, or structure that is not associated with the operation.

(d) Paragraph (a)(2)(i) does not apply to a pilot-in-command—

- (1) who is the holder of, or authorised by the holder of, a current instructor rating issued under Part 61 and who is conducting flight training or practice flights consisting of—
  - (i) simulated engine failure after take-off commencing below 1000 feet above the surface; or
  - (ii) simulated engine failure commencing above 1000 feet above the surface, providing that descent below 500 feet above the surface is conducted within a low flying area in accordance with 91.131; or
- (2) who is the holder of a current instrument rating issued under Part 61 and who is conducting IFR training, testing, or practice flights under VFR, providing the pilot-in-command conducts the flight in accordance with 91.413, 91.423 and 91.425; or

- (3) operating an aircraft within a low flying area in accordance with 91.131; or
- (4) operating an aircraft at an aviation event in accordance with 91.703.

**91.313 VFR cruising altitude and flight level is revoked and replaced by the following:**

**91.313 VFR cruising altitude and flight level**

(a) A pilot-in-command of an aircraft operating within the New Zealand FIR under VFR in level cruising flight at more than 3000 feet above the surface must, unless otherwise authorised by ATC, maintain the following altitudes or flight levels—

- (1) when operating at or below 11 000 feet AMSL and—
  - (i) on a magnetic track of 270° clockwise to 089°, any odd thousand foot altitude AMSL plus 500 feet; or
  - (ii) on a magnetic track of 090° clockwise to 269°, any even thousand foot altitude AMSL plus 500 feet; and
- (2) when operating at or above flight level 130, up to and including flight level 275, and—
  - (i) on a magnetic track of 270° clockwise to 089°, any odd flight level plus 500 feet beginning at and including flight level 135; or
  - (ii) on a magnetic track of 090° clockwise to 269°, any even flight level plus 500 feet beginning at and including flight level 145; and

(b) A pilot-in-command of an aircraft operating within the New Zealand FIR under VFR must not maintain level cruising flight—

- (1) at any level between 11 000 feet AMSL and flight level 130 unless otherwise authorised by ATC; and

- (2) at any flight level below flight level 140 when a zone QNH is 980 hPa or less.

**91.405 IFR alternate aerodrome requirement is revoked and replaced by the following:**

**91.405 IFR alternate aerodrome requirement**

(a) A pilot-in-command of an aircraft operating under IFR must list at least one alternate aerodrome in the flight plan unless—

- (1) the aerodrome of intended landing has a standard instrument approach procedure prescribed under Part 19; and
- (2) at the time of submitting the flight plan, the meteorological forecasts indicate, for at least 1 hour before and 1 hour after the estimated time of arrival at the aerodrome of intended landing, that—
  - (i) the ceiling at the aerodrome will be at least 1000 feet above the minima prescribed under Part 19 for the instrument procedure likely to be used; and
  - (ii) visibility will be at least 5 km, or 2 km more than the prescribed minima, whichever is the greater.

(b) A pilot-in-command of an aircraft must not list any aerodrome as an alternate on the IFR flight plan under paragraph (a) unless the meteorological forecasts at the time of submitting the flight plan indicate that, at the estimated time of arrival at the alternate aerodrome, the ceiling and visibility at that aerodrome will be at or above the following meteorological minima—

- (1) if an instrument approach procedure with alternate minima has been prescribed under Part 19 for the aerodrome, the specified alternate aerodrome minima for that instrument approach procedure; or
- (2) the following minima—
  - (i) for a precision approach procedure, a ceiling of 600 feet, or 200 feet above MDA, whichever is the higher,

and a visibility of 3000 metres, or 1000 metres more than the prescribed minima, whichever is the greater; and

(ii) for a non-precision approach procedure, a ceiling of 800 feet, or 200 feet above MDA, whichever is the higher, and a visibility of 4000 metres, or 1500 metres more than the prescribed minima, whichever is the greater; or

(3) if no instrument approach procedure has been prescribed under Part 19 for the alternate aerodrome, the ceiling and visibility minima prescribed under Part 91 Subpart D for VFR operation for descent below the minimum altitude for IFR flight prescribed under 91.423.

(c) A pilot-in-command of an aircraft must not list any aerodrome as an alternate aerodrome in the IFR flight plan under paragraph (a) unless that alternate aerodrome is equipped with a secondary electric power supply for—

(1) the ground based electronic navigation aids necessary for the instrument approach procedure to be used; and

(2) aerodrome lighting for night operations.

**91.407 IFR flight plan is revoked and replaced by the following:**

**91.407 IFR flight plan**

(a) A pilot-in-command of an aircraft must—

(1) submit a flight plan to an appropriate ATS unit prior to any flight under IFR; and

(2) unless otherwise authorised by ATS, submit the flight plan at least 30 minutes prior to the beginning of the flight; and

(3) unless otherwise authorised by ATS, include the following information in the flight plan—

(i) the identification of the aircraft to be used; and



- (ii) the type of aircraft to be used, and its wake turbulence category; and
  - (iii) the radio communications equipment, and the navigation and approach aid equipment in the aircraft to be used; and
  - (iv) the departure aerodrome and time of departure; and
  - (v) the cruising speed, altitude, and route; and
  - (vi) the aerodrome of destination, total EET, and any alternate aerodrome required by 91.405; and
  - (vii) any additional information required for ATS purposes; and
  - (viii) the fuel endurance; and
  - (ix) total number of persons carried in the aircraft; and
  - (x) emergency and survival equipment carried in the aircraft; and
- (4) advise the appropriate ATS unit, as soon as possible, of any delay exceeding 30 minutes in beginning the flight or departing from any aerodrome of intended landing; and
  - (5) terminate the flight plan as soon as practicable on completion of any flight at an aerodrome without ATS.
- (b) For the purpose of this rule, aircraft wake turbulence categories are defined in ICAO Doc 8643 as amended.

**91.409 Adherence to flight plan is revoked and replaced by the following:**

**91.409 Adherence to flight plan**

- (a) A pilot-in-command of an aircraft must, when an IFR flight plan has been submitted, adhere to that flight plan or the applicable portion of that flight plan, unless—

- (1) a request for change has been made and clearance obtained from an appropriate ATC unit; or
  - (2) an emergency situation arises which necessitates immediate action to deviate from the flight plan.
- (b) A pilot-in-command of an aircraft operating under IFR must, where practicable—
- (1) when on a route prescribed under Part 19, operate along the defined centre line of that route; or
  - (2) when on any other route, operate directly between the navigation facilities and points defining the route; or
  - (3) when on an area navigation route or parallel offset route, operate along the centreline of the route specified by ATS.
- (c) If a deviation from a flight plan is made under paragraph (a)(2), the pilot-in-command must notify an appropriate ATS unit as soon as practicable.

**91.415 Category II and III precision approach procedures is revoked and replaced by the following:**

**91.415 Category II and III precision approach procedures**

- (a) No person may operate an aircraft performing a Category II or III precision approach procedure unless—
- (1) each flight crew member has adequate knowledge of, and familiarity with, the aircraft and the procedures to be used; and
  - (2) the instrument panel in front of the pilot who is controlling the aircraft has appropriate instrumentation for the type of flight-control guidance system that is being used.
- (b) Except as otherwise authorised by the Director, no person may operate an aircraft performing a Category II or III precision approach procedure unless each ground component required for that operation, and the related airborne equipment, is installed and operating.

(c) For the purpose of paragraph (d), when the precision approach procedure being used provides for and requires the use of a DH, the authorised DH must be the highest of the following—

- (1) the DH prescribed by the instrument approach procedure; or
- (2) the DH prescribed for the pilot-in-command; or
- (3) the DH for which the aircraft is equipped.

(d) Except as otherwise authorised by the Director, a pilot of an aircraft performing a Category II or III precision approach procedure that provides for and requires the use of a DH may not continue the approach below the authorised DH unless the following conditions are met—

- (1) the aircraft is in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal manoeuvres, and that descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing; and
- (2) at least one of the following visual references for the intended runway is distinctly visible and identifiable—
  - (i) the runway threshold; or
  - (ii) the runway threshold markings; or
  - (iii) the runway threshold lights; or
  - (iv) the runway touchdown zone or touchdown zone markings; or
  - (v) the runway touchdown zone lights.

(e) Except as otherwise authorised by the Director, a pilot of an aircraft performing a Category II or III precision approach procedure must immediately execute a missed approach procedure whenever, prior to touchdown, the requirements of paragraph (d) are not met.

(f) No person performing a Category III precision approach procedure without a DH may land that aircraft except in accordance with the provisions of an authorisation issued by the Director.

**91.423 Minimum altitudes for IFR flights is revoked and replaced by the following:**

**91.423 Minimum altitudes for IFR flights**

Except when necessary for take-off or landing, a pilot-in-command must not operate an aircraft under IFR below—

- (1) the applicable minimum altitudes prescribed in Part 19; or
- (2) if no applicable minimum altitude is prescribed in that Part—
  - (i) in the case of operations over a mountainous area designated under Part 19, a height of 2000 feet above the highest obstacle within a horizontal radius of 5 nm from the track intended to be flown; or
  - (ii) in any other case, a height of 1000 feet above the highest obstacle within a horizontal radius of 5 nm from the track intended to be flown.

**91.425 IFR cruising altitude or flight level is revoked and replaced by the following:**

**91.425 IFR cruising altitude or flight level**

(a) A pilot-in-command of an aircraft within the New Zealand FIR operating under IFR in level cruising flight must, unless otherwise authorised by ATC for flights in controlled airspace, maintain the following altitude or flight levels—

- (1) when operating at or below 11 000 feet AMSL and—
  - (i) on a magnetic track of 270° clockwise to 089°, any odd thousand foot altitude AMSL; or
  - (ii) on a magnetic track of 090° clockwise to 269°, any even thousand foot altitude AMSL; and

- (2) when operating at or above flight level 130 but below flight level 410, and—
    - (i) on a magnetic track of 270° clockwise to 089°, any odd flight level beginning at and including flight level 130; or
    - (ii) on a magnetic track of 090° clockwise to 269°, any even flight level beginning at and including flight level 140; and
  - (3) when operating at or above flight level 410, and—
    - (i) on a magnetic track of 270° clockwise to 089°, any odd flight level, at 4000 foot intervals beginning at and including flight level 410; or
    - (ii) on a magnetic track of 090° clockwise to 269°, any odd flight level at 4000 foot intervals beginning at and including flight level 430.
- (b) Except as provided in paragraph (c), a pilot-in-command of an aircraft within the New Zealand FIR operating under IFR must not maintain level cruising flight—
- (1) at any level between 11 000 feet AMSL and flight level 130, unless authorised to do so by ATC for flights in controlled airspace; and
  - (2) at any flight level below flight level 140 when the zone\_QNH is 980 hPa or less; and
  - (3) below flight level 160 when operating in IMC within a 20 nm radius encompassing Mount Cook centred on 43°36' South and 170°09' East.
- (c) A pilot-in-command of an aircraft within the New Zealand FIR operating under IFR outside controlled airspace may maintain level cruising flight between 11 000 feet AMSL and flight level 130 if the pilot-in-command—

- (1) is unable to operate the aircraft in level cruising flight at or below 11 000 feet AMSL or at or above flight level 130; and
  - (2) has established that there is no conflict with other aircraft at the altitude to be flown; and
  - (3) has given prior notification of the altitude to be flown to an appropriate ATS unit.
- (d) A pilot-in-command of an aircraft must—
- (1) when ascending above 11 000 feet, set the altimeter to 1013.2 hPa; and
  - (2) when descending through flight level 130, set the altimeter to the appropriate zone or aerodrome QNH.

**91.429 IFR operations – radio communication failure *is revoked and replaced by the following:***

**91.429 IFR operations – radio communication failure**

- (a) Unless otherwise authorised by ATC, a pilot-in-command of an aircraft that has radio communications failure when operating under IFR in VMC flight conditions, or if VMC flight conditions are encountered after the failure, must continue the flight under VFR and land as soon as practicable at the nearest suitable aerodrome.
- (b) Unless otherwise authorised by ATC a pilot-in-command of an aircraft, that has radio communication failure when operating under IFR in IMC flight conditions or, that is operating in VMC flight conditions where the maintenance of such conditions is uncertain, must continue the flight in accordance with the flight plan, and;
  - (1) if the communication failure occurs during departure, maintain the last assigned level to the point specified then continue the flight in accordance with the flight plan;
  - (2) if the communication failure occurs during departure in the course of ATC radar vectoring, maintain the last assigned vector for two minutes while maintaining terrain clearance, then continue the flight in accordance with the flight plan;

- (3) if the communication failure occurs during the en route phase of the flight—
  - (i) track to the destination aid or fix specified by ATC or, if not specified, to the aid or fix for the anticipated instrument approach procedure, at the last assigned level; and
  - (ii) if necessary at or after the estimated time of arrival or expected approach time, descend in the holding pattern then commence the instrument approach procedure;
- (4) if the communication failure occurs on initial approach and the aircraft is not cleared for the approach by ATC, continue the procedure, if necessary, descending in the holding pattern to the last assigned altitude, maintaining that altitude until established on final approach then continue the instrument approach procedure;
- (5) if the communication failure occurs while the aircraft is operated under ATC radar vectoring during initial or intermediate approach, maintain the last assigned altitude until the aircraft is established on final approach then continue the instrument approach procedure;
- (6) if the communication failure occurs while the aircraft is being operated in a holding pattern and the weather is below instrument approach minima or the aerodrome is closed for any reason—
  - (i) continue in the holding pattern until the divert time notified to ATC; and
  - (ii) fly to the alternate aerodrome specified in the flight plan; and
  - (iii) conduct an instrument approach procedure to land at that aerodrome;

- (7) if the communication failure occurs during the operation of the aircraft in a missed approach procedure, conduct further instrument approaches up to a period of 30 minutes past expected approach time or estimated time of arrival, whichever is the later; and if the aircraft is unable to land within that 30 minute period, proceed to an alternate aerodrome specified in the flight plan and conduct an instrument approach procedure to that aerodrome.

**91.505 Seating and restraints is revoked and replaced by the following:**

**91.505 Seating and restraints**

(a) Except as provided in paragraph (b), each aircraft, other than a balloon, must be equipped with a—

- (1) seat or berth for each person on board; and
- (2) safety belt for each seat and restraining belts for each berth; and
- (3) shoulder harness for—
  - (i) each seat of an aircraft certificated for aerobatic flight; and
  - (ii) each crew member seat of an aircraft having a certificated seating capacity of 10 passenger seats or more; and
- (4) shoulder harness or a single diagonal shoulder belt for—
  - (i) each flight crew member seat of a helicopter; and
  - (ii) each flight crew member seat of an aeroplane engaged in flight training; and
  - (iii) each crew member seat of an aeroplane when that aeroplane is operated in accordance with 91.311(c).



(b) Notwithstanding paragraphs (a)(1) and (2), a seat, berth, safety belt, or restraining belt is not required for—

- (1) any child being carried in accordance with 91.207(d)(1); and
- (2) any passenger engaged in parachute operations.

**91.509 Minimum instruments and equipment is revoked and replaced by the following:**

**91.509 Minimum instruments and equipment**

(a) Each powered aircraft with an airworthiness certificate, except a powered glider, must be equipped with a means of—

- (1) indicating airspeed; and
- (2) indicating Mach number, if the speed limitation prescribed by the aircraft flight manual is expressed in terms of Mach number; and
- (3) indicating altitude in feet; and
- (4) indicating magnetic heading; and
- (5) indicating fuel contents, other than auxiliary fuel tank's contents; and
- (6) indicating engine revolutions of each engine; and
- (7) indicating oil pressure of each engine using a pressure lubricating system; and
- (8) indicating coolant temperature of each liquid-cooled engine; and
- (9) indicating oil temperature of each engine rated at over 250 brake horsepower using a pressure lubricating system; and
- (10) indicating manifold pressure of each supercharged, or turbocharged, engine or each engine fitted with a constant speed propeller; and

- (11) indicating cylinder head temperature of each air-cooled piston engine rated at over 250 brake horsepower; and
  - (12) indicating flap position, if flaps are fitted, unless the position of the flaps can be determined visually by the flight crew; and
  - (13) indicating landing gear position, if the aircraft has retractable undercarriage; and
  - (14) indicating the correct functioning of electrical power generation equipment; and
  - (15) subject to paragraphs (b) and (c), automatically recording and accumulating the time between each take-off and landing.
- (b) Paragraph (a)(15) does not apply to—
- (1) an aircraft in excess of 5700 kg MCTOW; or
  - (2) an aircraft that does not have finite life components.
- (c) The commencement of paragraph (a)(15) is suspended until it is applied by the Minister by notice in the *New Zealand Gazette*, such application being no sooner than 1 December 2002.
- (d) An aircraft equipped with a lockable door leading to any compartment normally accessible to passengers must be equipped with a means for the crew to unlock the door.

