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Civil Aviation Safety Authority

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# Aeronautical Telecommunication and Radionavigation Service Providers—Entry Control Procedures Manual

November 2024

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### Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and their continuing connection to land, water and community, and pays respect to Elders past, present and emerging.

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Since this is an uncontrolled version of the manual which will not be updated by CASA, it should not be relied upon for any regulatory purpose. The current manual can be viewed at any time via CASA's website at <https://www.casa.gov.au/search-centre/manuals-and-handbooks/air-traffic-service-training-provider-entry-control-procedures-manual>.

You should always refer to the applicable provisions of the Civil Aviation Act, Civil Aviation Regulations and the Civil Aviation Orders, rather than this manual, to ascertain the requirements of, and the obligations imposed by or under, the civil aviation legislation.

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# References

## Acronyms

The acronyms and abbreviations used in this manual are listed in the table below.

**Table 1. Acronyms**

Acronym and abbreviation	Description
AIP	Aeronautical Information Publication
ANAV	Radio Navigation
ATEL	Aeronautical Telecommunication
CASA	Civil Aviation Safety Authority
CASR	<i>Civil Aviation Safety Regulation 1998</i>
DPS	Data Product Specification
ICAO	International Civil Aviation Organization
MOS	Manual of Standards
MTBF	Mean Time Between Failure
NOTAM	Notice to airmen: <ul style="list-style-type: none"> <li>• A notice to airmen issued by the Australian NOTAM office and containing information</li> <li>• Instruction concerning the establishment, condition or change in facility, service, procedure or hazard</li> </ul>

## Definitions

Terms that have specific meaning within this manual are defined in the table below.

**Table 2. Definitions**

Term	Definition
Accuracy	In relation to a radionavigation service or facility, the degree to which the value measured or displayed by the service conforms to the true value.
Aerodrome operator agreement	An agreement between a service provider and an aerodrome operator under which the service provider provides a radionavigation service, a telecommunication service or both, at or near the aerodrome.
Aeronautical telecommunication service (ATEL)	A service within the meaning given in Annex 10 Vol II, and as amplified in the Part 171 MOS. For the purposes of Part 171, includes: <ol style="list-style-type: none"> <li>An aeronautical broadcasting service;</li> <li>An aeronautical fixed (point to point) communication service;</li> <li>An aeronautical mobile communication service.</li> </ol>
AIS	Airservices Australia in its role as the provider of the Australian Aeronautical Information Service.
ATS provider	A person approved as a provider under Part 172.

Term	Definition
ATS provider agreement	An agreement to provide an ATEL or ANAV service that is essential to an ATS provider's operation.
Availability	<p>The percentage of the published or required operating hours for an ATEL or ANAV service, during which the service is not interrupted because of failure or maintenance of the service.</p> <p>Availability = (total time period – time that service is interrupted)/ total time period.</p> <p>(Note: the total time period is normally taken to be one year of operation).</p>
Aircraft accident	An occurrence during the operation of an aircraft in which any person involved suffers death or serious injury or in which the aircraft receives substantial damage.
Aircraft incident	An occurrence, other than an accident, which affects or could affect the safe operation of an aircraft if not corrected.
Annex 14	Aerodromes, Annex 14 to the Convention on International Civil Aviation Organization (ICAO).
ATS	Air Traffic Service(s) provided under Part 172.
Configuration	<p>In relation to:</p> <ol style="list-style-type: none"> <li>An ATEL or ANAV service: the configuration of each facility and any interconnection between facilities that make up the service;</li> <li>A facility: the configuration of equipment, hardware, software and data, and the interconnections between equipment.</li> </ol>
Competency	Possessing the knowledge, skill and judgement needed to perform specific tasks.
Coverage	In relation to an ATEL or ANAV service, the volume of airspace in which, or the locations between which, the service is nominally provided.
Facility	An ATEL or ANAV service is provided by one or more facilities at one or more locations. Each facility consists of one or more items of interconnected equipment (see also 'configuration').
Integrity	<p>The likelihood that the information supplied by a ATEL, ANAV or support service at a particular moment is correct. Includes the ability of the service to promptly warn users when the service should not be used.</p> <p>Depending on the type of service, integrity may be expressed qualitatively or quantitatively.</p>
ICAO Annex 10	<p>Annex 10 'Aeronautical Telecommunications' to the Convention on International Civil Aviation, consisting of five separate volumes titled:</p> <ul style="list-style-type: none"> <li>• Vol I: Radionavigation Aids.</li> <li>• Vol II: Communications Procedures.</li> <li>• Vol III: Digital Data and Voice Communication Systems.</li> <li>• Vol IV: Surveillance Radar and Collision Avoidance Systems.</li> <li>• Vol V: Aeronautical Radio Frequency Spectrum Utilization.</li> </ul>
Key personnel	In relation to a service provider, the person or persons who manage(s) operations, maintenance and safety.
Operating hours	The times during which the service provider must, under its approval, operate an ATEL or ANAV service.
Operations Manual	A manual prepared by an applicant or a service provider which presents all the information required under Part 171.



