



PURSUANT to Sections 28 and 30 of the Civil Aviation Act 1990

I, Hon Julie Anne Genter, Associate Minister of Transport,

HEREBY MAKE the following ordinary rules.

SIGNED at Wellington

This 24th day of August 2020

A handwritten signature in black ink, appearing to read 'Julie Anne Genter', is written over a horizontal line.

by Hon Julie Anne Genter

Associate Minister of Transport

Civil Aviation Rules

Part 91, Amendment 32

General Operating and Flight Rules

Docket 17/CAR/1

Contents

Rule objective	3
Extent of consultation.....	3
Summary of submissions	3
Examination of submissions.....	4
Insertion of Amendments	4
Effective date of rule.....	4
Availability of rules.....	4
Part 91 General Operating and Flight Rules.....	5
Subpart D—Visual Flight Rules.....	5
91.307 VFR flight plan.....	5
Subpart E—Instrument Flight Rules	6
91.411 Inadvertent change to flight plan	6
91.423 Minimum altitudes for IFR flights.....	7
91.425 IFR cruising altitude or flight level.....	7
Subpart F—Instrument and Equipment Requirements	9
91.525 Flights over water	9
Subpart G—Operator Maintenance Requirements	11
91.605 Maintenance programmes and schedules.....	11
91.607 Approval of maintenance programmes	16
Subpart I — Foreign Registered Aircraft Operations and Operation of NZ Registered Aircraft Outside New Zealand	18
91.753 Operations of New Zealand registered aircraft outside New Zealand.....	18
Subpart J—Operating Noise Limits	19
91.807 Engine emission compliance	19
Appendix A—Instrument and equipment specifications	20
A.2 Fuel and oil markings	20
A.8 Pressure altimeters	20
A.12 First aid kits	21
A.13 Fire extinguishers	22
A.16 Oxygen	23
A.17 Passenger oxygen masks.....	23
A.20 Protective breathing equipment	23
A.21 Crew member portable protective breathing equipment	24

Rule objective

The objective of amendment 32 to Part 91 is to –

- make editorial amendments to align the rules with current drafting style and clarify intent; and
- amend the rules to align with the ICAO standards.

Extent of consultation

A Notice of Proposed Rule Making, NPRM 19-03, containing the proposed amendments to Part 91 and 13 other rule Parts was issued for public consultation under Docket 17/CAR/1 on 17 May 2019.

The NPRM was published on the CAA web site on 17 May 2019 and emailed to subscribers of the automatic alert service provided by the CAA.

A period of 21 days was allowed for comment on the proposed rule.

Summary of submissions

Three written submissions were received on the NPRM, none relating to the proposed amendments to Part 91. These submissions and comments have been considered.

Although not mentioned in the submissions, an earlier proposed amendment to rule 91.205 (Crew members at stations) was withdrawn following an internal CAA review as additional amendments are now being considered to this rule. No changes were made to Part 91 as a result of the submissions.

The proposed amendment to revise the references to *ICAO Annex* in rule 91.753 to align with the proposed definition of *ICAO Annex* was not part of the original suite of omnibus amendments. However it was considered appropriate to include this proposed amendment to align with the proposed definition of *ICAO Annex* in Part 1.

A summary of submissions for this NPRM is available on the CAA website.

Examination of submissions

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

Insertion of Amendments

The amendments to the rules in Part 91 are reflected by:

- revoking and replacing rules 91.307, 91.411, 91.423, 91.425; 91.525, 91.605, 91.607, and appendices A.2, A.8, A.12, A.13, A.16, A.17, A.20, and A.21.

Effective date of rule

Amendment 32 to Part 91 comes into force on 1 December 2020.

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 General Operating and Flight Rules

Subpart D—Visual Flight Rules

Rule 91.307 is revoked and replaced with the following rule:

91.307 VFR flight plan

(a) A pilot-in-command of an aircraft must submit a VFR flight plan to an appropriate ATS unit before starting any flight conducted under VFR if—

- (1) the pilot-in-command plans to proceed more than 50 NM from shore; or
- (2) the pilot-in-command requires an alerting service.

(b) In addition to the requirement in paragraph (a), a pilot-in-command of an aircraft may submit a VFR flight plan to an appropriate ATS unit for any other flight conducted under VFR.

