



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

I, Hon MICHAEL WOOD, Minister of Transport,

HEREBY MAKE the following ordinary rules.

SIGNED AT WELLINGTON

This 5th day of October 2021

A handwritten signature in blue ink, appearing to read 'M. Wood', is written over a light blue horizontal line.

by Hon Michael Wood

Minister of Transport

Civil Aviation Rules

Part 91, Amendment 34

Docket 21/CAR/3

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Rule objective

The objective of amendment 34 to Part 91 is to update the Civil Aviation Rules (the Rules) to provide the regulatory framework to fully support the use of Performance-Based Navigation (PBN) by operators. This amendment will allow operators to realise the full benefits of PBN operations by increasing PBN uptake, facilitate the use of more advanced forms of PBN and reduce mixed-mode operations.

This amendment enables the Director to determine certain PBN-related matters in CAA notices. For instance, the Director can determine the navigation specifications for PBN routes and designated airspace and the relevant operational requirements and limitations associated with those navigation specifications. In addition, the Director can also determine suitable training requirements relating to the use of a particular navigation specification. For clarity in meaning, the Director can determine the definitions and abbreviations of terms used in the PBN notices.

This amendment ensures consistency in the procedures for the making, amending or revoking of CAA notices. This is achieved by specifying that the same procedures that apply for the making, amending or revoking of ADS-B notices also apply to PBN notices.

This amendment preserves the existing arrangements that were in place immediately before the new rules in-force date. For instance, an RNP operation procedures manual (including amendments) approved by the Director before the rules in-force date continues to be valid and may be used for conducting IFR operations in the new PBN environment.

Other amendments

As part of its regulatory stewardship role, the CAA takes this opportunity to include other minor amendments to Part 91, which are not directly related to the PBN proposal. The CAA considers these amendments appropriate as they are not controversial, they better clarify the rule intent without adding any additional costs to industry, nor do they reduce aviation safety.

For instance, this amendment incorporates the provision of current exemption 61/EXE/25 into the new rule 91.255E. The new rule will allow an operator of an aircraft without an ADS-B system into

controlled airspace, if the aircraft cannot practicably or reasonably be equipped with an ADS-B system due to the characteristics of the aircraft type. This is subject to the approval of the operation by the relevant ATC unit. Current exemption 61/EXE/25 will be removed when this amendment comes into force.

An editorial correction to existing rule 91.247 is made. To clarify intent, the phrase “ensure that” is inserted at the start of paragraph (a)(2). The amendment generally requires that a pilot-in-command operating in transponder mandatory controlled airspace must 1) operate the transponder to transmit ADS-B data; and 2) ensure that ADS-B data is transmitted at all times.

This amendment also includes the following editorial corrections to existing rule 91.519 –

- “A,” is deleted from the phrase “Appendix A”, for being redundant; and
- “rule” is inserted before “91.409” in paragraph (b)(2)(i), to clarify intent and for consistency in usage throughout the Rules.

The editorial corrections do not substantively alter the intent of existing rules 91.247 and 91.519.

Extent of consultation

A Notice of Proposed Rulemaking NPRM 20-01, containing the proposed **Part 91 Performance Based Navigation Regulatory Framework** was issued for public consultation under Docket 21/CAR/3 on 16 December 2020.

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 65 days was allowed for comment on the proposed rule.

Summary of submissions

Six (6) written submissions and no oral comments were received on the NPRM. A summary of submissions for this NPRM is made available on the CAA website.

These submissions and comments have been considered and as a result the following changes have been made to the draft final rules –

- draft rule 91.403 (fuel requirements) has been removed;
- draft rule 91.263D (*Expiry of transition provisions to be specified in a notice*) has been removed and incorporated into final draft rule 91.263B; and
- subsequent draft rule 91.263F (*Savings provision*) is now renumbered ‘91.263C’.