**91.513 VFR communication equipment is revoked and replaced by the following:**

**91.513 VFR communication equipment**

- (a) Unless authorised by ATC to operate under VFR without radio communication, an aircraft operating under VFR in controlled airspace classified under Part 71 as Class B, C, D, or in Class E airspace at night, must be equipped with radio communications equipment that—

- (1) meets level 1 or 2 standards specified in Appendix A, A.9; and
  - (2) is capable of providing continuous two-way communications with an appropriate ATC unit.
- (b) An aircraft operating under VFR outside controlled airspace must be equipped with radio communications equipment that meets level 1 or 2 standards specified in Appendix A, A.9 if the equipment is to be used for communication with any ATS unit.

**91.519 IFR communication and navigation equipment is revoked and replaced by the following:**

**91.519 IFR communication and navigation equipment**

- (a) An aircraft operating under IFR must be equipped with communication equipment that—
- (1) meets level 1 standards specified in Appendix A, A.9; and
  - (2) is capable of providing continuous two-way communications with an appropriate ATS unit or aeronautical telecommunications facility.
- (b) An aircraft operating under IFR must be equipped with a navigation system that—
- (1) meets level 1 standards specified in Appendix A, A.9; and
  - (2) will enable the aircraft to proceed in accordance with—
    - (i) the flight plan required under 91.407; and
    - (ii) the designated RNP airspace where applicable; and
    - (iii) the requirements of ATC.
- (c) An aircraft and aircraft navigation system operating in accordance with RNP performance requirements must be approved by the Director for operation on the applicable RNP routes and in RNP designated airspace.

(d) An aircraft operating in airspace with an MNPS designated under ICAO Doc 7030 must—

- (1) be equipped with navigation equipment capable of continuously indicating to the flight crew adherence to or departure from track, in accordance with the MNPS, at any point along that track; and
- (2) be approved by the Director for MNPS operations.

(e) An aircraft operating in airspace where a RVSM of 1000 feet is applied by ATC above flight level 290 must be—

- (1) approved by the Director for operation in the airspace concerned; and
- (2) equipped with equipment capable of—
  - (i) indicating to the flight crew the flight level being flown; and
  - (ii) automatically maintaining a selected flight level; and
  - (iii) for aircraft first issued with a type certificate before 1 January 1997, providing an aural and visual alert to the flight crew when a deviation of 300 feet from the selected flight level occurs; and
  - (iv) for aircraft first issued with a type certificate after 31 December 1996, providing an aural and visual alert to the flight crew when a deviation of 200 feet from the selected flight level occurs; and
  - (v) automatically reporting pressure altitude with the capability for switching to operate from either altitude measurement system referred to in paragraph (f).

(f) The equipment required in paragraph (e)(2)(i) must consist of at least two altitude measurement systems.

(g) In the event of the failure of any independent system for either communication or navigation purposes, an aircraft operating in RNP or

MNPS airspace must have the equipment required by paragraphs (a), (b), and (d)(1) installed in such number as to ensure that the remaining equipment will enable the aircraft to continue the flight in compliance with paragraphs (a), (b), and (d).

**91.525 Flights over water is revoked and replaced by the following:**

**91.525 Flights over water**

(a) An aircraft operated on overwater flights must be equipped with—

- (1) for single-engine aircraft, or multi-engine aircraft unable to maintain a height of at least 1000 feet AMSL with one engine inoperative, on flights more than gliding distance from shore, one life preserver for each person on board stowed in a position readily accessible from each seat or berth; and
- (2) for multi-engine aircraft capable of maintaining a height of at least 1000 feet AMSL with one engine inoperative, on flights more than 50 nm from shore, one life preserver for each person on board stowed in a position readily accessible from each seat or berth; and
- (3) for single engine aircraft, or multi-engine aircraft unable to maintain a height of at least 1000 feet AMSL with one engine inoperative, on flights of more than 100 nm from shore—
  - (i) sufficient liferafts with buoyancy and rated capacity to accommodate each occupant of the aircraft; and
  - (ii) a survival locator light on each liferaft; and
  - (iii) a survival kit, appropriately equipped for the route to be flown, attached to each liferaft; and
  - (iv) at least one pyrotechnic signalling device on each liferaft; and
  - (v) one ELT(S) or one EPIRB; and

- (4) for multi-engine aircraft capable of continuing flight with one or more engines inoperative, on flights of more than 200 nm from shore, the equipment specified in paragraph (a)(3); and
  - (5) for aircraft in excess of 5700 kg MCTOW, on flights more than 200 nm from shore, the equipment specified in paragraph (a)(3) and an additional ELT(S) or EPIRB.
- (b) Liferrafts, life preservers, and signalling devices must be installed in conspicuously identified locations and must be easily accessible in the event of a ditching of the aircraft.

**91.527 Aircraft operations on water is revoked and replaced by the following:**

**91.527 Aircraft operations on water**

An aircraft operating on water must be equipped with—

- (1) one life preserver for each person on board, stowed in a position readily accessible from each seat or berth; and
- (2) for each aircraft in excess of 5700 kg MCTOW, one sea anchor.

**91.529 Emergency locator transmitter is revoked and replaced by the following:**

**91.529 Emergency locator transmitter**

- (a) Except as provided in paragraphs (b), (c), (d), (e), and 121.353(b), no person may operate an aircraft that does not have an automatic ELT installed.
- (b) An aircraft may be ferried from the place where possession of the aircraft was taken to a place where the automatic ELT is to be installed if no passengers are carried on the aircraft.
- (c) An aircraft with an inoperative automatic ELT may be ferried from a place where repairs or replacement cannot be made to a place where the repairs or replacement can be made if no passengers are carried on the aircraft.

- (d) An aircraft with an inoperative automatic ELT may be operated for a period of seven days inclusive if the aircraft is equipped with a portable ELT that is accessible to each person on board the aircraft.
- (e) Paragraph (a) does not apply to—
- (1) any aircraft equipped with no more than one seat, if the pilot is equipped with a portable ELT; or
  - (2) any glider in which at least one person carried in the glider is equipped with a portable ELT; or
  - (3) any glider, or powered aircraft equipped with no more than one seat, where the glider or aircraft is operated no more than 10 nm from the aerodrome from which the glider or aircraft took off; or
  - (4) any microlight aircraft; or
  - (5) any manned free balloon.

**91.537 Inoperative instruments and equipment *is revoked and replaced by the following:***

**91.537 Inoperative instruments and equipment**

- (a) Except as provided in paragraph (b), an aircraft with inoperative instruments or equipment must not be operated unless—
- (1) an MEL has been approved for that aircraft in accordance with 91.539; and
  - (2) the aircraft records available to the pilot include an entry describing the inoperative instruments and equipment; and
  - (3) the aircraft is operated in accordance with all applicable conditions and limitations contained in the MEL.
- (b) Aircraft that do not exceed 5700 kg MCTOW and do not have a MEL approved under 91.539 may be operated under this Part with inoperative instruments and equipment if the inoperative instruments and equipment—

- (1) are not—
  - (i) instruments and equipment prescribed for VFR day certification in the applicable airworthiness requirements under which the aircraft was type certificated; or
  - (ii) required by this Subpart for specific operations; or
  - (iii) required by an airworthiness directive to be in operable condition; and
- (2) are placarded **Inoperative** and the required maintenance recorded in accordance with Part 43.

**91.541 SSR transponder and altitude reporting equipment is revoked and replaced by the following:**

**91.541 SSR transponder and altitude reporting equipment**

(a) Unless otherwise authorised or instructed by ATC, an aircraft operating in transponder mandatory airspace designated under Part 71 must be equipped with a SSR transponder having—

- (1) Mode 3/A 4096 code capability replying to Mode 3/A interrogations with the code specified by ATC; and
- (2) Mode C capability that automatically replies to Mode C interrogations by transmitting pressure altitude information in 100 foot increments.

(b) An aircraft operating in airspace where Mode S transponder equipment is required must be equipped with a transponder with Mode S capability, replying to—

- (1) Mode 3/A interrogations with the code specified by ATC; and
- (2) intermode; and
- (3) Mode S interrogations.



**91.605 Required inspections** *is revoked and replaced by the following:*

**91.605 Required inspections**

- (a) No person may operate an aircraft unless it has been inspected—
- (1) in accordance with 91.607, 91.609, 91.611, 91.613, and 91.615; or
  - (2) for the issue of an airworthiness certificate in accordance with Part 21 within—
    - (i) the preceding 12 calendar months; or
    - (ii) the preceding 100 hours time in service,whichever period is first completed.
- (b) Unless specifically prohibited by another Civil Aviation Rule, an Airworthiness Directive issued under the Act, or a manufacturer's requirement, the inspection periods specified in 91.607, 91.609, 91.611, 91.613, and 91.615 may be extended by up to 10% to allow—
- (1) accomplishment of an inspection during other scheduled maintenance; or
  - (2) completion of the delivery of an aircraft to the place where the inspection can be done.
- (c) When applying the provisions of paragraph (b)—
- (1) the extension that is applied must be recorded in the appropriate maintenance record; and
  - (2) the period to the next required inspection must begin on the first day of the extension period.

**91.609 Radio station tests and inspections** *is revoked and replaced by the following:*

**91.609 Radio station tests and inspections**

No person may operate an aircraft under IFR unless any radio station required to be installed in that aircraft by Part 91 Subpart F for that type of operation has been tested and inspected in accordance with Part 43, Appendix B within the preceding 24 calendar months.

**91.611 Altimeter system and altitude reporting equipment tests and inspections *is revoked and replaced by the following:*****91.611 Altimeter system and altitude reporting equipment tests and inspections**

No person may operate an aircraft unless any static pressure system, altimeter instrument, or automatic pressure altitude reporting system required to be installed in that aircraft by Part 91 Subpart F has been tested and inspected in accordance with Part 43, Appendix D—

- (1) within the preceding 24 calendar months; and
- (2) following any opening and closing of the static pressure system, except for the use of system drain and alternate static pressure valves, or where self sealing disconnect coupling is provided; and
- (3) following installation of, or maintenance on, the automatic pressure altitude reporting system where data correspondence error could be introduced.

**91.621 Maintenance programmes *is revoked and replaced by the following:*****91.621 Maintenance programmes**

- (a) An operator of—
  - (1) an aircraft with a MCTOW greater than 5700 kg; or
  - (2) a turbine-powered multi-engine aircraft; or
  - (3) a turbine-powered rotorcraft; or
  - (4) an aircraft issued with a special category airworthiness certificate—

must ensure that the aircraft, including the airframe, engines, propellers, rotors, appliances, survival equipment, and emergency equipment, is maintained in accordance with a maintenance programme listed in paragraph (b)(1).

- (b) The operator of an aircraft described in paragraph (a) must—
- (1) use one of the following programmes for the maintenance of the aircraft:
    - (i) a current maintenance programme approved under Part 119; or
    - (ii) a current maintenance programme recommended by the manufacturer; or
    - (iii) a maintenance programme established by the operator of that aircraft and, except as provided in paragraph (c), approved under 91.623; and
  - (2) identify the maintenance programme to be used under paragraph (b)(1) in the aircraft maintenance records; and
  - (3) identify in the maintenance programme to be used under paragraph (b)(1) the person responsible for scheduling the maintenance that is required in the programme; and
  - (4) when changing from one maintenance programme listed in paragraph (b)(1) to another, schedule the inspections required by the new programme to provide for the continued airworthy condition of the aircraft; and
  - (5) provide a copy of the maintenance programme to be used under paragraph (b)(1) to the person performing maintenance on the aircraft and, upon request, to the Director.
- (c) A maintenance programme for an aircraft requiring a special category airworthiness certificate must be approved by the Director at the time of issue of the airworthiness certificate in accordance with Part 21.

**91.625 Changes to maintenance programmes is revoked and replaced by the following:**

**91.625 Changes to maintenance programmes**

(a) An operator must, upon the Director's request, make any revisions to a maintenance programme found by the Director to be necessary to satisfy the continuing airworthiness requirements of that programme.

(b) An operator discontinuing a maintenance programme approved under 91.623 must—

- (1) notify the Director in writing of the discontinuation, within 7 days of the discontinuation; and
- (2) either—
  - (i) complete the inspections required by 91.605(a); or
  - (ii) re-schedule the inspections required by 91.605(a) from the last complete inspection of the aircraft; or
  - (iii) if changing to another maintenance programme approved under 91.623, schedule the inspections required by the new programme to provide for the continued airworthy condition of the aircraft.

**91.627 Maintenance records is revoked and replaced by the following:**

**91.627 Maintenance records**

(a) An operator of an aircraft, except a Class 1 microlight aircraft, must ensure that for each airframe, engine, propeller, rotor, and appliance of an aircraft, the following records are compiled—

- (1) accurate records of all maintenance performed including—
  - (i) a description of the work; and
  - (ii) the date of completion of the work; and

- (iii) the signature, and certificate number of the person approving the aircraft for return to service; and
- (2) accurate records containing the following information—
- (i) the total time in service of the airframe, each engine, each propeller, and each rotor; and
  - (ii) the current status of parts of each airframe, engine, propeller, rotor and appliance of an aircraft that have a finite life; and
  - (iii) the time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis; and
  - (iv) the current maintenance status of the aircraft, including the time since the last inspection required by the maintenance programme under which the aircraft is maintained; and
  - (v) the current status of each applicable AD including the AD number, the revision date, the means of compliance, and if the AD involves recurring action, the time and date when the next action is required; and
  - (vi) a list of current major modifications and major repairs to each airframe, engine, propeller, rotor, and appliance; and
  - (vii) the time since the last annual review of airworthiness or maintenance review.
- (b) The records required in paragraph (a) may be kept in plain language form or in coded form provided that the coded form provides for the preservation and retrieval of information in a manner acceptable to the Director.

**91.631 Retention of records is revoked and replaced by the following:**

**91.631 Retention of records**

An operator of an aircraft must retain—

- (1) the records specified in 91.627(a)(1) until the work is repeated or superseded by other work of equivalent scope and detail, or for five years after the work is performed, whichever occurs first; and
- (2) the records specified in 91.627(a)(2) and 91.629 for twelve months after the relevant aircraft or aircraft component is withdrawn from service; and
- (3) a list of discrepancies furnished to an operator under 43.109 or 43.157 until the discrepancies are corrected and the aircraft is certified for return to service.

**Amendments to Part 91 Appendices**

**Appendix A.3 Seating** *is revoked and replaced by the following:*

**A.3 Seating**

Each seat and berth must meet the requirements of TSO C25 or TSO C39 as applicable.

**Appendix A.4 Restraints** *is revoked and replaced by the following:*

**A.4 Restraints**

- (a) Each safety belt must—
  - (1) meet the requirements of—
    - (i) TSO C22; or
    - (ii) ISO/FIA 8853; or
    - (iii) FIA 8854; or
  - (2) be proof loaded to 50% of the rated strength required by those standards every twelve months if the identification labels required by the standards in paragraph (a)(1) are missing.

- (b) Each torso restraint must meet the requirements of TSO C114.
- (c) If a shoulder harness is fitted with an inertia reel, the inertia reel must meet the requirements of US Military Specification MIL-R-8236.

**Appendix A.5 Child restraint systems *is revoked and replaced by the following:***

**A.5 Child restraint systems**

A child restraint system must—

- (1) be secured to the aircraft seat or berth by a safety belt meeting the requirements of TSO C22; and
- (2) not be fitted with a tether strap that secures the top of the infant or child seat; and
- (3) meet the requirements of—
  - (i) TSO C100; or
  - (ii) New Zealand Standard 5411; or
  - (iii) Australian Standard 1754; or
  - (iv) United States Standard FMVSS 213; or
  - (v) European Standard ECE 44.