(c) A VFR flight plan referred to in paragraphs (a) or (b) must include the following information:

- (1) the aircraft registration and callsign;
- (2) the type of aircraft to be used;
- (3) the route including, if practicable for each route segment, aerodromes of departure and intended landing, estimated elapsed times, and time on the ground at each intermediate aerodrome;
- (4) the SARTIME;
- (5) fuel endurance;
- (6) the total number of persons in the aircraft;
- (7) the name and telephone contact details of the pilot-in-command;

- (8) the name of the aircraft owner or operator:
 - (9) any additional information that may assist search and rescue operations.
- (d) If a VFR flight plan has been submitted to an ATS unit under paragraphs (a) or (b), the pilot-in-command must—
- (1) inform an appropriate ATS unit of any change to the details in the flight plan and of any change to the flight plan SARTIME before the expiry of that SARTIME; and
 - (2) terminate the flight plan by advising an appropriate ATS unit before the flight plan SARTIME.

Subpart E—Instrument Flight Rules

Rule 91.411 is revoked and replaced with the following rule:

91.411 Inadvertent change to flight plan

A pilot-in-command of an aircraft operating under IFR, must in the event of an inadvertent departure from the current flight plan—

- (1) advise an appropriate ATS unit of—
 - (i) any deviation from track; and
 - (ii) any variation of 5% or more of the true airspeed or any variation of 0.02 or more of the Mach number given in the flight plan; and
 - (iii) a revised ETA when the estimated ETA to the next reporting point notified to the ATS unit is found to be in error by more than two minutes; and
- (2) regain track as soon as practicable.

Rule 91.423 is revoked and replaced with the following rule:

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 published in the applicable AIP; or
- (2) if an applicable minimum altitude is not published in the applicable AIP—
 - (i) for operations over a mountainous zone designated under Part 71 or applicable AIP, a height of 2000 feet above the highest obstacle within a horizontal radius of 5 NM from the position of the aircraft; or
 - (ii) a height of 1000 feet above the highest obstacle within a horizontal radius of 5 NM from the position of the aircraft.

Rule 91.425 is revoked and replaced with the following rule:

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 an ATC unit for flights in controlled airspace, maintain the following altitude or flight levels:

- (1) when operating at or below 13 000 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:
- (2) when operating at or above flight level 150 up to and including flight level 410 and—

- (i) on a magnetic track of 270° clockwise to 089°, any odd flight level beginning at and including flight level 150; or
 - (ii) on a magnetic track of 090° clockwise to 269°, any even flight level beginning at and including flight level 160:
- (3) when operating 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 450; 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 13 000 feet AMSL and flight level 150, unless authorised to do so by an ATC unit for flights in controlled airspace; and
 - (2) at any flight level below flight level 160 when the area QNH zone setting 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 S 43.36.00.0, E 170.09.00.0.
- (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 13 000 feet AMSL and flight level 150 if the pilot-in-command—
 - (1) is unable to operate the aircraft in level cruising flight at or below 13 000 feet AMSL or at or above flight level 150; and

- (2) has established that there is no conflict with other aircraft at the altitude to be flown; and
- (3) has given to the relevant ATS unit prior notification of the altitude to be flown.

Subpart F—Instrument and Equipment Requirements

Rule 91.525 is revoked and replaced with the following rule:

91.525 Flights over water

(a) An aircraft that is operated on a flight over water must be equipped with 1 life preserver for each person on board and stowed in a position that is readily accessible from the seat or berth occupied by the person if—

- (1) the aircraft is a single-engine aircraft and the flight distance to shore is more than gliding distance for the aircraft; or
- (2) the aircraft is a multi-engine aircraft that is unable to maintain a height of at least 1000 feet AMSL with 1 engine inoperative, and the flight distance to shore is more than gliding distance for the aircraft; or
- (3) the aircraft is a multi-engine aircraft that is capable of maintaining a height of at least 1000 feet AMSL with 1 engine inoperative and the flight distance to shore is more than 50 NM.