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 this Part are reflected by –

- inserting new rules 91.261, 91.263, 91.263B, 91.263C and 91.255E;
- revoking rule 91.246;
- revoking and replacing rules 91.247, 91.255, 91.519 and Appendix A.10.

Effective date of rule

Amendment 34 to Part 91 comes into force on 1 December 2021

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 Rules

Subpart A

Rule 91.1 is revoked and replaced with the following rule:

91.1 Purpose

(a) This Part prescribes general operating and flight rules for the operation of civil aircraft.

(b) Subject to paragraphs (c)(1) and (d), the following also apply to members of the New Zealand Defence Force and any aircraft operated by the New Zealand Defence Force within the territorial limits of New Zealand:

- (1) rule 91.129:
- (2) rules 91.223 to 91.225, when operating in the vicinity of civil aircraft:
- (3) rule 91.229, when operating in the vicinity of civil aircraft:
- (4) rule 91.233:
- (5) rule 91.241:
- (6) rules 91.245 and 91.247:
- (6a) rule 91.255:
- (6b) paragraphs (1) and (2) of rule 91.261:
- (6c) rule 91.263:
- (7) rule 91.309:
- (8) rule 91.313:
- (9) rules 91.407 to 91.411:
- (10) rules 91.425 to 91.427:

- (11) rule 91.431:
- (12) rule 91.541.
- (c) This Part does not apply to—
 - (1) any member of the New Zealand Defence Force or any aircraft operated by the New Zealand Defence Force acting in connection with—
 - (i) any war or other like emergency; or
 - (ii) the defence of New Zealand and other New Zealand interests; or
 - (iii) aid to the civil power in time of emergency; or
 - (iv) the provision of any public service; or
 - (v) any operation performed within a restricted, danger, or military operating area designated under Part 71 for military purposes; and
 - (2) persons operating aircraft to which Part 101 applies; and
 - (2A) a person operating an aircraft under the authority of an unmanned aircraft operator certificate granted under the Act and in accordance with Part 102 unless compliance with any of the requirements in this Part is required as a condition of operation; and
 - (3) persons and equipment to which Part 105 applies.
- (d) The following do not apply to any member of the New Zealand Defence Force or any aircraft operated by the New Zealand Defence Force performing training for an operation specified in paragraph (c)(1) if that training cannot be performed under the rule:
 - (1) rule 91.225(b):
 - (2) rule 91.233:

- (3) rule 91.313, if training outside controlled airspace:
 - (4) rule 91.407, if training outside controlled airspace:
 - (5) rule 91.427, if training outside controlled airspace.
- (e) The following do not apply in the case of air operations conducted in New Zealand under an Australian AOC with ANZA privileges:
- (1) rule 91.111(1):
 - (2) rule 91.112:
 - (3) rule 91.115:
 - (4) rule 91.121:
 - (5) rule 91.123:
 - (6) rule 91.201(1)(i):
 - (7) rule 91.201(3):
 - (8) rule 91.205:
 - (9) rule 91.207:
 - (10) rule 91.209:
 - (11) rule 91.211:
 - (12) rule 91.213:
 - (13) rule 91.215:
 - (14) rule 91.221:
 - (15) rule 91.401:
 - (16) rule 91.501:
 - (17) rule 91.503:

- (18) rule 91.505:
- (19) rule 91.507:
- (20) rule 91.509:
- (21) rule 91.511:
- (22) rule 91.513:
- (23) rule 91.515:
- (24) rule 91.517:
- (25) rule 91.519:
- (26) rule 91.521:
- (27) rule 91.523:
- (28) rule 91.525:
- (29) rule 91.527:
- (30) rule 91.529:
- (31) rule 91.531:
- (32) rule 91.533:
- (33) rule 91.537:
- (34) rule 91.539:
- (35) rule 91.543:
- (36) rule 91.545:
- (37) rule 91.707.

Subpart C

Rule 91.246 is revoked.