Term	Definition
Radionavigation service (ANAV)	Service within the meaning given in Annex 10 Vol II, and the Part 171 MOS. For Part 171, ANAV services are: <ul style="list-style-type: none"> <li>a. Any primary or secondary surveillance radar station/system supporting ATS or used for air navigation;</li> <li>b. Any ground-based navigation aid used for air navigation. Includes ground-based augmentation stations of satellite-based navigation systems.</li> </ul>
Recovery time	The period of time that a service is interrupted during its published hours of operation.
Reliability	The probability that an ATEL or ANAV service will perform to specification without failure for a specified period. Usually stated as a qualitative value expressed as 'mean time between failure' (MTBF).
Service provider	A person or organisation approved to operate and maintain an ATEL and/or ANAV service.
Support service	A service provided to a service provider that is necessary to the functioning of an ATEL or ANAV service and consists of information in electronic form and the telecommunication system that carries that information.
Support service agreement	An agreement under which a support service is provided to a service provider, setting out the functional specification, and the availability, reliability and accuracy of the support service.
Technician	A qualified, competent person engaged by a service provider to operate and/or maintain a facility, or conduct measurements of the performance or calibration of a facility during a flight inspection.
UNICOM	A non-ATS communications service provided to enhance the value of information normally available about a non-controlled aerodrome.

## Reference material

The reference material used in this manual are listed in the table below.

**Table 1. Reference material**

Document type	Title
<i>Civil Aviation Safety Regulations 1998</i>	Part 171 - Aeronautical telecommunication service and radionavigation service providers
Manual of Standards Part 171	Aeronautical Telecommunication and Radio Navigation Services
Part 2 of <i>Air Services Act 1995</i>	Division 2, Section 8
ICAO Annex 10 - Volume I	Radio Navigation Aids
ICAO Annex 10 - Volume II	Communication Procedures including those with PANS status
ICAO Annex 10 - Volume III	Communication Systems: Part I Digital Data Communication Systems Part II Voice Communication Systems

Document type	Title
ICAO Annex 10 - Volume IV	Surveillance and Collision Avoidance Systems
ICAO Annex 10 - Volume V	Aeronautical Radio Frequency Spectrum Utilization
ICAO Doc 8071 Volume I	Manual on Testing of Radionavigation Aids

# Revision history

Revisions to this manual are recorded below in order of most recent first.

**Table 2. Revision history**

Version number	Date	Parts and sections	Details
2.0	November 2024	All	Transferred to web accessible template
1.1	November 2010	Table of Contents	Cover and verso, Table of Contents
1.0	June 2002	All	Initial issue



# 1 Part 171 Regulatory Requirements

## 1.1 Purpose and Scope of this Manual

### 1.1.1 Purpose of the Manual

CASR Part 171

This is an internal CASA procedures manual that is for the guidance of CASA staff involved in assessing entry applications from organisations seeking approval under the provision of Civil Aviation Safety Regulation (CASR) Part 171 to provide an aeronautical telecommunication (ATEL) service and/or a radionavigation (ANAV) service.

### 1.1.2 Scope of the Manual

This manual is a part of the CASA document set. It includes processes, flowcharts, forms, letters and certificates to aid CASA officers assessing applications for approval for ATEL/ANAV service providers.

The manual consists of:

- Part 1: Part 171 Regulatory Requirements
- Part 2: Approval Procedures for ATEL/ANAV Service Providers
- Part 3: Approved ATEL/ANAV Service Provider's Operations Manual, detailing the contents of an approved ATEL/ANAV service provider's Operations Manual
- Part 4: Sample Documents—sample forms, letters and the Service Provider Certificate and Conditions.

By adhering to this manual's procedures, a standard and unified approach within CASA consistent with regulatory requirements will be created and maintained when assessing and approving organisations as ATEL/ANAV service providers.

### 1.1.3 Target Audience

The target audience for this manual is CASA officers assessing applications for approval for ATEL/ANAV service providers.

## 1.2 Regulatory Requirements

### 1.2.1 Subpart A

Subpart A of CASR Part 171 contains an Introductory section, Contents section, Applicability section, Interpretation (definitions) section, and, in 171.015, the basic regulatory requirement that restricts the provision of aeronautical telecommunication or radionavigation services to approved persons.

**Note:** The term 'persons' legally includes organisations.

## 1.2.2 Subparts B, C and D

These Subparts specify the technical requirements for prospective or approved providers of ATEL and ANAV services. Subpart B covers the approval of service providers; Subpart C covers the obligations and privileges of service providers; and Subpart D covers the requirements for the content of a service provider's Operations Manual. These Parts will form the main areas where CASA will centre its assessment of an application.