(b) A single-engine aircraft, or multi-engine aircraft that is unable to maintain a height of at least 1000 feet AMSL with 1 engine inoperative, that is operated on a flight over water that extends to more than 100 NM from shore must be equipped with—

- (1) enough life-rafts with buoyancy and rated capacity to accommodate all the occupants of the aircraft; and
- (2) a survival locator light on each life-raft; and

- (3) a survival kit, appropriately equipped for the route to be flown, attached to each life-raft; and
 - (4) at least 1 pyrotechnic signalling device on each life-raft; and
 - (5) 1 ELT(S) or 1 EPIRB.
- (c) A multi-engine aircraft that is capable of continuing flight with 1 or more engines inoperative that is operated on a flight over water that extends to more than 200 NM from shore must be equipped with the equipment specified in paragraph (b).
- (d) An aircraft in excess of 5700 kg MCTOW that is operated on a flight over water that extends to more than 200 NM from shore must be equipped with—
- (1) the equipment specified in paragraph (b); and
 - (2) an additional ELT(S) or EPIRB.
- (e) A manned balloon must be equipped with 1 life preserver for each person on board stowed in a position that is readily accessible from the position occupied by the person if—
- (1) the flight crosses or might cross the shore of any lake or sea; or
 - (2) the flight takes off from or intends to land at a site where the take-off or approach path is so disposed over water that in the event of a mishap there is a likelihood of a ditching; or
 - (3) the flight takes off from a site that is located within 1 NM of water at the ordinary high water mark and the wind is offshore or is less than 5 knots onshore.
- (f) The life preservers, life-rafts, signalling devices, ELT(S), and EPIRB required under any of paragraphs (a) to (e) must be installed in conspicuously identified locations and must be easily accessible in the event of a ditching of the aircraft.

Subpart G—Operator Maintenance Requirements

Rule 91.605 is revoked and replaced with the following rule:

91.605 Maintenance programmes and schedules

(a) Subject to paragraphs (b), (c), and (d), the operator of an aircraft must maintain the aircraft under—

- (1) a maintenance programme approved under Part 115; or
- (2) a maintenance programme approved under Part 119; or
- (3) a maintenance programme approved under rule 91.607; or
- (4) the manufacturer's maintenance schedule; or
- (5) if the aircraft is powered by a piston engine and has a MCTOW of 2730 kg or less, a maintenance programme that is acceptable to the Director and includes at least the following:
 - (i) details of the responsibilities and standards for maintenance of the aircraft under the applicable rule requirements;
 - (ii) details of pre-flight checks;
 - (iii) details of scheduled maintenance checks and inspections.

(b) The operator of an aircraft that is—

- (1) used for air operations under the authority of an air operator certificate issued by the Director under the Act and Part 119 must maintain the aircraft under the maintenance programme that is required by Part 119; or
- (2) used for adventure aviation operations under the authority of an adventure aviation operator certificate issued by the Director under the Act and Part 115 must maintain the aircraft

under the maintenance programme that is required by Part 115; or

- (3) issued with a special category airworthiness certificate must maintain the aircraft under a valid maintenance programme approved under rule 91.607 for the holder of the certificate of registration for the aircraft.

(c) If the manufacturer's maintenance schedule referred to in subparagraph (a)(4) does not provide for an aircraft that operates for less than 100 hours of time in service per year, the operator must ensure that the manufacturer's 100-hour inspection or an equivalent inspection is completed within the preceding 12 months.

(d) If the Director determines that a manufacturer's maintenance schedule referred to in subparagraph (a)(4) is deficient, the Director may require the operator to submit a maintenance programme for approval under rule 91.607.

(e) Except as provided in paragraph (f) and rule 91.611, the operator of an aircraft must not operate the aircraft unless—

- (1) every aircraft radio station that is required to be installed in the aircraft under Subpart F for operations under IFR has been tested and inspected under Part 43, Appendix B within the preceding 24 months; and
- (2) every static pressure system, altimeter instrument, or automatic pressure altitude reporting system that is required to be installed in the aircraft under Subpart F, or required for a surveillance transponder installed in the aircraft, has been tested and inspected under Part 43, Appendix D—
 - (i) within the preceding 24 months; and
 - (ii) 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