**Appendix A.6 Aircraft lights *is revoked and replaced by the following:***

**A.6 Aircraft lights**

- (a) Each aircraft anticollision light system must comprise—
  - (1) a red rotating beacon; or
  - (2) an aviation red or aviation white capacitor discharge light that meets the requirements of—
    - (i) TSO C96; or

- (ii) the minimum standards of the applicable aircraft design; or
  - (iii) another standard acceptable to the Director.
- (b) For an aircraft that was first issued with a type certificate before 11 August 1971 the anticollision light system must meet the requirements of FAR Part 23, 25, 27, or 29 as applicable, except that the colour may be either aviation red or aviation white.
- (c) Aircraft position lights must—
- (1) meet the requirements of TSO C30; and
  - (2) consist of—
    - (i) an unobstructed steady red light projected above and below the horizontal plane through an angle from dead ahead to 110 degrees left; and
    - (ii) an unobstructed steady green light projected above and below the horizontal plane through an angle from dead ahead to 110 degrees right; and
    - (iii) an unobstructed steady white light projected above and below the horizontal plane rearward through an angle of 140 degrees equally distributed on the left and right sides.

**Appendix A.9 Communication and navigation equipment is revoked and replaced by the following:**

**A.9 Communication and navigation equipment**

- (a) Except as provided in paragraph (c), radio communication and navigation equipment must meet the requirements of—
- (1) for Level 1—
    - (i) communication equipment, one of the following TSO as applicable: C31, C32, C37, C38, or C50; or



- (ii) navigation equipment, one of the following TSO as applicable: C34, C35, C36, C40, C41, C60, C94, or C129; or
  - (iii) British Civil Aviation Publication (CAP) 208 Category WR, VC, or LA Class I; or
  - (iv) Australian Airborne Radio Navigation Publication No. 50 (Pub 50) Class I; or
- (2) for Level 2, CAP 208 Category LA Class II; or
- (3) for Level 3 CAP 208 Category LA Class III or Category G; or
- (4) for Level 4—
  - (i) the requirements of the Radio Communications (Radio) Regulations 1993; and
  - (ii) compass safe distances determined in accordance with British Standard 3G,100: Part 2, Section 2.
- (b) Where two independent radio communication systems are required—
  - (1) each system must have an independent antenna; or
  - (2) the two systems may use a single rigidly supported non-wire antenna.
- (c) Notwithstanding paragraph (a), the following equipment meets the radio communication equipment requirements for operations in gliders, amateur built aircraft, and microlights, provided the equipment installation conforms to acceptable technical data, and the transceiver is connected to a half-wave antenna permanently mounted on the aircraft—
  - (1) equipment listed in CAP 208 Category G(a); or

- (2) any other equipment shown by a test programme and accepted by the Director as capable of meeting the applicable requirements of CAP 208.

**Appendix A.10 RNP, MNPS, and VSM equipment is revoked and replaced by the following:**

**A.10 RNP, MNPS, and VSM equipment**

Navigation systems and equipment installed for operation in RNP, MNPS, or VSM airspace must—

- (1) meet the performance requirements of ICAO Regional Supplementary Procedures Doc 7030 applicable to the airspace and routes being flown; and
- (2) for RNP operations, consist of two independent LRNS comprising INS, IRS/FMS, or GPS; and
- (3) meet the equipment and functional requirements—
  - (i) for operation in RNP airspace, contained in the ICAO Manual on Required Navigation Performance (RNP) Doc 9613; or
  - (ii) for operation in airspace designated with a VSM of 1000 feet above flight level 290, contained in the ICAO Manual on Implementation of a 300m (1000ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive Doc 9574.

**Appendix A.14 Emergency equipment is revoked and replaced by the following:**

**A.14 Emergency equipment**

(a) Each life preserver must have a light that meets the requirements of TSO C85 and—

- (1) for inflatable life preservers—
  - (i) a minimum inflated buoyancy of 150 newtons; and

- (ii) manually operated CO<sub>2</sub> inflation with oral top up; and
  - (2) for constant wear anti-exposure coveralls, a minimum inherent buoyancy of 75 newtons provided by non-flammable closed cell buoyancy foam.
- (b) Each life preserver must meet the requirements of—
  - (1) for inflatable life preservers—
    - (i) TSO C13; or
    - (ii) European Norm EN 396; or
    - (iii) Maritime rule 42A.18, made pursuant to the Maritime Transport Act 1994; or
  - (2) for constant wear anti-exposure coveralls, US Coastguard Type V PFD.
- (c) Each liferaft must meet the requirements of TSO C70 and contain a survival kit.
- (d) Each survival kit must include—
  - (1) one canopy; and
  - (2) one radar reflector or flare kit; and
  - (3) one liferaft repair kit; and
  - (4) one bailing bucket; and
  - (5) one signalling mirror; and
  - (6) one whistle; and
  - (7) one raft knife; and
  - (8) one compressed gas bottle for emergency inflation; and
  - (9) one inflation pump; and

- (10) one 25 m retaining line; and
  - (11) one magnetic compass; and
  - (12) one dye marker; and
  - (13) one flashlight having at least two 'D' cells or equivalent; and
  - (14) one fishing kit; and
  - (15) two oars or two glove paddles; and
  - (16) a two day supply of food rations supplying at least 1000 calories per day for each person the raft is rated to carry; and
  - (17) 1200 mls of water for every two persons the raft is rated to carry, or one sea water desalting kit; and
  - (18) one first aid kit suitable for treatment of minor injuries; and
  - (19) one book on survival appropriate for the area over which the aircraft is operated; and
  - (20) a sea anchor; and
  - (21) a water collection bag or cups.
- (e) Each survival locator light must meet the requirements of TSO C85.

***Appendix A.15 Emergency locator transmitters is revoked and replaced by the following:***

**A.15 Emergency locator transmitters**

- (a) Except as provided in paragraph (f), each automatic ELT must meet the requirements of—
- (1) TSO C91a for transmitting on 121.5 MHz; or
  - (2) TSO C126 for transmitting on 406 MHz.

- (b) Each automatic ELT must—
- (1) be attached to the aircraft in such a manner that—
    - (i) the probability of damage in the event of an accident or impact is minimised; and
    - (ii) mounting is to primary load-carrying structure but does not degrade the structural capability of the aircraft; and
    - (iii) a force of 450 newtons applied to the mount in the most flexible direction will not cause a static deflection greater than 2.5 mm relative to a section of adjacent structure located between 0.3 m and 1.0 m from the mount site; and
    - (iv) the transmitter and any external antenna can support a 100 g load in the plus and minus directions of the three principal axes of the aircraft; and
    - (v) the transmitter and any external antenna are as close to each other as possible; and
    - (vi) for fixed and deployable automatic type transmitters, the ELT is as far aft as possible; and
  - (2) have its crash activation sensor—
    - (i) located to prevent inadvertent operation; and
    - (ii) axis orientated to sense a primary crash pulse along the longitudinal axis of the aircraft; and
  - (3) have its antenna mounted—
    - (i) to provide vertical polarisation with the aircraft in normal flight; and
    - (ii) for an external antenna, no closer than 0.6 m from any other VHF aerial unless specified by the manufacturer; and

- (iii) for an internal antenna, exposed to a window at least 0.3 m square and insulated from metal parts; and
  - (4) be fitted with vibration proof RF connectors on each end of the transmitter-antenna coaxial cable; and
  - (5) have its location identified near the point of access.
- (c) Each ELT(S) and EPIRB must—
  - (1) be self buoyant; and
  - (2) be water resistant; and
  - (3) be portable.
- (d) Each ELT(S) must meet the requirements of—
  - (1) TSO C91a; or
  - (2) TSO C126.
- (e) Each EPIRB must meet the requirements of—
  - (1) Australian/New Zealand Standard AS/NZS 4330:2000; or
  - (2) Australian Ministerial Standard MS241.
- (f) Each automatic ELT or ELT(S) installed prior to 1 April 1997 must—
  - (1) meet the requirements of TSO C91 or TSO C91a; and
  - (2) when the automatic ELT or ELT(S) becomes unserviceable, be replaced with an automatic ELT meeting the requirements of TSO C91a or TSO C126.
- (g) For the purposes of paragraph (f)(2), an automatic ELT or ELT(S) is not considered unserviceable when performing the maintenance required by 91.615.

- (h) A portable ELT must be stowed in the aircraft so as to ensure that it is readily accessible to each person in the event of an emergency.
- (i) Each portable ELT must meet the requirements of—
  - (1) TSO C91a for ELT(S) equipment; or
  - (2) TSO C126 for ELT(S) equipment; or
  - (3) Australian/New Zealand Standard AS/NZS 4330:2000; or
  - (4) Australian Ministerial Standard MS241.

**Appendix A.18 Crew member on-demand oxygen masks *is revoked and replaced by the following:***

**A.18 Crew member on-demand oxygen masks**

- (a) Each crew member on-demand oxygen mask must meet the requirements of TSO C78.
- (b) Each on-demand oxygen mask for flight crew members must, without causing undue delay in proceeding with emergency duties, be—
  - (1) capable of being placed on the face with one hand from the stowed position; and
  - (2) properly secured, sealed, and capable of supplying oxygen upon demand within five seconds; and
  - (3) able to provide for—
    - (i) the use of corrective eyeglasses without undue impairment of vision or loss of protection; and
    - (ii) communication by interphone with each flight crew member while in their normally seated position; and
    - (iii) communication between each of two flight crew member stations and at least one crew member station in each passenger compartment.

**Appendix A.19 Oxygen equipment is revoked and replaced by the following:**

**A.19 Oxygen equipment**

(a) Flight crew member oxygen equipment must provide an oxygen flow rate—

- (1) for continuous flow equipment, that is the greater of—
  - (i) 2 litres per minute STPD; or
  - (ii) that which will maintain a MTOPP of 149 mm Hg when breathing 15 litres per minute BTPS with a tidal volume of 700 millilitres; and
- (2) for on-demand equipment—
  - (i) up to 35 000 feet, not less than that which will maintain a MTOPP of 122 mm Hg; and
  - (ii) above 35 000 feet, not less than 20 litres per minute BTPS; and
  - (iii) above 41 000 feet, that progressively increases until not less than 15 mm Hg above ambient pressure and 30 litres per minute BTPS is achieved at 45 000 feet; and
- (3) for protective equipment, of 30 litres per minute BTPD at a pressure altitude of 8 000 feet.

(b) Crew member and passenger oxygen equipment must provide an oxygen flow rate of—

- (1) from 10 000 feet to 18 500 feet, not less than that which will maintain a MTOPP of 100 mm Hg when breathing 15 litres per minute BTPS with a tidal volume of 700 millilitres; and
- (2) from 18 500 feet to 40 000 feet, not less than that which will maintain a MTOPP of 83.8 mm Hg when breathing 30 litres per minute BTPS with a tidal volume of 1 100 millilitres; and



- (3) from 40 000 feet to 45 000 feet, not less than that which will maintain a MTOPP of 55 mm Hg when breathing 30 litres per minute BTPS with a tidal volume of 1100 millilitres.
- (c) Portable oxygen equipment must provide an oxygen flow rate of not less than—
- (1) 2 litres per minute STPD on a low setting; and
  - (2) 4 litres per minute STPD on a high setting.
- (d) On-demand oxygen regulators must meet the requirements of TSO 89.

**Appendix A.22 Transponder equipment is revoked and replaced by the following:**

**A.22 Transponder equipment**

Each SSR transponder must meet—

- (1) the requirements of TSO C74c; or
- (2) for Mode S capable equipment, the appropriate class of TSO C112.

**Appendix A.23 Altitude encoder equipment is revoked and replaced by the following:**

**A.23 Altitude encoder equipment**

Each altitude encoder must meet the requirements of TSO C88.

## Summary of comments

(These statements do not form part of the rules contained in Part 91. They provide details of the consultation undertaken in making the rules)

### General

Visual and instrument procedures for IFR flight are currently prescribed under Part 19. Part 91 has been amended and any reference to either Part 95 or Part 97 has been changed to Part 19. The associated notes referring to Parts 95, 97 and 19 have been deleted.

The coming into effect of several rules, including Parts 71, 73, and 172, requires the removal of the associated notes in Part 91. All these notes relating to rules already in force are revoked.

### 91.7 Portable electronic devices

A general exemption was granted from the requirement of the existing paragraph (c)(3) on the basis that the requirement was clearly unreasonable and that the risk to safety would not be significantly increased by the granting of the exemption.

The exemption has a proviso which states that *“no person shall operate, nor shall any operator or pilot-in-command of an aircraft allow the operation of, any portable electronic device on any New Zealand registered aircraft during critical phases of flight under IFR unless the operator of the aircraft has determined that the portable electronic device to be used will not cause interference with the navigation or communication equipment of the aircraft on which it is used.”*

A petition for rule making has been submitted by Air New Zealand and a number of other airlines proposing to amend this rule. The petition has been accepted and the proposed amendment is included in this NPRM. The proposed amendment is based on recommendations made by the RTCA following their research into the matter. The CAA supports the amendment but considers that in paragraph (b)(6), *navigation and communication equipment* should be replaced with *any aircraft system or equipment* to capture critical items such as an auto-pilot. It is also accepted that provision should be made for the pilot to assess equipment on Part 91 operations and paragraph (d) is added to the proposed amendment in the petition.

**One commenter** stated that the rule has double or treble negatives apart from an overkill of ‘ands’. This commenter also stated that the rule is incredibly difficult to follow and suggested that it be simplified.

**CAA response:** The CAA has amended paragraphs (b)(6) and (d) and believes that it is no longer difficult to follow.

**Several commenters** noted that paragraph (b)(6) as it is written does not make sense.

**CAA response:** The CAA agrees and has amended (b)(6) to read correctly.

**Air New Zealand – Flight Operations** stated that 91.7(d) also appears to be incorrectly worded and suggested that ‘or aircraft type’ be added to ‘operator of the aircraft’ so that an individual check of each aircraft registration is not required.

**CAA response:** The CAA disagrees with the suggestion. The way the rule is written does not preclude an aircraft operator making a determination for an aircraft type.

**The Guild of Air Pilots and Air Navigators (GAPAN)** supported the proposal but suggested that the words ‘the navigation or communications equipment’ be changed to read ‘any aircraft system or equipment’.

**CAA response:** The CAA has amended the wording as proposed.

**Taupo Air Services** supported the changes to this rule.

**Rural Aviation (1963) Limited** stated that the way this section is interpreted it will prohibit the use of cellular phones in aircraft operating under IFR and that this cannot and will not be accepted by the aviation industry. They also suggested that paragraph (b) should apply to all portable electronic devices under all phases of IFR flight.

**CAA response:** The CAA disagrees with the suggested change. Cellular phones emit considerable electromagnetic energy which can have a significant effect on navigation and communication equipment in all phases of flight. However, a cellular phone may be used in an aircraft

flying under IFR provided that the cellular phone is properly installed by an approved modification, has an external antenna, and has been tested to ensure it has no effect on aircraft systems. Once installed the cellular phone is considered to be an ‘installation’ rather than a ‘portable electronic device’ and is therefore not subject to the prohibition in 91.7.

### **91.9 Carriage and discharge of firearms**

The requirements of 19.351 have been transferred to this rule and the provisions for the carriage and discharge of firearms clarified.

The rule permits the carriage and discharge of firearms under specific conditions and with specific permissions.

#### **Specific comments on Rule 91.9**

**One commenter** stated that the rule is over complicated and difficult to follow and impossible to achieve. For example 91.9(a)(2). How can something be stowed such that it is ‘inaccessible to any person’? Somebody put it there and someone has to get it out. If not our aircraft will eventually be chock full of weapons! Perhaps it should read ‘inaccessible in flight...’. The ‘any person’ is unnecessary. What about an emergency, for example, a member of the crew may need to get at the weapons. Presumably this has been considered.

**CAA response:** The CAA notes the comment on inaccessibility and has amended the rule to state ‘inaccessible to every person during flight’. The CAA does not agree with the comment that a member of the crew may need access to stowed firearms. A member of the crew will not need access to a stowed firearm unless they are operating in accordance with one of the exceptions provided in the rule. In that case they will not need to stow the firearm in a place that is inaccessible to every person.

**Nelson Helicopters Limited** agreed with paragraph (d)(2) & (3) [now (e)(2) and (3)] to allow Armed Offenders Squads to carry out their duties in emergency situations.

**Rural Aviation (1963) Limited** applaud the proposed amendments to this rule.

**Note** - The NPRM at 91.9(d) stated:

*‘Members of the police, other law enforcement agency, or military service lawfully entitled to carry firearms in the course of their duties, may, in a place that is accessible to any person—*

*(1) carry disabled firearms on board an aircraft carrying passengers for hire or reward only in the course of their duties and with the permission of the Director’*

The inclusion of the word ‘disabled’ was completely contrary to the intention of the rule. There are rare but important times when it is appropriate, and prudent, for the police or other law enforcement officers to carry a firearm that has not been disabled. Accordingly it is proper for the Director to issue an approval with the imposition of such conditions as are considered appropriate in the interests of safety and security. The wording in this amendment has therefore been amended to reflect this change.