## 1.2.3 Subpart E

Subpart E specifies the requirements for suspension and cancellation of approvals, and directions to vary operations manuals.

# 1.3 Introduction to ATEL and ANAV Regulatory Requirements

## 1.3.1 Operational Requirements

The operational requirements for the aeronautical telecommunication and radionavigation services are:

- To support the provision of air traffic services by a provider approved under CASR Part 172
- To provide radionavigation services (i.e. navigation aids) used for the navigation of aircraft operating under the Instrument Flight Rules; and
- To ensure that operational facilities are operated and maintained in accordance with their approved technical standards by personnel who meet the standards for qualified, competent ATEL/ANAV technicians.

## 1.3.2 Operations Manual

In making application for approval, prospective ATEL/ANAV service providers are required to provide CASA with a copy of their proposed Operations Manual. This initially forms the basis of the submission for approval. The Operations Manual may vary depending upon the type of service and its complexity. For example, a national provider such as Airservices Australia would have an Operations Manual of significant content and complexity. However, the Operations Manual of a local aerodrome operator who applies to operate only one or two navigation aids may be relatively simple.

Prospective providers will need to establish procedures that address the regulatory requirements in CASR Part 171, as well as the standards in the Manual of Standards – Part 171 (Part 171 MOS). The Operations Manual must also include the functional and technical specification of all services (and the facilities providing the services), and the methods to ensure that these specifications are met.

# 1.4 Classification of ATEL and ANAV Services

## 1.4.1 Aeronautical Telecommunication Services

Aeronautical telecommunication and radionavigation services are the ground-based stations of those services defined hereafter. Airborne stations are not included (see Part 171 MOS).

These are the ground-based stations of the following services supporting an air traffic service:

- Aeronautical broadcasting service. A broadcasting service intended for the transmission of information relating to air navigation

**Note:** Aerodrome weather information broadcast services are not included.

- Aeronautical fixed service. A telecommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air services
- Aeronautical fixed telecommunication network service. A worldwide system of aeronautical fixed circuits provided, as part of the aeronautical fixed service, for the exchange of messages and/or digital data between aeronautical fixed stations having the same or compatible communication characteristics
- Aeronautical telecommunication network service. An inter-network that allows ground, air-ground and avionics data sub-networks to inter-operate by adopting common interface services and protocols based on the International Organisation for Standardization (ISO) Open Systems Interconnect (OSI) reference model
- Aeronautical mobile service. A mobile service between aeronautical ground stations and aircraft stations, in which survival craft stations may participate. Emergency position-indicating radio-beacon stations may also participate in this service on distress and emergency frequencies. This service does not include ground stations that are provided for other than ATS purposes

**Note:** UNICOM, Certified Air/Ground Radio Services (CAGRS), Pilot Activated Lighting (PAL) and Aerodrome Frequency Response Unit (AFRU) stations are not included.

- Any aeronautical telecommunication service which processes or displays air traffic control data for use by ATS.

## 1.4.2 Aeronautical Radionavigation Services

A radionavigation service intended for the benefit, and for the safe operation, of aircraft. These include all ground-based nav aids, including the ground-based augmentation stations of satellite-based navigation systems.

**Note:** Radionavigation includes radio determination (radar services) supporting ATS.

## 1.5 ATEL/ANAV Facilities

### 1.5.1 Classification of ATEL/ANAV Facilities

The classification of the types of facilities used for the provision of ATEL and ANAV services is contained in Chapter 2 of the Part 171 MOS.