91.246 Revoked

Rule 91.247 is revoked and replaced with the following rule:

91.247 Use of transponder and altitude reporting equipment

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

- (1) operate the transponder to transmit ADS-B data; and
- (2) ensure that ADS-B data is transmitted at all times when the aircraft begins to move under its own power until it has come to a complete stop at the end of the flight.

(b) A pilot-in-command of an aircraft operating in uncontrolled transponder mandatory special use airspace designated under Part 71 within the New Zealand FIR must operate the transponder —

- (1) in Mode A and Mode C; or
- (2) in Mode S if the aircraft is equipped with Mode S equipment and allocated a unique Mode S code referred to in paragraph (d); or
- (3) referred to in rule 91.257(1) providing an ADS-B system as specified in that rule.

(c) Except if paragraph (3) applies or if operating Mode S equipment, the pilot-in-command must set the transponder SSR code—

- (1) to the code assigned by ATC for the flight; or
- (2) 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.
- (d) A pilot-in-command of an aircraft must not operate Mode S transponder equipment unless the aircraft is transmitting a unique Mode S code assigned by the State of registry.
- (e) *reserved*
- (f) A pilot-in-command of an aircraft operating in transponder mandatory controlled airspace must immediately advise the ATC unit having jurisdiction over the relevant airspace of any failure or partial failure of the transponder equipment.
- (g) Unless otherwise required by ATC, only one of the aircraft in a formation flight is required to operate a transponder in accordance with paragraph (a) or paragraph (b).

Table 2. Airspace SSR Codes

Flight rules	Type of aircraft operation	SSR Code
VFR	For aircraft involved in fire fighting and reconnaissance duties	0111
IFR	All	2000
VFR	All - in Auckland Oceanic FIR only	2000
VFR	All - when operating in the aerodrome traffic circuit at a controlled aerodrome	2200
VFR	Aeroplanes other than Defence aeroplanes	1200
VFR	Gliders or balloons	1300
VFR	Powered aircraft in designated general aviation areas	1400
VFR	Helicopters other than Defence helicopters	1500
VFR	Defence aeroplanes	6000
VFR	Defence helicopters	6500

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

Rule 91.255 is revoked and replaced with the following rule:

91.255 Mandatory use of ADS-B system in controlled airspace

- (a) Except as provided in rules 91.253, 91.255D and 91.255E, a person must not operate an aircraft in transponder mandatory controlled airspace designated under Part 71 in the New Zealand FIR unless the aircraft is equipped with an ADS-B system which meets the minimum performance standards and requirements under rule 91.257.
- (b) Paragraph (a) does not apply to an aircraft operating in any portion of the airspace within the Auckland Oceanic FIR.

The following new rule is inserted after rule 91.255D:

91.255E Operation of aircraft without ADS-B due to characteristics of aircraft type

- (a) Despite rule 91.255(a), a person may operate an aircraft without transmitting ADS-B data in the prescribed airspace referred to in that rule if the aircraft cannot practicably or reasonably be equipped with an ADS-B system because of the characteristics of the aircraft type.
- (b) Before operating an aircraft referred to in paragraph (a), the person must obtain specific authorisation from the ATC unit having jurisdiction over the relevant airspace as part of the ATC clearance to enter that airspace.

The following new rules are inserted after rule 91.258E:

91.261 Requirements for navigation specification

A person must not operate an aircraft using a navigation specification referred to in rule 91.263 unless all of the following requirements are met –

- (1) the aircraft meets the airworthiness and performance requirements –
- (i) determined by the Director as specified in a notice referred to in rule 91.263; or

- (ii) equivalent to those referred to in paragraph (i) as acceptable to the Director;
- (2) the person –
- (i) is suitably trained and qualified for the navigation specification applicable to the planned route and airspace as specified in a notice;
 - (ii) complies with the operational procedures and any limitations applicable to the navigation specification, route, or airspace as specified by the Director in a notice;
 - (iii) is able to navigate the aircraft safely using an alternative means of navigation acceptable to the Director if the primary means of navigation fails at any point on the planned route; and
- (3) the Director has approved the operation if specified to do so in a notice.