### **Comment**

The wording of this rule had been referred to Air New Zealand, The Board of Airline Representatives New Zealand (Incorporated) and The New Zealand Air Line Pilots’ Association who all agreed with its wording. The wording has since been improved as suggested by CAA legal specialists but this has no effect on the content of the rule itself.

### **91.101 Aircraft airworthiness**

Prior to NPRM 98-1, a submission was made saying that the rule was deficient as, unlike the equivalent FAR rule, compliance with the placards and signs displayed in aircraft as required under their type certificates is not included. The CAA agreed that this was an omission and proposed that the rule be amended accordingly.

**One commenter** stated that the rule is inconsistent. The example given was in this case ‘no person shall.....’ is used whereas elsewhere responsibility is with the operator or P in C. The commenter asked if the distinction is necessary.

**CAA response:** The CAA uses the phrase ‘no person’ to collectively refer to the operator, pilot-in-command, flight crew member, or any other person, all of whom may be responsible for compliance with the rule.

**Taupo Air Services** stated that it is generally accepted that a ‘flight test’ is a test of a person doing the ‘flying’ and that a ‘test flight’ is a test of the equipment that flies. They recommended that paragraph (c)(4) of the current rule be amended to reflect this.

**CAA response:** The CAA agrees and has amended the rule – now (c)(5).

### **91.105 Special category airworthiness certificates – Operating limitations**

Petitions seeking to revoke the provision, which prohibits operations over congested areas of a city, or town, or settlement, or over an open air assembly of persons unless otherwise authorised by the Director were received. CAA opposes a *carte blanche* revocation but recognises that some relief is required and proposed an amendment to paragraph (c).

**The Sport Aircraft Association NZ Inc. (SAA)** stated that they have reviewed the suggested amendment to paragraph (c) against their petition for rule change. They also stated that at a meeting between CAA, SAA, AOPA and Warbirds at Ardmore the situation of an aircraft under air traffic control transiting a congested area of a city or town en-route was discussed. They added that it was understood at this meeting that this phase of flight could be allowed as it allows the free and orderly passage of aircraft through a control zone with the advantages of separation and safety. They also stated that they are disappointed that this situation does not feature in the proposed rule amendment. The reason given by them for their disappointment was that without the ability to fly under ATC, in certain areas, where the aircraft may overfly a congested area of a city or town, a forced diversion, to comply with this rule, may have an adverse effect on flight safety if lower altitudes and reduced terrain clearance results. They also said that the performance of some amateur built aircraft and many Warbirds is such that safety can be compromised if these aircraft are forced by regulation to fly at less than their optimum speeds and altitudes. They believe that

free passage under ATC is one way of minimising these risks to the occupants and the general public.

**CAA response:** The CAA disagrees with the comment. The rule provides for the Director to authorise an aircraft issued with a special airworthiness certificate to overfly a congested area of a city or town. The Director may authorise an aircraft if he is satisfied, during initial airworthiness certification and/or after testing and trial flights, that the aircraft is suitable for such an authorisation.

**Rural Aviation (1963) Limited** stated that the proposed change in this area accurately clarifies the situation and requirements. As an operator of two special category aircraft, they indicate that they would have no problems complying with such a requirement should they need to operate over a congested area.

#### **91.111 Documents to be carried**

This rule was amended to correct an anomaly between 91.101(c), which allows operation of an aircraft without a current airworthiness certificate and 91.111 (a)(1) which requires the carriage of a current airworthiness certificate.

**One commenter** asked who is actually responsible for ensuring that the correct documents are on board. The commenter does not believe that the operator can be present for every flight to ensure that the pilot doesn't leave something behind. The commenter's understanding is that any rule or any law must be assigned to a specific person who must be in a position to be able to comply with it.

**CAA response:** The use of the word 'person' collectively refers to the operator, owner, or pilot-in-command and anyone accepting the responsibility of operating the aircraft shall be required to meet the provisions of this rule. See also the definition in Part 1 of 'operate'.

**Nelson Helicopters Limited** noted that paragraph (a)(3) requires a technical log for New Zealand registered aircraft. They added that as they carry out all operations from their base, they do not carry their company's aircraft tech logs in the aircraft. They explained that these tech logs are at the base and are available to all pilots. They added that this system is documented in their exposition and is acceptable to the

CAA's certification branch. They suggested that this rule therefore needs to cater for those who have an alternative documented in their Operations Procedures Manual.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA recognises the operational problems that this causes fixed base operators and the rule has been amended.

**One commenter** stated that the provision for a certified copy of the Certificate of Airworthiness to be acceptable in place of the original is appropriate. The commenter also suggested, because of the climatically hostile environment in which some aircraft operate (e.g. South East Asia and Antarctica), that it would be beneficial to extend the provision to include a certified copy of the Certificate of Registration as well, where such is required, so that the original can be preserved in good condition.

**CAA response:** The CAA accepts the comment and has amended the rule accordingly. The wording in paragraph (1) has also been improved as suggested by CAA legal specialists to achieve this intent.

**Rural Aviation (1963) Limited** supported the wording change and said that operational flexibility will be enhanced with no negative safety impact.

### **91.115 Flight attendant requirement**

A general exemption was granted from the requirements of paragraph (a)(1) to allow for the carriage of infants held by an adult as the requirement severely restricted the passenger carrying capacity of aircraft with up to 19 passenger seats when infants were being carried. As well these types of aircraft do not have cabin attendant stations which means that they would occupy a passenger seat thus further restricting the number of passengers that could be carried.

The amendment to this rule reflects the exemption granted.

**One commenter** stated that if you can count it, 'fewer' is correct and 'Less' is wrong. The commenter added that the rule, as written, is difficult to follow.



**CAA response:** This comment does not relate to a proposed change in the NPRM. The CAA does not disagree with the above but, for consistency, prefers the use of ‘less than’ in this case.

**One commenter** stated that as the existing rule in (a) is worded this rule appears to permit the operation of large transport aircraft e.g. B737 which are carrying less than 20 passengers without a flight attendant and asked if this is the intent of the rule. The commenter also does not support paragraph (b)(4) unless a total limitation on the number of children under four and unaccompanied minors is introduced. The commenter expressed concern about the management of children on flights without a flight attendant and added that egress from an aircraft in an emergency would be seriously impaired if there were relatively large numbers of under four year olds being nursed by an adult and combined with a similarly large number of unaccompanied minors. The commenter also stated that flights specifically required for groups of children should require the carriage of a flight attendant in any case and therefore the introduction of a reasonable limitation on the number of children and under fours on flights without a flight attendant should not place undue restrictions on an operator. The commenter suggested that up to five total, combination of either under fours or unaccompanied minors, be considered for a given flight without a flight attendant.

**CAA response:** The requirement for flight attendants is based on passengers being carried rather than passenger seating capacity as was the case under the CASO. This is in accordance with ICAO Annex 6 and is being universally adopted. The advantage is that when an aircraft is not carrying passengers, such as on training or position flights, then no flight attendants are required. Another advantage is for large aircraft to reduce the number of flight attendants when less than capacity is being carried or conversely limit the number of passengers if a flight attendant is not available due to illness or some other reason. The CAA accepts the comments on (b)(4) in principle but considers it to be an unlikely scenario that an aircraft would ever carry so many children without parental supervision. This rule does not remove the discretion of an operator to have a flight attendant on board any flight, seats permitting.

### **91.125 Simulated instrument flight**

A minor editorial correction was made to paragraph (b)(2) of this rule.

**One commenter** stated that in his opinion the safety pilot on some aircraft needed to be rated on type and asked whether this had been considered in the consultation process.

**CAA response:** This comment does not relate to a proposed change in the NPRM. No other comments have been received from industry suggesting that a change is required.

### **91.127 Use of aerodromes**

Minor editorial corrections were made to this rule. In addition, a comment was received indicating that the existing paragraph (d)(1)(ii) does not apply to all heliports, although it should as is the case in 139.309(c)(2). The intention was that this should apply to all heliports (within and outside of a congested area of a city, town, or settlement) and therefore paragraph (d) has been amended accordingly.

**Mount Cook Airline Limited** stated that the requirement that a pilot shall operate an aircraft in the circuit ensuring that it can manoeuvre without conflicting with the circuit or instrument approach procedure of another aerodrome places an undue responsibility on that pilot and ignores the real responsibility of the persons who determine the profile or position of an instrument approach and the Director of Civil Aviation's responsibility under Part 157. The commenter added that the Director, in giving a favourable determination for the operation of a new aerodrome, should apply the appropriate conditions to ensure that such conflicts cannot occur. The commenter also believes that it is the Director's responsibility to ensure that an instrument approach procedure that conflicts with another aerodrome circuit should never see the light of day unless separation methods either laterally or vertically are applied.

**CAA response:** The CAA does not agree with the comments. Whilst it is agreed that the Part 157 study is, as far as possible, to reduce conflict in the area of airspace around an aerodrome, it is only the pilot that can control the flight path of an aircraft and thus avoid known conflicts.

The **NZGA** stated that they have previously questioned the legality of gliders landing on surfaces that do not comply with the Part 1 definition of 'Aerodromes'. They added that during the consultation process on Part 104 it had been intended to cover this situation by requiring the

pilot of a glider to take due care in choosing the surface on which the aircraft was to be landed but this was subsequently deleted from Part 104. The NZGA stated that they continue to be concerned that gliders and towplanes operating from unprepared surfaces might be deemed as illegal. They added that the CAA obviously accepts that this is normal practice for gliders but they believe that the situation must be addressed in the CAR's.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA does not agree with the comments. The CAA reminds the commenter that an 'aerodrome' is defined as **any** defined area of land or water **intended** or designed to be used either wholly or partly for the landing, departure, and surface movement of aircraft. Therefore, all that is required for the normal operation of gliders and towplanes is that the area being used as an aerodrome is suitable in accordance with paragraph (a).

**Rural Aviation (1963) Limited** stated that the clarification of the requirements applicable to helicopters in (d)(3) is accepted as worded.

**One commenter** stated that the heading is about 'aerodromes' but the text is about runways, heliports, waterways. The commenter assumes that 'aerodrome' is defined elsewhere to include these. The commenter then questioned the need for paragraph (c) as he believes that the Act neatly specifies the responsibilities of the pilot-in-command and operating within the rule is one of them. The commenter also believes that circuit procedures are covered in the AIP Planning Manual, Visual Flight Guide and elsewhere. The commenter also stated that the responsibility 'to operate in the traffic pattern' lies with the 'pilot-in-command' not the 'pilot'.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the definition of aerodrome can be found in Part 1. The AIP is not a document that can mandate a requirement. The Minister makes rules which have the force of law. This is the only way a requirement can be mandated. Therefore removing the rule just because it is also covered by the AIP is not an option. Also see comments on 91.217 below.

## **91.129 Restricted and danger areas**

A minor editorial correction was made to paragraph (a).

### **91.133 Daily flight records (moved to 91.112)**

*Note: Part 19.101 Daily flight records has been revoked and the rule content was moved to rule 91.133 in the NPRM. However, 'Daily flight records' has since been moved to 91.112 so that the current 91.133 'Military operational areas' remains where it is. The consultation details on Daily flight records are contained in the following paragraphs even though Daily flight records will be in rule 91.112 when this amendment becomes final.*

This rule has been transferred from 19.101 and has had some requirements added to it. The CAA has found that the information required is generally kept by operators as a matter of course and that it is extremely useful during investigations. In addition, the requirement to keep records accurately reflects the requirements of the Civil Aviation Act.

This rule now includes a statement to the effect that notwithstanding the requirements listed in paragraph (a) of 91.112, a person required to keep daily flight records in accordance with 135.857 is not required to comply with the requirements in 91.112. This statement did not exist in Part 19.101 at the time that NPRM 98-1 was sent out for consultation but, subsequent to that, Part 19.101 had been amended to include it. Part 91.112 needed to be amended to reflect this.

**Christian Partners Avkair** stated that 'time of flight' in (a)(5) is not considered necessary. They recommended that it be deleted and replaced with 'day or night'.

**CAA response:** The CAA disagrees with the comment. Time is a more specific measurement.

**Air Nelson Limited** questioned the need to include the purpose of the flight .

**CAA response:** Recording the purpose of the flight is required for safety and audit purposes.

**One commenter** had the following questions regarding this rule: (1) Why 'for each flight'? (2) Is this to be kept in the aircraft or on the ground? (3) Why can't the information be included in the Technical Log to save duplication?

**CAA response:** 'Each flight' is a unit of operation. The operator may decide where the daily flight record is to be kept. It is preferred that the record is kept on the ground. There is no reason why the technical log cannot constitute part of the daily flight record to prevent duplication.

**One commenter** stated that record keeping for a private owner/operator not engaged in either aerial work or air transport is usually confined to the technical log and the pilots log book and felt that this should be sufficient. The commenter also felt that the requirement to record the time of flight and departure aerodrome seems unwarranted for this category of operations and is not entirely provided for in either the technical log or pilots log book. The commenter suggested that a suitable amendment be made to recognise the current practice.

**CAA response:** The requirement for daily flight records is an existing requirement in Part 19. A record of the time of flight and the departure aerodrome is required for safety and audit purposes.

The **NZGA** noted that the retention of daily flight records had been extended to 12 months without any explanation. They requested an explanation to justify this requirement.

**CAA response:** The change to 12 months in Part 19 resulted from amendment 6 to Part 135. This is consistent with other record keeping requirements and also agrees with the limitation period for prosecutions.

**Taupo Air Services** stated that, with respect to (a)(1), there doesn't seem to be any need to record the name of the operator against every flight as an operator is only going to record his own operations and the information is therefore already known. The commenter felt that the same would apply in the case of an exchange or a wet lease, where again the operator of the flight will do the recording. The commenter did not believe it necessary to record the time of a flight on the daily flight record as required by (a)(5) when this information is collected or can be derived from other documentation, for example the navigation log, or the passenger manifest. With respect to (b) the commenter felt that the

increase to 12 months will have no impact on flight safety and is therefore contradictory to the aims of the Civil Aviation Rules.

**CAA response:** The requirement to record the name of the operator is an existing requirement in Part 19 as well as in Part 135. A record of the time of the flight and the departure aerodrome is required for safety and audit purposes. The change to 12 months in Part 19 resulted from amendment 6 to Part 135, this is also consistent with other record keeping requirements and agrees with the limitation period for prosecutions.

**Rural Aviation (1963) Limited** questions whether all of the requirements would benefit aviation safety. The commenter believes that the retention of flight records is primarily to keep track of flight time and cycle history on an aircraft and that items (1), (2), (3), (5), (7) & (8) are therefore irrelevant.

**CAA response:** The CAA has found that the information required is generally kept by operators as a matter of course and that it is extremely useful during investigations. In addition, the requirement to make records accurately reflects the requirements of the Civil Aviation Act.

**One commenter** stated that in terms of the aims of the CAA this is an unnecessary regulatory requirement.

**CAA response:** See above responses.

### **91.201 Safety of aircraft**

In paragraph (1), the use of the word *satisfied* is insufficient unless the rule also specifies the criteria which the pilot applies to achieve the satisfaction. This rule has been amended accordingly.

**One commenter** stated that the introduction ‘Each pilot-in-command of an aircraft....’ is not consistent with other parts of the NPRM or other rule parts. The commenter believes that it is obvious that it is an aircraft of which pilots are pilot-in-command. The commenter also does not believe that it is necessary to use the pronoun ‘each’ to introduce lists. The commenter believes ‘The pilot-in-command is to....’ would be much more precise.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the words ‘Each pilot-in-command of an aircraft....’ have been amended to read ‘A pilot-in-command of an aircraft....’. The word ‘aircraft’ is used as a general reference. Sometimes a rule only refers to a helicopter, glider, balloon, microlight, or aeroplane. The word aircraft includes all of these.

**Ansett New Zealand** states excellent rewording.

**Mount Cook Airline Limited** stated that the wording of this rule would require the pilot-in-command to inspect the aircraft and documents where in fact this is often delegated to the First Officer or a pilot undergoing command practice. They suggested that this could be fixed by replacing the word ‘inspecting’ with ‘inspection of’ which would allow delegation of the task.

**CAA response:** The CAA agrees and has amended the rule accordingly.

**Taupo Air Services** stated that this rule appears to be semantically incorrect in that paragraph (1) is saying that a pilot-in-command shall be satisfied regardless of what he finds in the inspection that may lead him to believe otherwise.