## 2 Approval Procedures for ATEL/ANAV Service Providers

### 2.1 Approval Procedures for ATEL/ANAV Providers—Flowchart

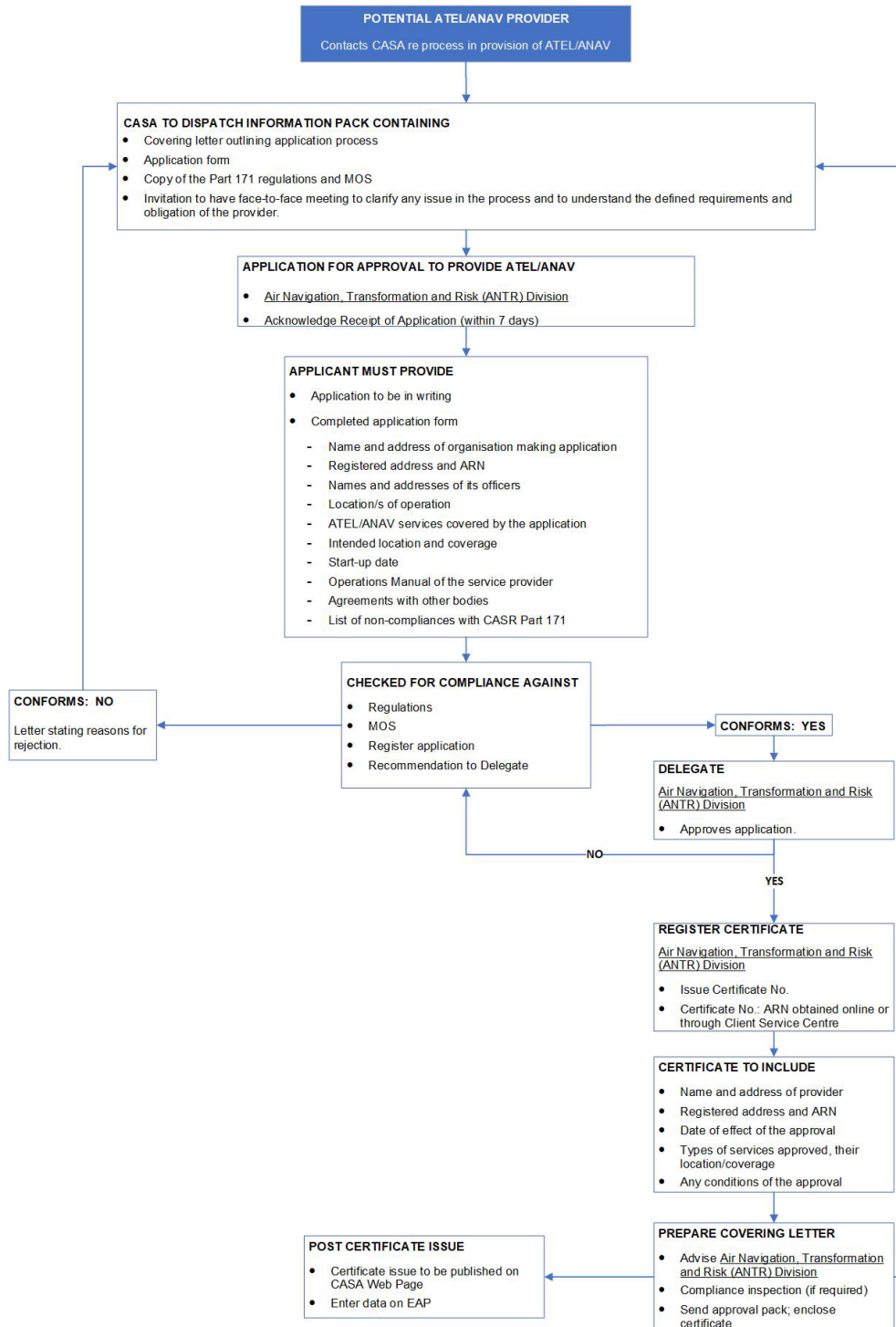


Figure 1: 2.1 Approval Procedures for ATEL/ANAV Service Providers—Flowchart

## 2.2 Initial Enquiries Regarding Application and Approval of ATEL/ANAV Service Providers

### 2.2.1 Handling Initial Enquiries

When handling enquiries from a prospective applicant, consideration should be given to the items in paragraphs 2.2.2 to 2.2.7 below.

### 2.2.2 When is an ATEL/ANAV Provider Certificate Required?

CASR 171.015

A Certificate to operate must be obtained prior to the provision of an ATEL or ANAV service. A Certificate is required if:

- The proposed service is any of those defined in ICAO Annex 10 Vol II as an aeronautical telecommunication or radionavigation service. The services are also defined in Section 1 of Part 171 MOS
- The service is in support of any Part 172 air traffic service
- The service is a ground station used by pilots for the purpose of radionavigation; or
- The service is a surveillance system used by air traffic services for air traffic surveillance.

See section 4.3 for a sample ATEL/ANAV Service Provider Certificate.

### 2.2.3 Who May Make an Application?

CASR 171.020

A person is eligible to apply for approval as an ATEL or ANAV provider if the person is any of the following:

- the Commonwealth
- Airservices Australia
- a person who is to provide a telecommunication service, a radionavigation service, or both:
  - » in cooperation with AA, in accordance with paragraph 11(3)(b) of the *Air Services Act 1995*; or
  - » by arrangement with AA, in accordance with paragraph 11(3)(c) of the *Air Services Act 1995*.

Applications purportedly made by a partnership, or by two or more persons jointly, will not be accepted.