- (iii) following installation of, or maintenance on, the automatic pressure altitude reporting system where data correspondence error could be introduced; and
- (3) every surveillance transponder that is required to be installed in the aircraft under Subpart F has been tested and inspected, under Part 43, Appendix E within the preceding 24 months; and
- (4) every ELT or AELS that is required to be installed in the aircraft under Subpart F—
 - (i) has been tested and inspected under—
 - (A) Appendix F of Part 43, as required by paragraphs (AA) or (AB), whichever occurs earlier—
 - (AA) within the preceding 12 months; or
 - (AB) the aircraft manufacturer's 100 hour inspection or an equivalent inspection, or
 - (B) for an aircraft maintained under a maintenance programme required by rule 119.63, the scheduled intervals, which must not be more than 12 months, as described in the approved maintenance programme; and
 - (ii) has the battery replaced in accordance with the manufacturer's instructions, when the life of the battery, as established by the manufacturer, has expired; and
- (5) every compass that is required to be installed in the aircraft under Subpart F has been calibrated—

- (i) within the preceding 24 months; and
 - (ii) following any out of phase event that may affect the calibration of the compass unless the aircraft manufacturer specifies otherwise; and
- (6) every first aid kit that is required to be installed in the aircraft under Subpart F has been inspected—
 - (i) within the preceding 12 months to ensure that appropriate quantities of items are included and time-expired items are replaced; and
 - (ii) after every reported use to ensure that appropriate quantities of items are included; and
- (7) every portable fire extinguisher that is required to be installed in the aircraft under Subpart F has been inspected for condition and tested in accordance with the manufacturer's instructions or other equivalent instructions acceptable to the Director within the preceding 12 months; and
- (8) all flotation equipment that is required to be installed in the aircraft under Subpart F has been inspected for condition and tested in accordance with the manufacturer's instructions or other equivalent instructions acceptable to the Director within the preceding 12 months; and
- (9) the aircraft's empty weight and centre of gravity is re-established if—
 - (i) changes have been made to the aircraft that could affect the empty weight and centre of gravity; or
 - (ii) the operator has any reason to suspect that the information in the aircraft's flight manual is no longer accurate; and

- (10) for a powered aircraft with a maximum certificated seating capacity of 4 or more seats, the aircraft has been weighed within the preceding 10 years.
- (f) The operator of an aircraft that is maintained under a maintenance programme referred to in paragraphs (a)(1), (a)(2), (a)(3), or (a)(5) is not required to comply with any particular requirement in paragraph (e) if the maintenance programme for the aircraft includes a test, inspection, or other action that is equivalent to the particular requirement in paragraph (e).
- (g) The operator of an aircraft must—
- (1) identify in the maintenance logbook for the aircraft which maintenance option under paragraph (a) is to be used for the aircraft; and
 - (2) if the maintenance programme is one that is approved under Part 119 or approved under rule 91.607, identify in the maintenance programme the person who is responsible for scheduling the maintenance that is required in the programme; and
 - (3) if changing from the maintenance programme or option identified under paragraph(1) to another programme or option under paragraph (a), schedule the inspections required by the new programme or schedule, to provide for the continued airworthy condition of the aircraft; and
 - (4) provide a copy of the applicable maintenance programme or schedule to the person who performs maintenance on the aircraft, and upon request to the Director.
- (h) The tests and inspections required by paragraphs (e)(1), (e)(2)(i), (e)(3), and the 12 month test and inspection requirement in paragraph (e)(4)(i)(A) do not need to be performed if—

- (1) the aircraft has been inspected for the grant of an airworthiness certificate under section 9 of the Act and Part 21 within the preceding 12 months; and
- (2) the applicable equipment was installed in the aircraft when the inspection specified in paragraph (1) was performed.

Rule 91.607 is revoked and replaced with the following rule:

91.607 Approval of maintenance programmes

(a) An applicant for the approval of a maintenance programme referred to in rule 91.605(a)(3) must complete form CAA 24091/02, and submit it to the Director together with the document required by paragraph (b) and a payment of the appropriate application fee prescribed by Regulations made under the Act.