**CAA response:** The CAA agrees and has amended the rule accordingly.

**Rural Aviation (1963) Limited** have no problems with this amplification of the rule.

### **91.207 Occupation of seats and wearing of restraints**

A petition for rule making was submitted by the Helicopter Division of the Aviation Industry Association seeking to amend this rule. The petitioner stated that aircraft conduct operations such as aerial photography, survey and search, carrying persons essential to the purpose of the operation. Such flights often involve flight below 1000 feet AGL. The rule as written requires such persons, who may be passengers or crew members to, when equipped, wear shoulder harnesses during take-off and landing and during flights at less than 1000 feet AGL. The wearing of these restraints can mean that the person

being carried is unable to perform an essential function associated with the purpose of the flight. The rule was amended on the basis of this petition.

**One commenter** stated that he was not sure how the pilot-in-command, of say a 747, can be expected to ‘require each passenger to occupy a seat and fasten their seat belt’. The commenter believes that the pilot-in-command can be required to put on the safety belt sign but can hardly be held accountable if, for example, someone stood up during the take-off run.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA does not agree with the comment. Under this rule the pilot-in-command is responsible for **requiring** a passenger to occupy a seat. He is not responsible for physically **making** them occupy a seat. If, after the pilot-in-command has required the passenger to occupy a seat, the passenger refuses to occupy the seat, then the pilot-in-command can take action against the passenger under 91.5(c) for failure to obey a command. The effect of the safety belt sign is to require the passengers to occupy seats and fasten seat belts. The use of this sign satisfies the rule requirement.

**Rural Aviation (1963) Limited** stated that the attempt to rectify this anomaly in the rules is applauded and the proposed wording gets very close to solving the problem many operators are facing. However, they believe that both (a) and (b) should refer to ‘persons’ as opposed to ‘passengers’.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA disagrees with the suggested change. If a person is carried in an aircraft then they are either a passenger or a crew member. Passengers are covered by 91.207 while crew are covered by 91.205. Therefore the use of the word ‘persons’ would be inaccurate.

### **91.209 Use of oxygen equipment**

Minor editorial corrections were made to paragraphs (a), (b)(2), and (b)(3) of this rule.

**One commenter** stated that he thinks there is a problem with the use of ‘shall require’ as it’s not a commonly used imperative in spoken



English. The commenter believes that ‘shall ensure that’ would be better.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, ‘shall require’ has been changed to ‘must require’ in accordance with current legal drafting styles.

**Chief Medical Officer - Air New Zealand** noted that the rules do nothing about limiting altitude to prevent decompression illness. The commenter believes that photography is regularly done at altitudes up to 30 000 feet in Cessna 206s and the like and that crews frequently experience symptoms. The commenter also states that, in the absence of rules, there is a commercial penalty against responsible operators compared to their competitors. Also, there is really nothing about the type of oxygen equipment to be used above 25 000 feet. The commenter suggests not allowing anyone to exceed FL250 unpressurised without the Director’s approval and to also limit the time between FL180 and FL250.

**NZ Aerial Mapping** stated that as the rule stands, an unpressurised aircraft may operate to any altitude as long as the crew are on oxygen above 10 000 feet. The commenter adds that it then stipulates particular rules that apply to pressurised aircraft but should also stipulate an upper limit on unpressurised aircraft even with the use of oxygen. The commenter also states that it seems that there is an unwritten assumption in this rule that only pressurised aircraft are used to any degree above 10 000 feet. The commenter suggests that an amendment to this rule would impact the companies in the Aerial Survey community that insist on operating unpressurised aircraft at up to 30 000 feet with the pilot and camera operator on oxygen.

**CAA response:** These comments do not relate to a proposed change in the NPRM. However, the CAA accepts the comments and will study the matter and conduct further consultation.

**GAPAN** stated that unless specified elsewhere the use of the term ‘between’ when referring to flight levels needs to be clarified. They believe that the intent of (b)(2) is, or should be, a requirement when the aircraft is being operated between FL 250 and ‘up to and including’ FL 410. They also believe that the intention of the exception ‘unless...4 minutes’ in (c) is not clear. They recommended alternate wording.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA agrees with the first comment that the term ‘between’ has to be clarified. The CAA has amended the rule. The CAA does not agree with the recommended alternate wording for (c). The recommended wording would mean that all passengers would have to use supplemental oxygen at all times when the aircraft is above 14000 feet AMSL and that is not the intention.

**Air Nelson Limited** stated that the term ‘wear **and** use’ in paragraphs (b)(2)(i) & (3) is a bit confusing. It is their belief that the intent of the rule is just to require the wearing of a mask. They also believe that the term ‘use’ tends to imply that the oxygen must be flowing.

**CAA response:** The CAA does not agree that the intent of the rule is just to wear. The intention of the word ‘use’ is that oxygen is flowing. However, if the equipment has the ability to automatically trigger the flow of oxygen then oxygen will only be required to be flowing when cabin pressure is above 13000 feet AMSL.

**Taupo Air Services** stated that the rule is semantically incorrect. They suggest that the wording should be (a) ‘Each pilot-in-command operating an unpressurised aircraft, during any time the aircraft is being operated between 10000 feet AMSL and 13000 feet AMSL for a period of more than 30 minutes, or any time above 13000 feet, shall require...’

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA agrees with the proposed correction and has amended the rule accordingly.

### **91.211 Passenger briefing**

The requirements in the existing paragraph (a)(2) are too general causing some difficulty in interpretation. For this purpose it is proposed to insert the word *applicable* before the word *requirements*. The word *lifejackets* in paragraph (b)(3) has also been changed to *life preservers* to be consistent with the term used in Appendix A14.

**One commenter** supported the wording in this rule.

**One commenter** stated that the requirement to demonstrate the use of lifejackets under (b)(3) is not practicable for other than oceanic flights.

The commenter explained that some lifejackets are vacuum sealed and it would be unwise to have opened lifejackets that could be unserviceable loose in a small cabin.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA does not agree with the comment as a passenger **must** be **shown** exactly how to put the life preserver on before the flight, not while the aircraft is descending into the water. The CAA does not believe that this requirement is unreasonable or impractical.

**Taupo Air Services** stated that there should not be a need to give a demonstration of the use of life jackets if there is no requirement to carry them.

**CAA response:** The CAA refers the commenter to paragraph (a)(4)(ii) which states that ‘A person operating an aircraft carrying passengers must ensure that each passenger has been briefed on, **when required to be carried by this Part**, the use of flotation equipment.....’

### **91.215 Carriage of cargo**

For consistency with other rules, it is proposed to replace the words *ensure that the* with *not permit* in paragraph (b) and make the subsequent amendments to (b)(1) and (b)(2). This paragraph will then also be consistent with paragraph (a).

**One commenter** stated that he was not sure that operators carry anything in aircraft. He explained that operators operate aircraft in which things are carried.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA agrees and has amended the rule.

### **91.217 Preflight action**

A submission was made saying that this rule was deficient as, unlike the equivalent FAR rule, it does not include performance data. CAA agreed and has amended the rule accordingly.

**One commenter** stated that these requirements, plus a host of others, are detailed elsewhere. Examples given were the Act, the planning manual and the VFG.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA does not agree with the comment. The requirements in this rule are in addition to any requirements contained in the Act. It is also reiterated to the commenter that, although the same information is covered in the AIP, the AIP is not a legal document and therefore does not have the ability to mandate actions.

**Mount Cook Airline Limited** stated that they have a problem with the proposed changes to 91.217 Preflight action where each pilot-in-command for each flight is required to become familiar with all information regarding take-off and landing distance data contained in the Aeroplane Flight Manual and the one engine inoperative climb performance data. They explained that in the performance sections of Part 121 Aeroplane Flight Manuals the performance data for take-off and landing distances is contained in many complex graphs that require considerable calculations either manually or by computer to be completed for one take-off on a given runway for a given set of conditions. It is their belief that it is quite impossible for a pilot to be familiar with the actual data relating to a flight but the pilot will need to be fully aware of any limitations on the flight's take-off, landing and one engine inoperative climb capability as derived from the Aeroplane Flight Manual performance data. A suggested amendment was included.

**CAA response:** If the operator of a large aircraft decides to provide the pilot-in-command with take-off and landing limitations for a particular flight that are derived from the aircraft flight manual, then the provision of that data will satisfy the requirement of the rule.

### **91.237 Aircraft speed (not included in NPRM)**

**ACNZ** stated that although not part of the NPRM, class F airspace has been introduced by Part 71 and should be included in the listings in (a)(1) & (2). They added that class F airspace is also part of the Airways Corporation Contingency Plan.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA accepts the comment and has amended the rule accordingly.

### **91.239 Altimeter settings**

The term ‘area QNH’ has been changed to ‘zone QNH’. This amendment is consequential to the introduction of ‘zone QNH’ in Part 71.

**One commenter** stated that altimeter setting procedures are detailed in working documents. This commenter was not aware of any pilots that carry Civil Aviation Rules with them and suggested that perhaps we should have a rule which says pilots are to operate in accordance with AIP’s etc.

**CAA response:** This comment does not relate to a proposed change in the NPRM, but see comments to 91.217 above.

**Mount Cook Airline Limited** made a general statement that the words ‘pilot-in-command’ and ‘pilot’ needs tightening. The example they gave is that 91.239 requires each pilot to maintain altitude etc whereas in fact the pilot-in-command is responsible for ensuring that the altitude is maintained by whatever reference. They suggested that a study be made to remove these anomalies.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the term ‘pilot’ is used to place the responsibility of meeting the requirements of the rule on all pilots in a multi-pilot operation. Placing the responsibility on the pilot-in-command only will result in a co-pilot, who may be in control of the aircraft, not being required to comply with the rule. This is unsatisfactory.

**Taupo Air Services** stated that the term ‘QNH zone’ or ‘zone QNH’ should not be adopted as this infers the QNH within a control zone. They stated that there is nothing ambiguous about the term ‘Area QNH’. They also stated that the lateral boundaries of QNH areas or their names can be changed whenever required.

**CAA response:** The change is consequential to the introduction of Part 71.

### **91.245 Operations in classified and designated airspace (not included in NPRM)**

ACNZ stated that although not part of this NPRM, Class B airspace has been introduced by Part 71 and should therefore be included in the listings in (a)(1) & (c). They also stated that the comment in italics at the end of the part can now be deleted.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA accepts the comment and has amended the rule accordingly.

### **91.247 Use of SSR transponder and altitude reporting equipment**

The Table 2 reference to *training area* has been amended to read *general aviation area* reflecting the new terminology. Also, the word 'aircraft' has been changed to 'powered aircraft' in Table 2 to distinguish between powered aircraft and gliders.

**One commenter** stated that CAA is demanding the impossible. The commenter elaborated by saying there is no hope of setting the transponder to the appropriate channel in flight during an emergency in a helicopter, the pilot would be too busy getting the aircraft down. The commenter believes that the rule is unfair, unreasonable, pointless and is not needed. The commenter also believes that these requirements are detailed elsewhere, the same applies to 91.301, 91.307 and 91.308.

**CAA response:** This comment does not relate to a proposed change in the NPRM. The commenter must note that the requirement is only while an aircraft is operating in transponder mandatory airspace. The CAA accepts that in some circumstances a pilot-in-command may have no time to set the transponder in accordance with the rule. However, the likelihood of such an inflight emergency occurring while flying at a low height in transponder mandatory airspace is small. In the majority of emergency situations it is important that an aircraft uses the transponder codes while in transponder mandatory airspace to enable ATC to give an aircraft assistance and especially to enable ATC to separate surrounding aircraft.

ACNZ agree with the amendment.

**Taupo Air Services** stated that the term ‘general aviation area’ should not be included anywhere as this could be misconstrued to encompass all of ‘G’ airspace. They added that the term training area implied [correctly] that the area possibly contained aircraft on training sorties and were therefore likely to be at changeable altitudes. They believe that training areas also offered protection to aircraft on training sorties by excluding other types of general aviation aircraft.

**CAA response:** The change of the word ‘training’ to ‘general aviation’ is an amendment that is consequential to the introduction of Part 71 in so much as ‘general aviation areas’ are a designated type of airspace. The word ‘Powered’ has also been included to make it clear that only powered aircraft are to use the code 1400 in designated general aviation areas, gliders and balloons are to use 1300.

#### 91.249 Aircraft callsigns

The rule is legally deficient as written as it gives three alternatives and does not prescribe the use of a callsign. It is proposed to amend the rule by–

- inserting the words *when required to communicate by radiotelephony under the Civil Aviation Rules* in paragraph (a).
- inserting the words *one of* after *use* in paragraph (a)

**ACNZ** agreed to the changes annotated, however they noted that there is no provision for callsigns for formation aircraft, or for special identity aircraft. Their ATS support sector staff advised that they frequently have flight plans submitted with callsigns like: *Cherokee Formation, Harvard Formation, Warbirds Dakota, etc.* It is their belief that present usage suggests there is a need for a provision in the rule for pilots to be able to use this type of callsign, provided it is acceptable to ATS.

**Rural Aviation (1963) Limited** stated that this whole chapter is a total nonsense and should be deleted in its entirety. It was not consulted upon at the initial introduction of Part 91 and a strong case can be made that it is counter productive to aviation safety. Many aircraft have been using ‘appropriate’ call-signs without difficulty for years and this should not be precluded.

**CAA response:** These comments do not relate to a proposed change in the NPRM. However, when preparing the initial Part 91 Final Rule, the CAA became aware that this requirement (which was prescribed in the AIP) should have been included in the initial Part 91 NPRM. The requirements are based on the ICAO standards which have been adopted by most States. As there was no change to the requirements prescribed in the AIP, the CAA considered that this rule could be included as a final rule in Part 91. Regarding the ‘appropriate callsigns’, the CAA will undertake further consultation on this matter.

**Taupo Air Services** stated that ‘(a) ...under these rules...’ needs to be more specific i.e ‘under this Part’ or ‘under Part 91’ or ‘under Parts 91, 135, 121’.

**CAA response:** The CAA does not believe that it is necessary to be more specific in this case but has changed ‘under these rules’ to read ‘under the Civil Aviation Rules’ to achieve greater clarity.

### **91.301 VFR meteorological minima**

This rule has already been amended as proposed in NPRM 98-1, see Part 91 amendment 5.

### **91.307 VFR Flight plan**

This rule is not being amended at this point as it is now being dealt with under a special project on VFR flight planning.

### **91.308 SARWATCH**

This proposed new rule will not be included at this point as the matter is now being dealt with under a special project on VFR flight planning.

### **91.311 Minimum heights for VFR flights**

There was some concern that paragraph (c) does not place any limitation on the height that can be flown below 500 feet. It was suggested that the height should be limited to that height necessary to conduct the *bona fide* purpose. Paragraph (c) has been amended accordingly.

A pre NPRM petition for rule making was submitted seeking to amend paragraph (d)(1)(ii) to allow descent below 500 feet AGL outside a low



flying area provided that a flight instructor or flight examiner is occupying a pilot seat. The petition was made on the basis that this was the case under CASO 9, Part 1, Section 2, paragraph 2.4.2(b)(i). This change was proposed in the NPRM. The CAA has assessed all comments relating to the proposed amendment to allow descent below 500ft outside of a low flying area and now considers that the amendment is not warranted. (Reasons for this view are explained at the end of these consultation details on 91.311).

In addition to comments received on the NPRM proposal, other post NPRM comments were received which led to many in house (CAA) as well as CAA/Industry discussions on 91.311. Further amendments have been made as a result of these discussions.

**One commenter** stated that while in agreement with the purpose of the rule it is very complicated way of saying what is intended. The commenter also had difficulty with the requirement for the pilot-in-command ‘not to operate at a height less than that required to execute an emergency landing without hazard to persons etc. on the surface...’ and believes that this is sometimes impossible to achieve. The commenter gave an example of a real life case where a helicopter is at 500 or 5000 feet AGL and the tail rotor fails, resulting in the helicopter going out of control and hitting a car on State Highway 23 killing all the occupants. The commenter asked whether he would be prosecuted for failing to comply with 91.311(a)(1).

**CAA response:** This comment does not relate to a proposed change in the NPRM. The CAA does not agree with the comment. 91.311(a) states that a pilot-in-command must not operate an aircraft under VFR at a height less than that required to execute an emergency landing, without hazard to persons or property on the surface, in the event of engine failure. There is no mention of tail rotor failure in this rule.

**One commenter** stated that he can legally hover (IGE) but can’t go anywhere and does not believe that this was the CAA’s intention. The commenter also asked about an out of ground effect hover.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA agrees that the intention of the rule is not clear and has amended (b)(3) to read ‘taxiing’.