### 2.2.4 What is Required?

CASR 171.020, 171.025

The application for a Certificate to operate must be made in writing. The following details are required in an application:

- The individual or company's name and address
- If the applicant is a corporation, the application must include the applicant's registered address and ACN, and the names and addresses of its officers

- A list of the ATEL/ANAV services for which the application is being made, prepared by referring to the list of services in the Part 171 MOS
- A statement of the intended location and coverage of each service. 'Location' is the site of the installation; 'coverage' is the volume of airspace that the service is nominally intended to cover, or the locations between which the service is provided if it is a point-to-point service
- A listing of any non-compliance with any of the standards in the Part 171 MOS or ICAO Annex 10, 11 or 14, and the reasons for, and consequences of, each listed non-compliance
- The proposed commencement date of service provision; and
- A copy of the organisation's draft Operations Manual for assessment and retention.

## 2.2.5 Contents of Operations Manual

### CASR Subpart 171.D

The required contents of an Operations Manual of an approved provider are specified at Subpart D of CASR Part 171. These requirements are amplified in Part 3 of this manual. The Operations Manual forms the technical basis of any application. CASA will not approve an application unless it also approves the organisation's Operations Manual.

## 2.2.6 Confidentiality of Information Provided

Any organisational or corporate-related information provided by an applicant for a Part 171 Certificate, including the Operations Manual of the applicant, used in the context of the assessment of the application, is to be treated as 'Commercial-in-Confidence' and must not be disclosed to any party outside CASA, unless the applicant has approved the release of the information in writing.

## 2.2.7 Assessment and Approval Process

### CASR 171.020

On receipt of an application, an initial desk-top assessment of the application and the Operations Manual will be conducted:

- The desk-top assessment will be directed toward establishing to what extent the requirements specified in the CASR Part 171 and Part 171 MOS have been met
- After the initial assessment is undertaken, if applicable, any areas of shortfall in the applicant's Operations Manual, must be notified to the applicant before CASA can continue with the assessment. If appropriate, where the applicant has already established the facilities and equipment and personnel, including technicians, necessary for service provision, CASA should raise with the applicant the possible requirement for the proposed services to be demonstrated.

## 2.3 Approval Process

### 2.3.1 On Receipt of a Written Request Form from an Applicant

On receipt of a written application, carry out the following steps:

- Raise a new electronic file and attach the applicant's correspondence to the relevant file; and

- Undertake a complete and thorough desk-top assessment of the applicant's Operations Manual for compliance against all the applicable requirements and standards of Part 171 and the Part 171 MOS. Use the Checklist form at section 4.3 to record the results of this assessment.

## 2.3.2 CASA May Ask Applicant for an Interview

CASR 11.035

When considering an application for approval, CASA may ask the applicant in writing to attend an interview. It will be normal procedure to request such an interview before an approval is given.

## 2.3.3 CASA May Ask Applicant for More Information

CASR 11.040

Decide on whether CASA reasonably needs more information than has been provided by the applicant, including any further information to be included in the Operations Manual before it can be approved, in order to complete assessment of the application.

If CASA requires the applicant to provide more information or further documentation, advise the applicant accordingly in writing, clearly stating the information that is required.

## 2.3.4 CASA May Ask for Demonstration of a Service

CASR 11.045, 171.026

When considering an application for approval, CASA may ask the applicant in writing to demonstrate its ATEL or ANAV service.

It will be normal procedure to request such a demonstration before an approval is given, unless the actual facility is not in existence at the time of application.

## 2.3.5 Matters to be Taken into Account

CASR 11.050

In assessing and making a decision on any application, CASA may take into account:

- Anything in the application
- Anything in any other document submitted by the applicant
- The results of any demonstration of a service; or
- Anything which CASA has in its records about the applicant.

However, before taking into account anything in CASA records about an applicant, CASA must inform the applicant in writing of the substance of the information, and invite the applicant to make a written submission about such matter within a specified, reasonable time.



## 2.3.6 Prepare a Letter of Approval and the Certificate

CASR Part 11, Subpart 11BA

Prepare the letter of approval (see section 4.3) and the ATEL/ANAV Approved Service Provider Certificate for the CASA delegate's approval (see section 4.3).

## 2.4 ATEL/ANAV Service Provider Certificate

### 2.4.1 Content of an ATEL/ANAV Service Provider Certificate

An approved ATEL/ANAV service provider certificate must include the following details:

- The identity of the approved provider (name and address and, if a corporation, its ACN and registered office)
- A list of those ATEL/ANAV services approved under the certificate, together with details of their location and coverage; and
- The date of approval of the certificate
- Conditions of the approval.

### 2.4.2 Conditions to be Specified on the Certificate

CASR 11.056, 11.067, 171.029

CASA may impose conditions on an approval that restricts:

- the kind of telecommunication or radionavigation service to be provided
- the way in which a service is provided
- the coverage of a service
- the time during which a service is provided; or
- to give effect to an arrangement in subsection 11(3) of the *Air Services Act 1995*.