(b) The applicant for the approval of a maintenance programme must provide the Director with a document containing—

- (1) a description of the maintenance programme; and
- (2) procedures for maintenance control; and
- (3) procedures for the compilation and retention of records, reports, and technical reference material; and
- (4) instructions and procedures for the conduct of the maintenance for the particular aircraft type, including required inspections and tests; and
- (5) an inspection schedule that is consistent with—
 - (i) the manufacturer's recommendations; and
 - (ii) the operator's service experience; and
 - (iii) the type of operation in which the aircraft is engaged; and
- (6) procedures for extending inspection intervals in accordance with rule 91.611, if applicable; and

- (7) procedures for assessing and controlling engine, propeller and component TBO escalations, if applicable; and
 - (8) procedures for changing an inspection interval on the basis of service experience, if applicable; and
 - (9) sample inspection forms, and instructions for their use; and
 - (10) sample reports and records, and instructions for their use.
- (c) The Director may approve a maintenance programme for an applicant if the Director is satisfied that—
- (1) the programme meets the requirements of paragraph (b); and
 - (2) the approval of the maintenance programme is not contrary to the interests of aviation safety.
- (d) An applicant for approval of a maintenance programme for an aircraft that has a *special category—exhibition* airworthiness certificate or a *special category—limited* airworthiness certificate must, in addition to paragraph (b), provide the Director with a document containing—
- (1) details of a pre-flight inspection that must be carried out before the first flight of the day for the aircraft; and
 - (2) details of a post-flight inspection if a post-flight inspection is specified by the manufacturer or recognised military authority for the aircraft type; and
 - (3) details of an annual maintenance inspection; and
 - (4) if applicable, a schedule of lifed components and their associated life as specified by—
 - (i) the aircraft manufacturer; or
 - (ii) a military authority acceptable to the Director; or
 - (iii) the Director; and
 - (5) provisions for ensuring the continuing airworthiness of the aircraft; and

- (6) additional inspections consistent with—
 - (i) the manufacturer’s recommendations; and
 - (ii) service experience, including military operations; and
 - (iii) the type of operations in which the aircraft is engaged; and
 - (iv) the complexity of the aircraft.
- (e) A maintenance programme required by rule 91.605(b)(2) to which paragraph (d) applies must include the airframe, engines, propellers, rotors, appliances, survival equipment and emergency equipment.
- (f) Subject to any change that the Director may require under rule 91.609, a maintenance programme approved under paragraph (c) for an aircraft that has a *special category* airworthiness certificate is only valid for the period that the certificate of registration remains valid under rule 47.65.

Subpart I — Foreign Registered Aircraft Operations and Operation of NZ Registered Aircraft Outside New Zealand

Rule 91.753 is revoked and replaced with the following rule:

91.753 Operations of New Zealand registered aircraft outside New Zealand

A person operating a New Zealand registered aircraft must —

- (1) when over the high seas, comply with ICAO Annex 2; and
- (2) when operating within a foreign State, comply with the operating and flight rules of that State; and
- (3) comply with this Part, so far as it is not inconsistent with applicable rules of the foreign country where the aircraft is being operated, or ICAO Annex 2.

Subpart J—Operating Noise Limits

Rule 91.807 is revoked and replaced with the following rule:

91.807 Engine emission compliance

A person must not operate a turbojet or turbofan powered aircraft to or from an aerodrome within New Zealand unless—

- (1) for New Zealand registered aircraft, the Director is satisfied that the aircraft complies with the applicable aircraft engine emission standards specified in Appendix C to Part 21; and
- (2) for foreign registered aircraft, that aircraft is certificated or validated by the State of Registry to comply with standards that are equivalent to the applicable aircraft engine emission standards specified in ICAO Annex 16, Volume II.

Appendix A—Instrument and equipment specifications

The main clause of Appendix A is revoked and replaced with the following:

Instruments and equipment required by Subpart F must meet the following specifications and requirements:

Appendix A.2 is revoked and replaced with the following:

A.2 Fuel and oil markings

(a) **Fuel contents gauge.** Each fuel contents gauge calibrated in US gallons must be clearly marked to show that the calibration is in US gallons.

(b) **Fuel and oil placards.** Each aircraft must be placarded in the immediate vicinity of each fuel and oil filler with the specification and/or grade of fuel or oil as appropriate.

Appendix A.8 is revoked and replaced with the following:

A.8 Pressure altimeters

(a) For pressurised aircraft to be operated at altitudes above 25 000 feet, each sensitive pressure altimeter must—

- (1) for a MCTOW not exceeding 5700 kg, be—
 - (i) a counter/pointer or drum pointer altimeter at the normal pilot-in-command position; and
 - (ii) a counter/pointer, drum pointer, or three pointer altimeter at other crew stations; or
- (2) for a MCTOW exceeding 5700 kg, be—
 - (i) a counter/pointer type at the normal pilot-in-command position; and
 - (ii) either a counter/pointer or drum/pointer type at other crew stations.