**One commenter** stated that the ‘bona fide’ qualifying clause is interesting and asked who decides whether the reasons for low flying are bona fide or not. The commenter believes that this would give carte blanche to pilots and is likely to lead to more unauthorised low flying – not less. The commenter was also unsure of the intent of (c)(3).

**Rural Aviation (1963) Limited** questioned the necessity of the wording in (c)(3). They do not believe that the proposed change will have any impact on aviation safety at all.

**CAA response:** The CAA disagrees with these comments. Paragraph (c)(3) was proposed after concern was expressed that (c) did not place any limitation on the height that can be flown below 500 feet. It is considered that the height should be limited to that height necessary to conduct the *bona fide* purpose.

**Christian Partners Avkair** stated that (d)(1)(iii) seems superfluous as it is already covered by (b)(3).

**CAA response:** The CAA agrees and has amended the rule accordingly.

**One commenter** stated that (b) totally disregards the relatively common need in New Zealand to operate below 500 feet due to unforecast bad weather. The commenter explained that the dismantling of Met reporting stations over the last ten years has resulted in a greater number of incidents of inaccurate Met forecasts, particularly outside controlled airspace. The commenter believes that the CAA needs to recognise that on occasion the safest course of action can be to continue a flight at less than 500 feet rather than to turn back. It is understood that the CAA does not wish to encourage or support the practice of continuing flights below 500 feet even in bad weather, however, it is not realistic to ignore the fact that such occurrences frequently take place for legitimate reasons. This is a difficult legislative issue but the CAA needs to acknowledge this in the rules.

**CAA response:** The CAA notes the comment and accepts that the requirement to continue on in bad weather below the minimum heights may be necessary in extreme circumstances. The CAA does not agree that the rules need to take account of this. Section 13A of the Act prescribes the duties of the pilot-in-command during emergencies. Any

situation necessitating the continuation of a flight below the minimum heights due to bad weather or otherwise will be required to be conducted in accordance with this section.

**ACNZ** agreed with the amendment but found (d)(1)(ii) difficult to interpret. They suggest that perhaps the additional text should be its own Subpart.

**Taupo Air Services** supported the change to this rule.

**Rural Aviation (1963) Limited** stated that the rewording of (d)(1)(ii) is fully supported and will benefit flight training greatly.

**One commenter** stated that other than in exceptional circumstances 500' above the ground is quite low enough for an aircraft, whether practising or not. They also believe that if proximity to the ground is an essential part of pilot familiarisation then it should be done over property owned or leased by the aircraft operator.

**CAA response:** The CAA has assessed all comments relating to the proposed amendment to allow descent below 500ft outside of a low flying area and considers that the amendment is not warranted. The 500ft minimum height for VFR flight is based on safety and public interest factors. These factors must be considered against the advantages of permitting descent below 500ft for training. The Director is able to designate low flying areas for the purpose of conducting training below 500ft. These areas are designated after receiving consent from property owners below the area and an assurance that the use of the area will not cause undue nuisance or hazard to persons or property. Within this area the safety and public interest factors have been assessed by the Director as suitable for flight below 500ft. Alternatively forced landing practice can be effectively completed over an airfield and the approach taken right down to the landing in a safe environment. The continuation of a simulated engine failure below 500ft outside of either a low flying area or an aerodrome is arguable in the context of effective flight training but balanced against the public interest must be declined.

### **91.313 VFR cruising altitude and flight level**

This is a consequential amendment as a result of the introduction of zone QNH in Part 71. Previously this term was known as area QNH.

**One commenter** stated that this is not needed here.

**CAA response:** The CAA assumes that the commenter means to say that this can be found in the AIP. If this is so see comments to 91.217.

**Taupo Air Services** stated that if the term ‘zone QNH’ must be used then the grammatical error in (b)(2) must be corrected – ‘an zone QNH’ to ‘a zone QNH’.

**CAA response:** The CAA agrees and has amended the rule accordingly.

*Note 1—Paragraph (a)(3) has been removed. The reason for this is that the cruising levels allocated to VFR operations above FL 290 now inappropriately coincide with the new levels provided by Reduced Vertical Separation Minimum (RVSM) for IFR flight. As VFR flight above FL 290 is rare and it is not always in a cruising configuration (particularly gliding operations), it is considered that there will be no effect on VFR aircraft in having no set Flight Level Orientation Scheme (FLOS) by removing Rule 91.313(a)(3). It must be clearly stated that having no FLOS does not mean that VFR flight is prohibited. In this respect, the CAA has filed a difference to ICAO Annex 2 in order to allow VFR flight within a RVSM stratum.*

*Note 2—Paragraph (a)(2) has been amended to read “when operating at or above flight level 130, up to and including flight level 275”. The reason for this is that VFR aircraft should not operate in level flight above FL275 below an RVSM stratum because RVSM aircraft at FL300 (within RVSM airspace which starts at FL290) are entitled to be separated by a minimum of 2,000 ft from non RVSM aircraft, whether they are VFR or IFR. That means the highest non-RVSM altitude is FL280 for IFR aircraft and FL275 for VFR aircraft for flight planning purposes (ATC may approve higher when airborne).*

### **91.315 Operating in snow and ice conditions**

**ACNZ** stated that although not part of this NPRM, this rule does not mention other essential components of the aircraft as detailed in 91.421(a)(1). These affect VFR aircraft in the same way as IFR aircraft.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA will give the matter further consideration.

### **91.405 IFR alternate aerodrome requirement**

A comment was received from the CAA legal unit suggesting that in paragraph (a) the term '*list in the flight plan*' be used rather than the present '*make provision for an alternate*'. The rule has been amended as per this comment.

An editorial amendment was proposed to paragraph (c)(1) to read *the electronic navigation aids required to be used for an instrument approach procedure*. This has now been changed to *the ground based electronic navigation aids necessary for the instrument approach procedure to be used*. This amendment gives a more precise description of the requirement.

A petition for rule making was submitted by the Helicopter Division of the Aviation Industry Association seeking to amend this rule. The petitioner stated that they have concerns with paragraph (a)(2) in that it refers to weather reports and weather forecasts whereas the previous requirements under Regulation 85 referred to meteorological forecasts and meteorological conditions.

Paragraph (a)(2) has been amended as submitted by the petitioner with the exception that the term *meteorological forecasts* is used, rather than *weather forecasts*, being the correct terminology as used throughout the rules.

**Air Nelson Limited** stated that they, and most other large operators, use repetitive Flight Plans filed with the Airways Corporation and do not believe that they should have to list alternate aerodromes in the Flight Plan. They ask if it would not be sufficient to advise ATC of the alternates by RTF as is current practice.

**CAA response:** If an operator has a procedure in place with ATC whereby an alternate aerodrome is added to a repetitive flight plan by RTF then this will be acceptable as meeting the 'list' requirement of the rule.

**GAPAN** stated that unless provided for elsewhere, the requirement to ‘list in the flight plan’ at least one alternate aerodrome does not in itself necessarily require making provision for sufficient fuel to fly to that listed aerodrome.

**Taupo Air Services** noted that the NPRM intends to delete the phrase ‘make provision for’ in this rule. They believe that unless there is a requirement to actually carry necessary additional provisions to cover the event of requiring an alternate aerodrome in another rule, the phrase had better be left in and include the requirement to ‘list in the flight plan’ [the requirement for an alternate].

**CAA response:** The CAA does not agree with these comments. The requirement to carry additional provisions to enable the aircraft to fly to the alternate is covered by 91.403.

**GAPAN** stated that if the amendment to ‘list in the flight plan’ in paragraph (a) is valid then the words ‘make provision for’ in paragraph (c) should also be amended.

**CAA response:** The CAA agrees and has amended the rule accordingly.

**ACNZ** agrees with the amendment.

**Taupo Air Services** noted that this rule is supposed to discuss the requirements for an alternate aerodrome however this rule only covers meteorological issues and fails to address two other issues. Paragraph (b) fails to address the issues raised in CASO 1 section 3 article 3.7 regarding the operational status of approach aids at a nominated alternate aerodrome. They added that if this omission is intentional and these things are no longer considerations, then it would be acceptable, otherwise they need to be addressed. The second issue is that of the previous requirement for an IFR take-off alternate. While this is addressed for an air transport flight in 135.161 there is no provision for non air transport flights.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, there is a requirement in 91.217 ‘Preflight action’ that the pilot-in-command must become familiar with the status of the communication and navigation facilities intended to be used. If the

navigation facilities are notified as being less than fully operational then the pilot-in-command must take action accordingly. The IFR departure limitations contained in 135.161 are an air transport standard. It is the intention of Part 91 not to include these requirements. No adverse comments were received on the original NPRM.

**Rural Aviation (1963) Limited** stated that in addition to ‘meteorological forecasts’ they would like to see the retention of ‘weather reports’ as an acceptable means of deciding upon an alternate requirement under IFR for Part 91 operations. They added that in many cases the most meaningful data on immediate weather changes is gained from actual reports by suitable people at the intended destination.

**CAA response:** The CAA disagrees with the comment. The decision on whether an alternate is required is made during the planning of a flight. The only way that a pilot is able to get an accurate assessment of what the weather at an aerodrome will be in the future is to use a forecast. Persons at a destination may be able to give a pilot an immediate assessment of what the weather is doing however, the weather can change rapidly. A pilot cannot make a reliable assessment of what the weather will be 1 hour before and after the ETA from a simple report of current conditions.

The following submission was received as a result of the changes to visual and instrument procedures for flight under IFR in NPRM 98-7. It is considered appropriate that this submission be included in this amendment:

**Air Nelson Limited** noted a deficiency in (a)(2)(ii). They explained as follows—

The deficiency is that (a)(2)(ii) states that a visibility of less than 5km will trigger the need to make provision for an alternate aerodrome. At most aerodromes a minimum of 5km visibility is a suitable trigger for the nomination of an alternate. However, a number of approaches at certain aerodromes have a visibility minima above 5km. In such cases the aerodrome could have a reported visibility less than that required to conduct an instrument approach but 5km or greater. This is an anomaly in that on the one hand it can be determined that an alternate is not required but on the other hand the instrument approach cannot be conducted at that aerodrome. For example, Alexandra NDB has a night

visibility minima of 10km. If the visibility at Alexandra is forecast as 8km, according to (a)(2)(ii) there is no need to nominate an alternate, however, the approach cannot be conducted because the aerodrome does not have the required 10km visibility. It is also noted that several aerodromes have approaches where the visibility minima is 5km. This does not provide an acceptable buffer from the 5km visibility trigger in (a)(2)(ii). Paragraph (b)(2)(i) suffers from a similar anomaly in that where a precision instrument approach procedure without alternate minima has been selected as the alternate, the ceiling must be at least 600ft and the visibility must be at least 3000m at the aerodrome. In the case of Wellington with a minima of 500ft ceiling and 3000m visibility, even if the minima in (b)(2)(1) are met, an approach cannot be conducted. It is also noted that (b)(2) uses the wrong terminology 'MDA' should read 'MDH'.

**CAA response:** The CAA has worked through the issue with the commenter and accepts that the rule needs amendment. The rule has been amended accordingly. However, the CAA disagrees that 'MDA' should read 'MDH'. MDH is not used in New Zealand when referring to approach minimas.

### **Civil Aviation Review Group Letter 15 November 1998 Civil Aviation Rule Part 95 — IFR Aerodrome Alternate Minima**

One commenter (AN) stated that they believe that the determination of alternate minima should be left to the pilot-in-command based on 91.405(b).

One commenter [TAIC] stated that in their opinion the current practice of prescribing aerodrome alternate minima should be continued and that this information be contained within Part 95 and the IFG.

One commenter [Rural] stated that it is probably appropriate that the determination of aerodrome alternate minima should be transferred to Part 91 as an operational consideration and left to the pilot-in-command to make the decision. They added that such a move would be consistent with the concept of providing more flexibility to participants in the aviation system and requiring them to take more responsibility for their actions.



One commenter [DennisH] stated that their preference would be to rely on the pilot-in-command to calculate alternate minima rather than prescribing such minima under Part 95.

One commenter [DClisby] stated that he would prefer that the present system be continued, in that aerodrome alternate minima be prescribed under Part 95. He believes that this is far simpler than requiring them to be calculated each time.

One commenter [MtCook] stated that the letter offers good potential for operations. Their view of the best way to handle it would be (for ease of planning of flights) for the State to continue to publish alternate aerodrome minima which would be adequate for most planning, but in the operating rules permit an operator to determine alternate minima with regard to an approach to a runway that there is certainty to be used, and to promulgate that minima in manuals. They added that an example of benefit would be a runway with a straight - in approach at 600 feet/2000 metres and the other end being a circling approach at 1000 feet/4000 metres. While the State alternate minima would be 1200 feet/6000 metres, if the operator was certain that the straight-in approach would be used the alternate minima would be 8000 feet/4000 metres if included in the operators manual. For non-precision there would be a further benefit in that the current alternate minima is based on the highest minima which inevitably is the non DME minima. The proposal would allow the determination to be based on the straight-in approach with DME. The main value can be when trying to locate a handy alternate when the destination weather is quite good. For example slightly below the criteria of the 1000 feet addition to the minima at destination and obviously no problem in a positive operation. The problem could be that the higher State alternate weather prevents the alternate fuel being based on a nearby alternate when the operator straight in assessment could allow the use.

**CAA response:** The responses are evenly divided between those wishing to establish their own alternate minima to the criteria specified under 91.405 and those wishing to apply alternate minima as prescribed under Part 95. On this basis it is decided to amend 91.405 to allow a pilot-in-command to establish alternate minima in accordance with the criteria specified in the rule or comply with the alternate minima prescribed under Part 95.

### **91.407 IFR flight plan**

The Act now allows incorporation by reference of the current ICAO provisions. Paragraph (b) has been amended to read ICAO Doc 8643 by deleting the number 24 which meant the 24th issue of the document. In addition, the existing paragraph (a)(3)(iii) and (iv) have now been combined into a new (iii) without mention of including any applicable GPS and RNP approvals.

ACNZ stated that with reference to paragraph (b), which mentions wake turbulence categories only, Doc 8643 does not contain type designators and wake turbulence categories for all aircraft, but only those aircraft considered worthy by ICAO of inclusion. Their experience is that one-off aircraft, and brand new types, are not included in this document, and at present they have Civil Aviation Authority approval to use a home-made designator for a specific type of aircraft because of performance differences. Additionally the Civil Aviation Authority has advised wake-turbulence categories for use with helicopters, and these are also not in Doc. 8643. ACNZ has an AIC on the issue which contains the information for pilots on aircraft type designators and wake turbulence categories and covers all aircraft known to be on the NZ register. They suggested that the rule be amended to include the AIC as another source of wake-turbulence categories.

**CAA response:** There is nothing preventing a pilot making reference to a document other than Doc. 8643. The rule only states that the wake turbulence categories are defined in Doc. 8643. Provided that the categories in the AIC have been worked out using the ICAO wake turbulence definitions (ie Heavy, Medium, or Light) then use of the AIC will be acceptable.

### **91.409 Adherence to flight plan**

This is an editorial amendment to paragraph (a) to merge paragraph (1) into paragraph (a), and renumber the sub paragraphs under (a) as (1) and (2). The subparagraphs under (b) have been renumbered (1), (2), and (3).

ACNZ agreed with amendment but noted that the text of the rule does not appear to take into account IFR flights in uncontrolled airspace. They added that this rule can be interpreted to mean that an IFR aircraft in uncontrolled airspace must adhere to the current flight plan, with no

exceptions. They do not believe that this would be acceptable to pilots. An IFR aircraft must be able to vary the current flight plan submitted. There needs to be a mandate for IFR aircraft in uncontrolled airspace to advise ATS of changes to route and/or level. This means that ATS can then provide meaningful and more accurate traffic information. They included a suggested amendment.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA has noted the comment and will undertake further consultation on this matter.

#### **91.415 Category II and III precision approach procedures**

The wording has been improved as suggested by CAA legal specialists but has no effect on the rule itself.

#### **91.423 Minimum altitudes for IFR flights**

An editorial correction was made to paragraph (2) by revoking the term *in those Parts* and replacing it with *that Part*.

#### **91.425 IFR cruising altitude or flight level**

A consequential amendment resulting from the introduction of ‘zone QNH’ in Part 71. Previously this term was known as ‘area QNH’.