### 2.4.3 Issue of a Certificate Cannot be Refused if CASA is Satisfied

CASR 171.027

If a person/organisation has applied for approval as an ATEL/ANAV provider in accordance with Part 171, and the applicant has demonstrated compliance, CASA must grant an approval.

### 2.4.4 When a Decision Must be Made

CASR 171.028

CASA must make a decision about an application within 90 days after receiving it. If a decision is not made in 90 days, Regulation 171.028 provides that CASA is taken to have refused the application.

**Note:** The 90-day assessment period may be extended if CASA has made a request under CASR 11.035, 11.040, 11.045, 11.047, 11.050(2) or 11.050(3A). The time between when CASA makes the request and when the applicant conducts a demonstration, comes in for an interview, provides CASA with the information, makes a statutory declaration or a written submission is not included in the 90-day period.

## 2.4.5 Suspension or Cancellation of Approval

CASR 171.220, 171.225, 171.230, 171.235, 171.237

CASA may suspend or cancel an approval if the Regulation is breached. However, CASA must be able to justify the suspension or cancellation.

Suspension and cancellations require CASA to provide the reason for the action in a show cause notice.

CASA must cancel the approval of a person if an ATEL/ANAV service provided in cooperation, or by arrangement, with Airservices ceases.

All proposed actions to suspend or cancel a Certificate should be coordinated with the CASA Legal, International & Regulatory Affairs Division.

## 2.5 Issue of ATEL/ANAV Service Provider Certificate

### 2.5.1 Delegate

Following assessment of the application and completion of the compliance/entry control checklist - ATEL/ANAV Service Provider Certificate Checklist (Form 1099), the ATEL/ANAV Provider Certificate and the approval letter are forwarded to the Delegate for signature.

If the Delegate is satisfied that all requirements have been met, they will sign the approval letter.

CASA retains:

- One copy of the approved provider's Operations Manual; and
- A copy of the ATEL/ANAV Service Provider Certificate.

The following documents are sent to the applicant:

- CASA's approval letter; and
- ATEL/ANAV Provider Certificate.

See section 4.2 for the following sample letters:

- Sample Letter to Grant an ATEL/ANAV Provider Certificate.
- Sample Letter of Refusal to Grant a Certificate.

### 2.5.2 Term of Certificate of Approval

Certificates are normally issued for three years but may be varied where CASA deems necessary.

## 2.6 Changes to the ATEL/ANAV Service Provider Certificate

### 2.6.1 Imposing and Varying Conditions on a Certificate

CASR 171.035

If it is necessary to vary anything on a Certificate, a replacement Certificate will be issued. This will be the case where:

- There is a change in the service(s) provided by an approved provider
- An additional service is provided
- It is necessary to change or add any of the conditions on a Certificate.

If an approved service provider wishes to make a change to the services provided under the Certificate, or to provide additional services, the services provided would no longer be covered by the approved Operations Manual of the provider. Before making the change, the service provider must prepare a draft amendment of its Operations Manual and forward the draft amendment to CASA for approval.

Such a proposed change to an approved service is to be processed by CASA as a variation of the original approval. This is to be authorised by re-issue of the Certificate with the amended or additional entries covering the change to the service, or the new service. It will be necessary in such cases for the approved provider to include the safety work associated with any change to the services to support the amendment to the Operations Manual.

## 3 Approved ATEL/ANAV Service Provider's Operations Manual

### 3.1 Operations Manual to Contain or Refer to Information

#### 3.1.1 Content

CASR 171.090

The content of an Operations Manual must meet the requirements specified in Subpart D of CASR Part 171 and the Part 171 MOS.

The items that must be included in an Operations Manual are listed in the following paragraphs.

#### 3.1.2 Reference to Other Documents

It is CASA policy that a requirement to include particular information in an Operations Manual may be satisfied by referring to that information in another document held by the service provider.

## 3.2 Organisation Chart

### 3.2.1 Content of the Organisation Chart

CASR 171.095

An organisation chart of the service provider must show:

- The names and relevant qualifications, experience and positions of the key personnel—i.e. person or persons responsible for the management of:
  - Operations—i.e. the technical operation, including the installation, commissioning, removal from service and return to service, of services
  - Maintenance—i.e. the on-going scheduled and unscheduled maintenance of facilities providing services
  - Safety—i.e. the policy and procedures adopted by the organisation to ensure that its services provide for the safety of aviation in accordance with the Part 171 requirements.
- The numbers of qualified technicians who will operate and maintain each service. It is important that CASA assessment officers should check that the nominated technicians are qualified and competent to undertake the operation and maintenance functions involved in service provision
- The organisation chart should also state whether personnel are employees or not e.g. contractors etc.

