



## PROTOCOL

# (OPS.04) Navigation authorisations

April 2025



### Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and the places to which we travel for work. We also acknowledge the Traditional Custodians' continuing connection to land, water and community. We pay our respects to Elders, past and present.

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# 1. Purpose

Navigation authorisations are divided into operations within reduced vertical separation minima airspace (RVSM) and performance-based navigation (PBN).

To operate in RVSM airspace, aircraft must be fitted with RVSM certified altimeters and autopilots, and operators must receive a specific approval from the aircraft's State of registry.

PBN uses global navigation satellite systems (GNSS) and computerised on board systems to achieve high levels of track and height-keeping accuracy. PBN defines aircraft navigation requirements in terms of accuracy, integrity, continuity and functionality required for the range of navigation specifications.

This protocol document suite is for the approval of PBN specifications and/or operations within RVSM airspace, and provides CASA with a level of assurance that an operator is competent and capable of demonstrating that the aircraft, equipment and flight crew meet performance standards for that navigation authorisation.

## 2. Concept and philosophy

Part 91 of the *Civil Aviation Safety Regulations 1998* (CASR) prescribes the requirements for an operator to gain approval to conduct certain PBN operations and to operate within RVSM airspace. PBN and RVSM define performance requirements for aircraft navigating on an ATS route, terminal procedure or in a designated airspace. Safe implementation of PBN and RVSM operations are integral parts of the International Civil Aviation Organization (ICAO) communication navigation surveillance and air traffic management (CNS/ATM) strategy to increase air navigation capacity and efficiency.

### 2.1 Performance-based navigation (PBN)

The PBN navigation concept is set out in ICAO Doc 9613—Performance-based Navigation (PBN) Manual, from which CASA has developed its regulatory framework – enabling PBN operations in Australia. PBN navigation specifications are denoted as either area navigation (RNAV) or required navigation performance (RNP). The key difference between RNAV versus RNP is the requirement for on-board performance monitoring and alerting. Division 91.D.8 requires an operator to obtain CASA approval prior to the conduct of required navigation performance – authorisation required (RNP AR) operations. While there is no legislative requirement for CASA to approve other PBN specifications, operators are required to have detailed procedures in their exposition/operations manual to manage the airworthiness and operations of aircraft in that airspace.

### 2.2 Reduced vertical separation minima (RVSM)

RVSM improves operational efficiency and reduces aircraft environmental impact by decreasing the vertical separation between aircraft flying within RVSM designated airspace. RVSM requirements are based on the strategy set out in ICAO Doc 9574—Manual on Implementation of a 300 m (1000 ft) Vertical Separation Minimum between FL 290 and FL 410 inclusive. While in the airspace between flight level (FL) 290 and FL 410 inclusive, aircraft are required to conduct flights using approved equipment and procedures, if reduced vertical separation is to be achieved. If an aircraft is not approved for RVSM, air traffic control (ATC) cannot separate the aircraft vertically with the reduced limits (1000ft instead of 2000ft). Instrument flight rules (IFR) aircraft can still operate in the airspace, but the greater vertical separation standard is applied by ATC.

All Australian aircraft and flight crew operating RVSM procedures must be assessed and approved by CASA.

## 3. Process

All administration tasks should follow standard regulatory service administration procedures (as applicable), in addition to the following:

- a. Operators will submit the Navigation authorisation – RNP AR and RVSM form (CASA-04-5869) for an approval under regulation 91.655 and/or 91.660.

- b. Regservices will create a case in EAP to be assigned to both a flying operations inspector (FOI) and airworthiness inspector (AWI) for assessment.
- c. Regservices and the inspector should confirm that an EAP stop alert is not active.
- d. If the application is for RNP AR, before commencing the assessment, the inspector must contact the CNS advisory panel [CNSadvisory@casa.gov.au](mailto:CNSadvisory@casa.gov.au).
- e. All associated CASA staff must be knowledgeable of, and competent with, Principle (OPS.04) which provides details for the assessment.
- f. The relevant sections (determined by scope) of Worksheet (OPS.04) must be completed by the CASA inspector and saved as a PDF document in RMS, including:
  - i. the assessment summary
  - ii. the approval data sheet.
- g. The application is a significant change; the inspector must complete the relevant section on the approval data sheet and provide the revision details for the exposition.
- h. The inspector must complete EAP in accordance with the EAP OAS Case Management – Regulatory Oversight Division (ROD) handbook (CASA-03-550).
- i. For RVSM approvals, Regservices will complete and submit the [Australian Airspace Monitoring Agency \(AAMA\) Form F2](#) record of approval to operate in RVSM airspace.