- (b) For aircraft to be operated IFR at altitudes not above 25 000 feet, each sensitive pressure altimeter must be counter/pointer, drum/pointer, or three pointer type.
- (c) Each three pointer altimeter must have a striped low altitude warning sector that is fully displayed at all altitudes up to 10 000 feet and progressively withdrawn above that altitude and either—
- (1) a 10 000 feet pointer that cannot be obscured by any other pointers; or
 - (2) a concentric track indicating 10 000 feet intervals; or
 - (3) a combination of paragraphs (1) and (2).
- (d) Each sensitive pressure altimeter must—
- (1) meet the requirements of—
 - (i) TSO C10; or
 - (ii) British Standards G115, G201, or G226; or
 - (2) be adjustable for barometric pressure in hectoPascals or millibars and be presented so as to enable altitudes to be easily read to within 20 feet.
- (e) Aircraft not required to be fitted with a sensitive pressure altimeter must be fitted with an altimeter calibrated in increments of not more than 200 feet.

Appendix A.12 is revoked and replaced with the following:

A.12 First aid kits

Each first aid kit must—

- (1) be placed in a container that—
 - (i) minimises the risk of theft or deterioration of the contents; and
 - (ii) ensures that any theft may be readily detected; and
- (2) be located and secured in such a manner that—

- (i) the possibility of damage or loss as the result of an accident is minimised; and
 - (ii) there is no danger to the occupants of the aircraft; and
- (3) have its location marked—
- (i) on the outside of any compartment containing the kit; and
 - (ii) for aircraft that do not exceed 5700 kg MCTOW, on the outside of the aircraft; and
- (4) when containing narcotics, be installed in an aircraft—
- (i) in accordance with regulation 28 of the Misuse of Drugs Regulations 1977; and
 - (ii) that when not in use can be locked, or placed in a lockable hangar, or have the first aid kit containing narcotics removed to a safe and secure location.

Life rafts shall be considered to be safe and secure locations for the storage of first aid kits containing narcotics.

Appendix A.13 is revoked and replaced with the following:

A.13 Fire extinguishers

Each fire extinguisher must—

- (1) be installed and secured in such a manner that it will not interfere with the safe operation of the aircraft or adversely affect the safety of crew or passengers; and
- (2) subject to paragraph (4), be of a type and quantity of extinguishing agent suitable for the kinds of fires likely to occur in the compartment where the fire extinguisher is intended to be used; and
- (3) minimise the hazards of toxic gas concentrations; and
- (4) contain as an extinguishing agent only—

- (i) bromochlorodifluoromethane (halon 1211); or
- (ii) bromotrifluoromethane (halon 1301); or
- (iii) carbon dioxide; or
- (iv) dry powder; or
- (v) another agent that provides an equivalent extinguishing action.

Appendix A.16 is revoked and replaced with the following:

A.16 Oxygen

Oxygen used in aircraft must be of Aviation Oxygen Standard which is gaseous oxygen with a minimum purity of 99%, maximum moisture of 0.0056 grams per cubic metre, and nil carbon monoxide.

Appendix A.17 is revoked and replaced with the following:

A.17 Passenger oxygen masks

Each passenger oxygen mask must meet the requirements of TSO C64.

Appendix A.20 is revoked and replaced with the following:

A.20 Protective breathing equipment

Protective breathing equipment must—

- (1) meet the requirements of TSO C99; and
- (2) protect users from the effects of—
 - (i) smoke; or
 - (ii) carbon dioxide; or
 - (iii) other harmful gases; or
 - (iv) an oxygen deficient environment caused by other than aeroplane depressurisation.

Appendix A.21 is revoked and replaced by the following:

A.21 Crew member portable protective breathing equipment

- (a) Except as provided in paragraph (b), crew member portable protective breathing equipment must meet the requirements of TSO C116.
- (b) Crew member portable protective breathing equipment may consist of a portable oxygen supply connected to protective breathing equipment that allows unrestricted performance of crew member duties.