## 3.3 Standards

### 3.3.1 Types of Standards

CASR 171.100

A listing of the standards that relate to the design, installation and testing, operation and maintenance of each service. The standards could include those listed in:

- The Part 171 MOS
- ICAO Annex 10
- International Standards
- ISO Standards
- Australia/New Zealand Standards
- An overseas aviation authority's standards relevant to the service
- RTCA standards
- Industry standards; or
- Equipment manufacturer standards as included in equipment handbooks as specifications or standard operating performance parameters.

### 3.3.2 Assessment of Standards

It is important that CASA compliance officers make an assessment of the relevance and adequacy of the standards for each service. In particular, compliance with the ICAO Annex 10 standards should be given particular attention. There must be a very strong reason for any non-compliance with the ICAO standards.

## 3.4 Functional Specification and Performance Values

### 3.4.1 Functional Specification

CASR 171.105

A functional specification of each service, together with the values of availability, reliability, accuracy and integrity (as applicable) of each service.

### 3.4.2 Derivation of Performance Values

The performance values must be derived from either one or more of the following sources:

- The known performance of the service based on actual operational experience either in Australia or with similar systems operated overseas
- The predicted performance based on pre-commissioning testing and trials
- The manufacturer's documented design specifications; or
- Theoretical assessment.

Where relevant ICAO standards for the performance parameters exist in Annex 10 or elsewhere, CASA compliance officers should check that the values entered in the Operations Manual meet or exceed the ICAO values.

### 3.4.3 Basic Formulae for Performance Values

The basic formulae for calculating Availability and Reliability parameters in Attachment F to ICAO Annex 10 Volume I, and are also shown below:

- Inherent Availability ( $A_i$ ) =  $MTBF / (MTBF + MTTR)$ , where MTBF is the mean time between failure, and MTTR is the mean time to repair
- Operational Availability ( $A_o$ ) =  $MTBM / (MTBM + MDT)$  where MTBM is mean time between maintenance, and MDT is mean down time.

Reliability is normally provided in terms of MTBF.

Integrity may be a qualitative or quantitative value and will depend upon the type of service being provided.

## 3.5 Technical Specification

### 3.5.1 Technical Specification Requirement

CASR 171.110

For each service, the following information is to be provided under this requirement:

- The type and location of each facility making up the service
- The technical specification of each facility type
- A description of the interconnection of facilities within each service, and of the interface with other services; and
- The method of monitoring the performance and integrity of each facility against its specification or standard operating parameters. For modern facilities, the monitoring system should provide a continual indication of the serviceability status of facilities.

## 3.6 Safe Operation

### 3.6.1 Safe Operation of Services and Facilities

CASR 171.115

An operations manual must describe and/or contain the following procedures, records and methods for the safe operation of services and facilities:

- The way in which each telecommunication or radionavigation service and each related facility is configured at any time
- The design of each facility and each item of equipment so that it provides a safe service
- The design of, or changes to, a service or facility are authorised by a person who is qualified and competent to do so
- How to specify any changes to a service or facility, and to design, test and implement those changes

- Commissioning a new service or facility
- The system to be used to maintain a record of the operational performance of a service
- How to monitor the performance of each service and facility, and to compare the results with the appropriate technical specification
- If a service fails or a facility fault occurs, including the way in which the failure or fault is to be reported and rectified
- How to report and rectify any defects found during operation and maintenance of the facility
- The procedure to be used to:
  - detect and correct any latent defects in equipment; and
  - change software (includes any form of data or instructions for an electronic device) to adapt to any changes to the configuration of hardware; and
  - change the design of equipment or facilities to adapt to any change to the functional or technical specification.

## 3.7 Facility Operation and Maintenance Plan

### 3.7.1 Content of the Facility Operation and Maintenance Plan

CASR 171.120

The operation and maintenance plan for each service/facility must include:

- The procedures for maintenance
- A description of the maintenance scheduling system
- The interval of time between scheduled maintenance and/or routine performance inspections, and the basis of the establishment of that time interval
- The operation and maintenance instructions for each facility
- A workload analysis of the technicians involved in facility operation and maintenance. The objective of this requirement is to show that the organisation has, or will have, sufficient numbers of technicians to carry out the operation and maintenance plan
- Details of planned facility flight inspections. This must include details of the standards and procedures to be used for flight inspections, the scheduled time interval between flight inspections, and the identity of the flight inspection organisation that will be contracted to carry out the flight inspections
- The method for repair of equipment. If repair work is to be undertaken by a third-party organisation, then the identity of the repair organisation should be included.

### 3.7.2 Assessment of the Operation and Maintenance Plan

In assessing the operation and maintenance plan proposed by an applicant, CASA compliance officers should be satisfied that the procedures, maintenance schedules, maintenance instructions, including standard settings and performance limits, will provide a basis to ensure that facilities continue to operate within specification between maintenance intervals.

## 3.8 Agreements with Other Organisations

An Operations Manual should contain copies of agreements with other organisations.