91.263 Director may determine navigation specifications, requirements and related matters in a notice

- (a) After complying with rule 91.263B, the Director may determine the following as specified in a notice –
- (1) the navigation specifications applicable to PBN routes and designated airspaces;
 - (2) the operational requirements and limitations associated with the navigation specifications;
 - (3) the airworthiness and performance requirements for an aircraft operating under IFR and using a navigation specification;
 - (4) requirements for demonstrating compliance with the navigation specification;

- (5) suitable training requirements for a person who operates an aircraft under IFR and using a navigation specification;
- (6) definitions and abbreviations to give full meaning to the terms used in a notice; and
- (7) unless otherwise provided for in the rules, the expiry of any transition provision for a matter determined by the Director in a notice.

(b) A person must comply with any requirement specified in a notice referred to in paragraph (a) if the requirement applies to the person.

(c) For the purposes of rule 91.261(2)(i), and this rule, **suitably trained and qualified** or **suitable training** means the person meets all the applicable training requirements specified in a notice and under Part 61.

(d) Before determining the expiry date of any transitional provision referred to in paragraph (a)(7), the Director must be satisfied that the date is reasonable after having consulted publicly on the CAA website.

91.263B Procedures for ADS-B notice apply to navigation specification notice

(a) The procedures relating to the making, amending and revoking of an ADS-B notice referred to in rules 91.258A to 91.258E apply to a navigation specification notice referred to in rule 91.263.

(b) When following the procedures, a reference to –

- (1) **ADS-B, ADS-B system** or **ADS-B systems** is to be read as **PBN or navigation specifications**; and
- (2) **surveillance** or **surveillance systems** is to be read as **navigation or navigation systems**.

91.263C Savings Provision

(a) A RNP operation procedures manual and any amendments to the manual that was approved by the Director under rule 91.246(d)

immediately before 1 December 2021, continue to be valid and may be used for conducting IFR operations referred to in paragraph (b)(2).

(b) A person operating an aircraft and using an aircraft navigation system in accordance with RNP performance requirements approved by the Director, on the applicable RNP routes and in RNP designated airspace under rule 91.519(c), immediately before 1 December 2021, –

- (1) is deemed to have been approved by the Director to carry out a navigation specification under rule 91.261(3);
- (2) may conduct IFR operations using the applicable navigation specification specified in a notice referred to in rule 91.263(a)(1); and
- (3) must comply with all the requirements that apply to the applicable navigation specification specified in a notice referred to in rule 91.263(a)(2).

Subpart F

Rule 91.519 is revoked and replaced with the following rule:

91.519 IFR communication and navigation equipment

(a) An aircraft operating under IFR must be equipped with communication equipment for communicating with ATC or any ATS unit that—

- (1) meets level 1 standards specified in Appendix A.9; and
- (2) is capable of providing continuous two-way communications with an appropriate ATS unit or aeronautical telecommunications facility.

(b) Except as provided in paragraph (ba), an aircraft operating under IFR must be equipped with a navigation system that—

- (1) meets level 1 standards specified in Appendix A.9; and
- (2) will enable the aircraft to proceed in accordance with—

- (i) the flight plan required under rule 91.407; and
 - (ii) *revoked*
 - (iii) the requirements of ATC.
- (ba) Paragraph (b)(1) does not apply to an aircraft operating under IFR using a navigation specification referred to in rule 91.263.
- (c) *Revoked*
- (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 member 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 member 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 member 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 2 altitude measurement systems.

(g) If any independent system for either communication or navigation purposes fails, an aircraft operating in 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).

Appendix A — Instrument and equipment specifications

Appendix A.10 is revoked and replaced with the following:

A.10 MNPS and VSM equipment

Navigation systems and equipment installed for operation in 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) *revoked*
- (3) meet the equipment and functional requirements—
 - (i) *revoked*
 - (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.