The assessment must be endorsed by an independent person, see section 3.1 of this Protocol.

### 3.1 Recommendation endorsement

All recommendations must be endorsed by a separate person, normally a Manager Regulatory Services, prior to the delegate issuing the authorisation.

The Manager Regulatory Services may assign the endorsement to another inspector.

The role of the endorser is to:

- ensure all sections of the worksheets been completed
- the assessment summary page has been completed
- the approval data sheet has been completed
- all worksheets and relevant documents have been filed in RMS
- the "Assessment" section of EAP has been fulfilled
- the "Create recommendation" section of EAP has been fulfilled

If satisfied the endorser will complete the "Endorse recommendation" section of EAP and forward the task to the delegate.

If the assessing inspector holds the delegation for the authorisation, they can issue the authorisation.

## 4. List of supplements

Only the following supplements may be used in support of this protocol. The most recently approved versions will be found on the CASA intranet website. Approved forms are located on CASA's external website.

- [Principle \(OPS.04\) – Navigation Authorisation](#)
- [Worksheet A \(OPS.04\) – RVSM assessment](#)
- [Worksheet B \(OPS.04\) – RNP AR assessment](#)
- [Worksheet C \(OPS.04\) – Other PBN assessment](#)
- [AAMA Form F2 record of approval \(airservicesaustralia.com\)](#)

## 5. Scope

This protocol covers the assessment of Australian operators intending to conduct operations in RVSM airspace and/or under a PBN specification authorised under Division 91.D.8.

This protocol does not cover the assessment of applications from foreign operators.

The following navigation specifications and authorisations do not require a specific CASA approval:

- RNP 10 (previously RNAV 10)
- RNAV 5 (previously B-RNAV)
- RNAV 1 and RNAV 2 (previously referred to as designated Precision RNAV (P-RNAV) or US-RNAV)
- RNP 4
- RNP 2
- RNP 1
- RNP 0.3
- RNP APCH
- APV BARO-VNAV.

This protocol does not cover the certification of navigation systems to support operations under a navigation authorisation. Questions relating to certification must be referred to the Airworthiness and Engineering Branch (AEB).

## 6. Competency requirements

To conduct the assessment, inspectors must have successfully completed the foundation training, advanced regulatory assessment training programs and performance based navigation training.

Inspectors must conduct their first assessment under the supervision of a qualified senior flying operations inspector or senior airworthiness inspector as required.

## 7. Associated legislation

**Table 1. Legislation associated with this protocol**

Document	Title
Part 119 of CASR	Australian air transport certification and management
Part 138 of CASR	Aerial work operations
Part 91 of CASR	General operating and flight rules
Part 91 MOS	General operating and flight rules
Part 121 MOS	Australian air transport operations—larger aeroplanes
Part 133 MOS	Australian air transport operations—rotorcraft
Part 135 MOS	Australian air transport operations—smaller aeroplanes
Part 138 MOS	Aerial work operations

## 8. Guidance references

**Table 2. Guidance material relevant to this protocol**

Document	Title
AC 91-05	Performance based navigation
AC 91-06	Performance-based communications and surveillance
AC 91-20	Reduced vertical separation minima
Part 91 AMC and GM	General operating and flight rules
Part 121 AMC and GM	Australian air transport operations – larger aeroplanes
Part 133 AMC and GM	Australian air transport operations – rotorcraft
Part 135 AMC and GM	Australian air transport operations – smaller aeroplanes
Part 138 AMC and GM	Aerial work operations

## 9. ICAO references

**Table 3. ICAO references applicable to this protocol**

Document	Title
9574	Manual on implementation
9613	Performance-based navigation manual

Document	Title
9997	PBN OPS approval process
9905	RNP AR design procedure manual

## 10. Revision history

Amendments/revisions of this protocol are recorded below in order of most recent first.

**Table 4. Revision history table**

Version No.	Date	Parts/Sections	Details
1.3	April 2025	3.1	New section Endorsement recommendation
1.2	Nov 2023	Section 3 and 5	Content transferred to latest template. Revised process section and added RNP 0.3.
1.1	June 2022	Section 7 and 8	Additional references to legislation and guidance material added for Parts 121, 133, 135 and 138.
1.0	May 2022	All	First Issue Content transitioned from PBN—Navigation Specifications and Authorisations Technical Assessor Handbook v2.0.