*Note—An amendment, consequential to the designation of the airspace under Rule 71.59(a)(4), has been made to Rule 91.425(a)(2) and (3). RVSM airspace has been designated from FL290 to FL410 within the New Zealand and Auckland Oceanic flight information regions since 24 February 2000. This amended the Flight Level Orientation Scheme (FLOS) to that of Annex 2, Appendix 3(a) within these FIRs under Rule 71.59(a)(4). The consequential amendment for Part 91 requires Rule 91.425 to be updated to recognise the airspace configuration that has been in place for over a year, as described in the New Zealand Air Navigation Register.*

#### **91.429 IFR operations – radio communications failure**

A submission was made requesting that the rule should be amended to incorporate the loss of communication procedures published in the

Instrument Flight Guide Emergency Section. The submission was made on the basis that the procedures in the IFG were reached after much negotiation and consultation with industry and reflects their needs. This rule has been amended to incorporate the IFG procedures.

**ACNZ** agreed with the amendment except for (3)(i). They believe that the text doesn't take into account the difference in descent procedures when an aircraft is more than 25 nm from destination, or at or less than 25 nm from destination. They included a suggested amendment.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA has noted the comment and will undertake further consultation on this matter.

### **91.505 Seating and restraints**

A pre-NPRM submission was received seeking an amendment to make paragraph (a)(4)(ii) not applicable to helicopters. The basis for the submission is that a shoulder harness was not required for seats other than for flight crew seats under the previous requirements in the Civil Aviation Regulations 1953 as there are no suitable structural attachments for shoulder harnesses for those other seats. Helicopters carry persons on low level operations such as forestry inspections and those persons are deemed to be crew members and thus under paragraph (4)(ii) are required to be provided with shoulder harnesses. Presently the seats other than flight crew seats are equipped with a safety belt with, in some models, single diagonal shoulder belt.

**CAA response:** 91.505 was written on the basis that there were no changes in the requirements prescribed under regulation 104 of the Civil Aviation Regulations 1953. On researching the issue in response to this submission it was found that an exemption applicable to helicopters from the regulation 104 requirement had been granted in New Zealand Civil Airworthiness Requirements C.4.

This rule has been amended so as to not require helicopters to have a shoulder harness for each crew member seat.

**Christian Partners Avkair** stated that (a)(3)(ii) should be deleted and instead add '(a)(4)(iii) each seat occupied by a flight crew member of a

helicopter'. They note that the comments on page 11 of the docket support this, refer last sentence.

**Rural Aviation (1963) Limited** stated that the proposed addition of (a)(3)(ii) requiring a shoulder harness for helicopter flight crew seats will cause some problems as not all helicopters are structured for full shoulder harness installations. They added that it may be more appropriate to amend this section to require a shoulder harness or single diagonal shoulder belt for helicopter flight crew seats. They also questioned the requirement of (a)(3)(iii) for all crew members in aircraft with greater than 10 passenger seats to have a shoulder harness.

**CAA response:** The CAA accepts the comments and has amended the rule to require either a shoulder harness or diagonal shoulder belt for helicopter flight crew members.

**Rural Aviation (1963) Limited** questioned the proposed amendment of (a)(4)(ii) to apply to all crew members as it will be impractical in some cases. They added that some aircraft that perform low level photography are not capable of being fitted with shoulder harnesses at all crew member seats.

**CAA response:** The CAA disagrees with this comment. Occupants of an aeroplane operating at low level are subjected to an increased risk of sudden rapid deceleration in the event of the aircraft making contact with the surface.

### **91.509 Minimum instruments and equipment**

The first amendment is an editorial correction in paragraph (a)(2) - the word mach should be with a capital M.

The second amendment is grammatical to make the requirement in paragraph (a)(15) read correctly.

The third amendment to this rule is to paragraph (b)(1), the transition provision for the automatic time recorder. Progress on the trial devices has taken longer than expected and it is proposed to extend the transition period in a way similar to that used for FDR and CVR requirements in other Parts. This allows the introduction of the requirement without

further amendment to the rule. The CAA will be Gazetting the rule with a suitable lead time to allow provision of the equipment.

**One commenter** stated that the rule has a multitude of unnecessary ‘ands’.

**CAA response:** This comment does not relate to a proposed change in the NPRM. The CAA disagrees with the comment and points out that the use of ‘and’ in each case is the correct drafting style for achieving a conjunctive intent.

**Ardmore PDC** stated that the proposal to mandate the fitment of a time recorder to all aircraft below 5700kg MCTOW with finite lifed components (91.509(a)(15)) is completely unjustified. They do not believe that there is justification for this in the NPRM. They add that the CAA review, 1998 Issue 2, implies that a special expensive tamper-resistant electrically powered recorder needs to be installed. This article seemed to reveal a hidden agenda that doesn’t appear obvious in the rule. They agree that the requirement may be necessary for helicopters where there are a lot of lifed components and a high incentive to stretch the life, but do not believe that it is justified for other aircraft. They believe that the change is another unnecessary imposition on the industry that is already struggling under the high level of CAA and Airways corporation taxes that are charged as well as the high cost of compliance with the new rules. Additionally, they believe that this change is against the CAA’s policy of aligning rules with those of the FAA and JAA. They state further that if this proposal is pursued then it must be thought out more thoroughly, and the impact on the aviation community be properly addressed. In addition, relevant parties should be directly consulted.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA disagrees with the comment. A justification for the rule was provided in the original draft to Part 91. It was the aviation industry that requested this equipment and the industry has participated fully in the development of the rule. In this area New Zealand will lead other international authorities. CASA (Australia) has shown an interest and the CAA considers it an excellent tool for improving safety by making compliance with finite life limitations visible.

**Northland Aviation Limited** agrees with most of the changes proposed but does have a problem with 91.509(b). In so far as the rule as existing did have a transition period of a reasonable length. While the Director did not include a specification their business did address the requirement by adding a new switch to existing recorders which allowed recording of 'Flight Time' as required by the existing rule. They sold this STC to customers with fixed wing aircraft that have finite lifed components believing that they were meeting the requirements of the rule. They add that it now seems that the proposed standards are somewhat tighter than the systems they have fitted. It is their understanding that the major reason for flight time recorders would be to catch up with helicopter operators that allegedly operate beyond their normal component times. They find it very difficult to believe that this practice is so wide spread that an expensive elaborate recorder system is required. They understand that the intent is to make recorders tamper proof but do not believe that this will deter dishonest persons for long. It is also their understanding that these recorders are not required in the USA. They recommend that the rule stay as it was with perhaps an extended transition period and that all aircraft that have lifed components be required to have a flight time recorder.

**CAA response:** It was explained in the original draft to Part 91 that a specification would be issued in due course. The manufacturers of the equipment spoken to have contributed to the specification and feel that it is appropriate. The CAA applauds the commenter's quick actions in fitting equipment.

**Rural Aviation (1963) Limited** states the change in (c) is fully supported.

### **91.513 VFR communications equipment**

The amendment to this rule is to specify the controlled airspace by class of airspace and add Class E airspace at night for conformity with the requirements of 91.245(a)(2).

**ACNZ** stated that in (a), VFR aircraft cannot operate within class A airspace. They believe that reference to class A airspace should be deleted.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA agrees and has amended the rule accordingly.

**Rural Aviation (1963) Limited** questioned the necessity of this section for aircraft operating under VFR. They believe that VFR radio equipment should simply have to be acceptable to the Ministry of Commerce Radio Operations Branch as meeting the appropriate New Zealand Regulations for transmitters etc.

**CAA response:** The CAA disagrees with the comment. The Ministry of Commerce Radio Operations Branch determines the suitability of radio equipment by reference to approvals issued by the CAA. The Ministry standard is the aeronautical standard.

### **91.519 IFR communication and navigation equipment**

Minor editorial corrections were made to this rule.

### **91.525 Flights over water**

This is an editorial amendment to replace the phrase life jacket with life preserver in paragraphs (a)(1) and (2) and (b). This is necessary to be consistent with the terminology used in Appendix A14, in other rule parts and as used in the FAR. Paragraph (a)(1) is also amended by adding the words ‘at least’ to make it read ‘unable to maintain a height of at least 1000 feet AMSL’. Paragraph (a)(2) is also amended by adding the words ‘capable of maintaining a height of at least 1000 feet AMSL with one engine inoperative’ as this sort of aircraft is not covered as written. Paragraph (a)(3) is amended by adding ‘or multi-engine aircraft unable to maintain a height of at least 1000 feet AMSL with one engine inoperative’ as this sort of aircraft is not covered as written.

### **91.527 Aircraft operations on water**

This is an editorial amendment to replace the phrase ‘life jacket’ with ‘life preserver’ in paragraph (1).

### **91.529 Emergency locator transmitter**



Submissions have been received advising that technically it is not feasible to comply with this requirement in gliders and small single seat aircraft. There have been a number of submissions stating that an ELT should not be required for local flights. The proposed amendment therefore makes provision for gliders and single seat aircraft to be equipped with an ELT or carry a portable ELT and an exception from the requirements for some aircraft when operating within 10 nm of an aerodrome.

A number of comments have been made saying that the provisions for operating an aircraft when an ELT becomes unserviceable are too restrictive and there should be provision to operate the aircraft for a period of time as was provided under the previous regulatory system. For this purpose a new paragraph (d) is proposed providing some relief in those circumstances.

An exemption was granted to large aircraft engaged in international air transport operations from the carriage of ELT as is the case under the FAR. This exemption was granted on the basis that such aircraft are subject to flight following and, in the case of New Zealand aircraft, are equipped with EPIRB's. An amendment is therefore proposed in accordance with the exemption – see the proposed 121.353(b) and the comments relating to this further on in this consultation document.

**Wellington Gliding Club** stated that (e)(4) infers some exemption for single seat gliders operating no more than 10 nm from 'home' airfield. They explained that the exemption required is, at minimum, for two seat training gliders engaged in operations or training within 10 nm of the airfield. Such gliders are often of lower performance designed for circuit work rather than cross-country and operate within line of sight of the airfield. They submitted that (e)(4) be reworded 'all gliders and aeroplanes equipped...'

**CAA response:** The CAA accepts the comments and has amended the rule so that all gliders, and any powered aircraft equipped with no more than one seat, being operated no more than 10 nm from the aerodrome from which they took off, do not have to comply with the requirement to have an automatic ELT installed.

**One commenter** stated that the Australians do not require an 'installed' transmitter provided the pilot has access to a portable ELT and they also

permit operation for 90 days without an ELT. (Australian Regulation 252A).

**CAA response:** This comment does not relate to a proposed change in the NPRM. The Australian standards are not acceptable in New Zealand.

**NZGA** noted that the proposals within this section are generally similar to those made to the Authority as part of Docket 97/EXE/45. They expressed concern, however, about what they see as two anomalies. The first is the acceptance of portable ELT's as a reasonable means of providing an enhanced level of safety for glider pilots while (e)(5) continues to allow microlights and manned balloons to fly without this level of protection. Secondly, the NZGA encourages its pilots to carry portable ELT's and they are generally in agreement with the intentions of (e)(3). However, they do not agree with the proposals of (e)(4) as it is significantly at variance to (e)(3) and (e)(5). They believe that either aircraft can be operated with ELT's or without them. They cannot understand how the Authority can justify no ELT in a passenger carrying microlight or a single seat glider while both occupants of a two seat glider have to carry portable ELT's.

**Wellington Gliding Club** stated that gliders are no more at risk of delays in being located than microlight aircraft and manned free balloons and there is no good reason to require gliders to, or persons in them to, carry an ELT. They submit that (e)(3) be deleted, (e)(4) be amended to delete 'gliders or', and (e)(5) be amended to read 'gliders, microlight aircraft...'

**CAA response:** The CAA does not agree with the comments. There is nothing historical to support the mandating of ELTs for these aircraft categories, portable or otherwise.

**Northland Aviation Limited** asked why (d) requires each person to have an ELT. They believe that this requirement defeats the purpose of allowing operations for 7 days as no one is likely to produce multiple numbers of portable ELT's at short notice. They believe that one portable ELT, with all passengers briefed as to its location and operation, would suffice.

**Christian Partners Avkair** stated that the words ‘carried by’ in paragraph (d) should be replaced with ‘readily accessible to’ (Refer Appendix A.15 (l)).

**CAA response:** The CAA agrees with these comments and has amended both the rule and the appendix accordingly.

**Taupo Air Services** stated that the term ‘aircraft ELT’ used through out this rule should be reduced to ‘ELT’ for simplicity without loss of definition of the acronym ‘ELT’.

**CAA response:** The CAA disagrees that ‘aircraft ELT’ should be reduced to ‘ELT’. There are different types of ELT and this needs to be reflected in the rule. The rule has been amended to read ‘automatic ELT’ or ‘portable ELT’ accordingly.

**Taupo Air Services** stated that the term ‘primarily’ should be removed from (e)(1) and consideration be given to deleting (e)(1) and replacing it with an exemption in Part 121.

**CAA response:** The CAA agrees and has moved the provision to Part 121.

**Rural Aviation (1963) Limited** agreed to the change in (e)(1). With respect to (e)(2) they ask what sort of single seat aircraft are flying in which it is impractical to install an automatic ELT. They also suggest that some single seat operators are hiding behind a ‘practicality’ smoke screen in order to avoid the cost of installing an automatic ELT.

**CAA response:** In a number of small single seat aircraft it is not possible to install the ELT aerial in accordance with appendix A.15(d). Thus the installation of an automatic ELT could not be considered dependable in these aircraft. This rule, now (e)(1), states that paragraph (a) does not apply to any aircraft equipped with no more than one seat, if the pilot is equipped with a portable ELT.

**Rural Aviation (1963) Limited** stated that helicopter operators around the country are able to recite numerous stories of searches conducted in marginal conditions for aircraft without automatic ELT’s. They believe that the number of seats in an overdue aircraft does not change the decision on whether to launch the SAR helicopter and it is unreasonable

that rescue crews should be sent on a visual search when reasonably priced reliable ELT technology is now available. Also, long searches for gliders without ELT's have been necessary in the past and technology is now available to reduce the chances of this being as necessary in the future. They also believe that whilst the carriage of portable ELT's is beneficial, in the event of a fatal accident the search helicopter is still going to be sent out to do a visual search that could be made much simpler and safer by mandating the carriage of automatic ELT's. A lot of surface area exists within 10nm of an aerodrome and it would require a significant effort to search this area visually. The search helicopter is going to be sent out regardless of proximity to the airport and a lot of rugged territory exists within 10nm of many New Zealand airports. The cost of an automatic ELT is not excessive, reliability is excellent, weight penalties are negligible, and power demand is minimal.

**CAA response:** The CAA agrees with the sentiments expressed by the commenter. However the CAA does not necessarily agree with the cost and practicality of equipping all aircraft with ELTs. As technology advances, the equipping of all aircraft might well be the case in the future. The CAA will keep the matter under review.

*Note 1: The wording in paragraph (d) has changed slightly from that proposed in the NPRM to provide additional relief for operators. This change was suggested by our general aviation specialists and will have little effect on the rule itself.*

*Note 2: Minor changes and editorial corrections to that proposed in the NPRM were made to paragraph (e). These changes were also suggested by our general aviation specialists and will have little effect on the rule itself.*

### **91.537 Inoperative instruments and equipment**

An editorial amendment was made deleting the word *inoperable* and replacing it with *inoperative*.

**One commenter** stated that he finds it interesting and sensible that the abbreviation 'MEL' is used here yet CAA does not use PIC as an abbreviation.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, MEL is an internationally accepted abbreviation for Minimum Equipment List. There is no such accepted abbreviation for pilot-in-command.

**Taupo Air Services** accepted the amendment but felt that consideration should also be given to clarify this rule, or perhaps with an additional rule, with regard to details outlining the requirements for an aircraft to have a Minimum Equipment List. 91.539 goes into how to get an MEL approved but there is nothing to state which aircraft weight range, seat break, classification, or operational use, actually requires an MEL.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA disagrees with the comment. The question of when an MEL is required is adequately covered in 91.537(b).

#### **91.541 SSR transponder and altitude reporting equipment**

Paragraph (b) is deleted as that date has passed. Paragraph (c) is now (b). There is also an editorial correction to paragraph (a).

**One commenter** stated that it is not clear as to who is responsible for fitting the transponder. The commenter believes that the rules have to be placed upon a person and suggests that in this case it should be the operator.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA points out that the requirement for compliance under Subpart F is contained in Rule 91.501.

**NZGA** noted that the Mode C requirement for gliders is still under discussion with the Airways Corporation of New Zealand and that the Authority is aware of these discussions. They suggest that a consequential amendment to 91.541 or Part 104 may be necessary once an agreed position has been reached.

**CAA response:** The comment is noted. However, the rule allows for ATC to authorise flight in transponder mandatory airspace without a Mode C transponder. Therefore no rule amendment will be required when the agreed position is reached.

ACNZ agree with the amendment.

**Taupo Air Services** stated that the term ‘pressure altitude’ in (a)(2) should be reduced to ‘altitude’ as pressure altitude has a specific definition, being altitude measured with respect to a pressure datum of 1013.25hPa. They added that the Mode C transponder is indifferent to any pressure datum. They asked whether (c) would be relabelled since (b) is to be omitted.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA disagrees with the comment. The reference to pressure altitude is correct. A transponder takes altitude information either from an encoded altimeter or from an external encoder connected to the pitot system. The altimeter or encoder uses the standard atmosphere pressure datum of 1013.25hPa to convert the measurement of pressure into a readout of altitude. Therefore it is correct to refer to Mode C information as pressure altitude information. Paragraph (c) has been relabelled as (b).

### **91.605 Required inspections**

Editorial amendments were made to paragraphs (a)(2) and (b).

**One commenter** stated that he fails to find the logic in not providing the same latitude to allow flexibility for the annual review required under 91.619.

**Christian Partners Avkair** questioned why the conditions in (b)(1) & (2) are so restrictive. They believe that the 10% extension controlled by (c) is all that is needed and therefore (b)(1) & (2) are unnecessarily restrictive. They recommend that (b)(1) & (2) be deleted and that (b) should have a full stop after 10%. They also note that most maintenance manuals approved for Air Transport Operations (Part 135) do not have any such restrictions on them and believe that Part 91 should allow the same.

**One commenter** stated that in (b)(1) the ‘other’ scheduled maintenance is rather vague. They believe that a 10% overrun should be unconditionally approved, particularly as some manufacturers do just that. Also, if an aircraft is fit to fly, within 10% tolerance to coincide

with other maintenance or for reasons of delivery for maintenance, then it is fit to fly for any purpose.

**CAA response:** These comments have been incorporated into the CIRAG TSG on airworthiness.

### **91.609 Radio station tests and inspections**

After considerable feedback from industry the requirements relating to testing of radio stations has been placed upon IFR equipped aircraft only. The enforcement of a rule relating to VFR equipped aircraft is considered too difficult by the CAA and the benefits to safety minimal.

**Christian Partners Avkair** stated that they are pleased to see this amendment as this is what was asked for in the first place.

**One commenter** stated that this is Good!

**Taupo Air Services** supports the changes to this rule.

### **91.611 Altimeter system and altitude reporting equipment tests and inspections**

The proposed amendment to paragraph (b) is no longer required as the date, 1 April 1999, has passed. However, 91.611 is still included so as to delete the unnecessary paragraph marker (a).

**One commenter** stated that the requirement for routine ‘altimeter system’ tests and inspections should **not apply to VFR** aircraft because when the rule was written the cost-benefit analysis did not include the cost to individuals of procuring and maintaining test equipment or the cost to owners/operators of having work done that was not previously required. The commenter believes that the rule is in conflict with the aims of the Civil Aviation Rules. Also, the requirement to accomplish a routine (every 24 months) altimeter test on VFR aircraft did not exist prior to the introduction of Part 91. The commenter also believes that the rule is at variance with FAR 91.411 which only requires periodic testing of IFR aircraft flown in controlled airspace. The commenter does not believe that there is any demonstrable safety benefit in applying this requirement to VFR aircraft.

**CAA response:** This comment does not relate to a proposed change in the NPRM. The Director had granted a general exemption from the requirement for VFR aircraft to have their altimeter systems tested and inspected within the preceding 24 months. The exemption was valid until 1 July 1999. A review into the altimeter testing and inspection requirements for VFR aircraft is included in the CIRAG TSG on airworthiness.

**Taupo Air Services** stated that consideration should be given to removing the term ‘pressure’ from ‘automatic pressure altitude reporting system’ in (a) for the same reasons given in 91.541 above.

**CAA response:** See CAA response to the comment by Taupo Air Services on 91.541 above.

#### **91.621 Maintenance programmes**

Minor editorial corrections were made to this rule.

#### **91.625 Changes to maintenance programmes**

Minor editorial corrections were made to this rule.

#### **91.627 Maintenance records**

The Civil Aviation Act required accurate records to be recorded. The rule is amended to reflect this requirement.

#### **91.631 Retention of records**

The period for retention of the records referred to in paragraph (1) has been extended to five years as a result of comments received from Industry. The period for retention of the records referred to in paragraph (2) has been extended to twelve months to be consistent with other record keeping requirements and also agrees with the limitation period for prosecution.

#### **91.701 Aerobatic flight**

A pre-NPRM submission was made saying that the limitations in paragraph (a)(1) and (2) precluded the use of aerobatic training areas that were previously in use under the previous regulatory requirements.



As well there are no alternative areas suitable for low level aerobatic training and practice to comply with the 2000 foot horizontal distance from congested areas at a number of localities. It was therefore proposed to amend the rule by revoking paragraphs (a)(1) and (2) and substitute them with a prohibition to conduct aerobatic flight over a congested area of a city, town, or settlement, or over any open air assembly of persons and be sufficiently distanced from such places so as not to cause undue risk to persons or property on the ground. The intention was also to revoke paragraph (e).

The same submission considered that the provision of paragraph (c)(2)(iii) says, in effect, that regardless of the aerobatic ratings held by the pilot under Part 61, aerobatic flight must not be conducted below 1500 feet unless the pilot is participating in an aviation event. The commenter added that there is no explanation given as to why participating in an aviation event is necessary as an adjunct to safety. Also, the terms and conditions of approval to conduct aerobatics below 1500 feet should be determined by the Part 141 or Part 149 issuing the approval.

*Note—Amendments to this rule have been postponed as aerobatic flight and aviation events are now to be the subject of a separate Technical Study Group. However, comments (and CAA responses made prior to the decision to postpone the amendments) on the NPRM proposals are as follows—*

**One commenter** asked what ‘aerobatic flight’ is and whether it is defined elsewhere.

**CAA response:** Aerobatic flight is defined in Part 1.

**Christian Partners Avkair** states that ‘not’ should be added between ‘as’ and ‘to’ on the second line of (a)(2) so as to make the issue clear.

**CAA response:** The CAA agrees and will amend the rule accordingly.

**One commenter** supported the changes to the aerobatic flight rules in full.

**NZGA** referred to their comments under Part 1 ‘Aerobatic flight’. In addition the NZGA is concerned that provisions stated in CASO 17, Part

3.2.3 have not been carried over into the CAR process. They state that, in the absence of any other evidence, they would like the provisions contained in CASO 17 reinstated.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the provisions in 91.701 are as applicable to gliders as they are to other categories of aircraft. Provided that a glider pilot meets the same requirements as the pilot of any other aircraft i.e. Aerobic Ratings, then glider aerobatics can be conducted below 3000ft.

**ACNZ** noted that the way (a) is written, (c) is an exemption to the requirements of (a)(3). They find this unacceptable and contrary to 91.245.

**CAA response:** The CAA accepts the comment and will remove the reference in paragraph (a).

**ACNZ** stated that controlled airspace, by definition, does not include by day class E airspace. They also stated that an aircraft carrying out aerobic manoeuvres in class E airspace would pose a threat to enroute IFR aircraft in the same airspace in that the aerobic aircraft would be barely able to see and avoid any aircraft of this nature and the IFR aircraft would have little warning of the presence of the aerobic aircraft. They believe that this could be resolved if the aerobic aircraft was required to advise the appropriate ATC unit of its intentions so that traffic information can be passed as required. They add that this is not dissimilar to parachute operations within class E airspace.

**CAA response:** This comment does not relate to a proposed change in the NPRM. However, the CAA has noted the comment and will ensure that the Technical Study Group (see the note at the beginning of the consultation details on 91.701 Aerobic flight) gives attention to the concerns expressed by ACNZ.

### **91.703 Aviation events**

*Note—Amendments to this rule have been postponed as aerobic flight and aviation events are now to be the subject of a separate Technical Study Group. However, comments received on the NPRM proposals are as follows—*

**One commenter** stated that this rule has a major ‘and’ problem.

**Rural Aviation (1963) Limited** stated that the proposed wording of (e)(2)(ii) to cover ‘crazy flying’ is great and should more than adequately cover the requirements of airshow organisers.

**One commenter** suggested that the ‘crazy flying’ issue needed to be given a lot more thought. This commenter was also not satisfied that 2700kg should be the point below which an aircraft is deemed to be 'low momentum'.

## **Appendix A – Instrument and Equipment Specifications**

### **A.3 Seating**

An editorial change was made to remove the paragraph marker (a) as this was unnecessary.

### **A.4 Restraints**

This rule has been amended to allow other standards of restraints to be used, and to allow for the testing of restraints if the required labelling has been lost or damaged. The test is equivalent to the previous test performed under New Zealand Civil Airworthiness Requirements F.15.

**Flightline Aviation Limited** stated that TSO C22 does not give the rated strength but refers to another standard, SAE AS 8043, which means that they have to find another document. They suggest that to simplify things for everyone a statement such as ‘The rated strength for the safety belts conforming to TSO C22 is 1500lbs’ as provided in the 1953 regulations should be included.

**CAA response:** The requirement in (a)(2) is only for belts without labels. If the belts meet the TSO then they will be labelled and no further investigation is required. The requirement in paragraph (a)(1)(iii) to meet the requirements of ISO 8854 has been removed as the standard is not appropriate for restraints.

**Christian Partners Avkair** stated that (2) is an excellent idea.

**One commenter** stated that this rule is another ‘blast from the past’ that did not work and will not contribute to safety in the future. The commenter added that annual proof loading of seat belts was stopped years ago because the potential for undetected damage as a result of the test far outweighed the perceived benefits.

**CAA response:** This requirement is only for belts without labels which would otherwise need to be removed due to unserviceability.

### **A.5 Child restraint systems**

This rule is amended to add the current TSO C100.

### **A.6 Aircraft lights**

This appendix has been amended to clarify the specifications for aircraft position lights.

### **A.7 Aircraft flying-time recorders**

This appendix was to have been amended to include all the requirements for aircraft flying-time recorders, but further work is required in this area and the amendment of this appendix has been postponed. However, the comments received on the proposed amendments to this appendix, and the CAA’s responses to them, are as follows—

**One commenter** stated that this rule is acceptable but asked for clarification on the intended method of measuring and recording ‘Torque Events’ or starts or other ‘cycle’ limited parameters which apply to numerous ‘life limited’ parts.

**CAA response:** The automatic flying time recorder is not intended to be a HUMS but is a straight flight time recorder. HUMS is the subject of an alternative project.

**Northland Aviation Limited** agreed with (a)(1)-(6) but said that (7) seems excessive. They believe that it is likely that any failure of the system will not go unnoticed by maintenance personnel and do not believe that operators will be as dishonest as is currently assumed. Also, given that most operators would be honest and get failures fixed or at least try and record flight times by other means the requirements of (7)

would involve unnecessary high cost. They believe that (b) is reasonable but (c) concerns them in that we are trying to introduce an accurate standard and while there is no problem technically with recording too much time it may be easier to maintain a constant standard.

**CAA response:** Advice from many in industry has indicated that the requirement in (7) is reasonable. Therefore no change is required. The option in paragraph (c) is included for those who may wish to record ground time or otherwise. However, the CAA notes the comment and will consider removing (c).

**Taupo Air Services** stated that (a) should have the word ‘required’ inserted between ‘Each’ and ‘aircraft’.

**CAA response:** The CAA disagrees with the suggested amendment. Appendix A only relates to ‘Instruments and equipment required by Subpart F...’

One equipment manufacturer questioned why the flight crew needed the indications in (b)(2) and (3).

**CAA response:** The CAA considers the requirement in paragraph (b)(2) to be necessary for aircraft operators between scheduled maintenance visits. If a unit becomes unserviceable alternative recording can be made during the period before rectification. However, the wording in (b)(2) needs to be amended. Paragraph (b)(3) states ‘as required’ as some operators may use pilots to record this information.

## **A.9 Communication and navigation equipment**

The two amendments for this rule are—

- to add additional navigation equipment to the standards listed
- to provide for different communication equipment for gliders, amateur built aircraft, and microlights

**Southern Cross Electronics** stated that (b)(1) & (2) are correct but they feel that the replacement models (1) IC-A3 and (2) IC-A22 should have been mentioned.

**CAA response:** The amendment that removed specific equipment and replaced it with “equipment listed in CAP 208 category G(a)” provides a greater range of suitable equipment. The ability to show capability of meeting the applicable requirements of CAP 208 with a test programme will provide acceptability of modern new equipment not listed in CAP 208 category G(a).

**NZGA** stated that this amendment and the consequential amendment to Part 104 are supported.

**Northland Aviation Limited** stated that if it is acceptable for aircraft in (b) to operate in certain airspace with these radios then so should all other aircraft. They do not believe that it makes much difference to general air traffic what equipment is used provided it meets the required standard. Also, if an amateur aircraft can fly beside a Piper then the same standards should apply to all.

**CAA response:** The CAA disagrees with the comment. The CAA accepts the use of the listed units in non-type certificated sport and recreation aircraft. The CAA does not consider the use of non-TSO equipment in type certificated aircraft as meeting a satisfactory standard of safety.

**Rural Aviation (1963) Limited** fully support this amendment.

*Note: TSO C50 has been included in paragraph (a)(1)(i). The fact that it was not in paragraph (a)(1)(i) was an oversight that needed to be corrected.*

#### **A.10 RNP, MNPS, and VSM equipment**

An editorial change to include a comma after MNPS in the first line.

#### **A.14 Emergency equipment**

This rule amendment introduces the following—

- a buoyancy standard for constant wear exposure suits as used by some offshore helicopter operators.

- a generic equipment standard for inflatable life preservers as well as other acceptable standards.

The newer standards reflect the current marine standards for inflatable jackets and provide operators with additional choices of equipment. It should be noted that many of these standards reflect constant wear equipment and provide operators additional choice in the equipment's use.

Paragraph D now includes a flare kit as an alternative location aid. This was considered necessary as survivors might in some cases have difficulty in erecting the radar reflector. (This is a TSO requirement). A sea anchor and a water collection bag or cups was added as these are also TSO requirements.

**Christian Partners Avkair** stated that (b)(1) & (2) are a good idea as lives are just as important in boats as they are in aircraft. They believe that paragraph (c) is also a good idea but (c)(2) is a bit late for those who try to comply with the rules straight away.

**Rural Aviation (1963) Limited** noted that the additional standards in this area would have to be the greatest victory for common sense in a long time. They are pleased that the EN 396 standard is being adopted as acceptable for aviation use and state that every helicopter operator in the country that is involved in overwater operations will be most appreciative.

**One commenter** stated that lifejackets meeting TSO C72 are more than adequate for our coastal and internal use as they are more compact and require less room. The commenter also states that from an economics point of view they are not aware of any incident in New Zealand where other than a TSO C72 would have had a different outcome.

**CAA response:** The CAA disagrees with the comment. The CAA considers the TSO C13 or equivalent Maritime Safety Authority approved jacket to be the minimum standard. Overseas experience shows the TSO C72 gear to be less effective in certain circumstances.

*Note: Paragraphs (a)(1) and (2) were changed around so as to be in the same sequence as paragraphs (b)(1) and (2). This will have no effect on the rule itself.*

### **A.15 Emergency locator transmitters**

Consequential to the proposed amendment to 91.529, the specifications for portable ELT's are listed in paragraph (i). Paragraph (f) is amended by adding the TSO C126 specification which is a new 406MHz transmitter. Australian Ministerial Standard MS241 is added to paragraph (i) as some aircraft are equipped with this type of ELT.

Also consequential to the amendment of 91.529 this appendix now refers to 'automatic ELT' and not just 'ELT'. For the sake of clarity paragraph (l) has been split up into 2 paragraphs, (h) and (i). This will have no effect on the rule itself.

The reference to Australian/New Zealand Standard AS/NZS 4330:1995 in paragraphs (e) and (i) is no longer appropriate and this has now been changed to read Australian/New Zealand Standard AS/NZS 4330:2000.

### **A.18 Crew member on-demand oxygen masks**

An editorial change to add a semi-colon to paragraph (b)(1).

### **A.19 Oxygen equipment**

An editorial change to correct the numbering in paragraph (c).

**Christian Partners Avkair** agreed with the amendment.

### **A.23 Altitude encoder equipment**

An editorial change to remove paragraph (a) as this is covered by appendix A.8.