## Aerodrome Operator Agreement

Such an agreement will be necessary in the situation where the Part 171 applicant is proposing to use facilities owned by an aerodrome operator, such as on-aerodrome nav aids or facilities in a control tower owned by an aerodrome. CASA should not approve a Part 171 provider that intends to use aerodrome-owned facilities unless there is an agreement with the owner.

## ATS Provider Agreement

Such an agreement will be necessary if the Part 171 service is to support a Part 172 ATS service that is provided, or is planned to be provided, by another organisation that holds, or has made an application for, a Part 172 Certificate.

CASA should not approve a Part 171 provider to support a Part 172 service unless such an agreement is in place.

## AIS Data Product Specification (DPS)

If the details of any service e.g. radionavigation aids are to be published in the Aeronautical Information Publication (AIP), then an AIS provider will provide the Part 171 service provider with a DPS outlining the aeronautical data to be provided and how to provide it i.e. data quality requirements.

## Support Service Agreement

Such an agreement will be necessary if the Part 171 applicant proposes to use a support service that is provided by a third-party telecommunications company which is necessary for the provision of an ATEL or ANAV service, including the remote monitoring of the service. The following examples show where a support service agreement will be necessary:

- In situations where an ATEL service uses a telecommunication bearer provided by another organisation (telco) for inter-centre data or voice transfer
- Where a service uses radar data extracted from a radar sensor operated by a non-Part 171 provider
- Where an aeronautical database is provided by another organisation not having a Part 171 or Part 172 Certificate.

Support service agreements will not be required where the support service is to be provided by another approved Part 171 or Part 172 organisation.

Support service agreements must include the functional specification of the support service, and as applicable, its availability, reliability, accuracy, integrity and recovery time, and/or any other parameters, that are pertinent to establishing the functional standards of the support service.

## 3.9 Test Equipment

### 3.9.1 Test Equipment

CASR 171.140

The Operations Manual must describe in detail the procedures and practices that the applicant proposes for the calibration and maintenance of test equipment used in the operation and maintenance of ATEL/ANAV services and facilities.

Providers who show compliance with the relevant requirements in Chapter 6 of Part 171 MOS, or with the ISO 9001 standards for test equipment, will satisfy this requirement.

## 3.10 Interruption to Services

### 3.10.1 Interruption to Services

CASR 171.145

The Operations Manual must contain procedures for responses to scheduled or unscheduled interruptions of ATEL/ANAV services. The items to be included must cover:

- The overall procedure to be adopted to respond to failures, including technician call-out procedure in and out of working hours;
- A specified service recovery time which is to be the basis of the planned response to a failure;
- The process to be undertaken should it become obvious that the specified recovery time cannot be achieved; and
- The method to provide an alternative service, if available.

## 3.11 Document and Data Control Processes

### 3.11.1 Document and Data Control Processes

CASR 171.150

An applicant must include processes for the control of documents and data associated with service provision in the Operations Manual. The controls must cover the authorisation, publication, distribution, and amendment of all documentation issued, or required by the organisation (see Chapter 7 of Part 171 MOS).

## 3.12 Security Program

### 3.12.1 Security Program

CASR 171.155

An applicant must establish a security program that minimises the risk of unauthorised access, entry by animals, or malicious damage to a service or facilities. The security program is to be in accordance with the standards in Chapter 9 of Part 171 MOS.

## 3.13 Changes to Procedures

### 3.13.1 Changes to Procedures

CASR 171.160

An Operations Manual must include the process by which the applicant intends to undertake changes to its established operation and maintenance procedures. This may be part of the Safety Management System, or a stand-alone process. It should cover the design and authorisation aspects of change management.

## 3.14 Safety Management System

### 3.14.1 Safety Management System

CASR 171.125

The Safety Management System adopted by the organisation must comply with the standards in Chapter 3 of Part 171 MOS.

## 3.15 Technicians—Qualifications, Training and Certification

### 3.15.1 Requirements

CASR 171.050

Subregulation 171.050, together with the standards in the Part 171 MOS, establish the personnel qualifications and the specialised training required of technicians engaged by a service provider to operate, and/or to carry out maintenance on, facilities providing aeronautical telecommunication or radionavigation services.

'Technician' is a defined term in Part 171. It means a person who is engaged by a service provider to operate or maintain any facility, or to conduct measurements of the performance or calibration of a facility during a flight inspection.

### 3.15.2 Qualifications

The minimum qualifications required for technicians are listed in the Part 171 MOS.

### 3.15.3 Certification

It is necessary for service providers to have a system in place for assessing the competency of technicians.

Approved organisations are required to provide technicians with a personal certificate that lists the authorisations that the technician has been given. This certification must include the types of facilities for which the technician has been granted authorisation, the operation and maintenance functions authorised, the date at which each authorisation was granted, and the date at which the authorisation expires, or the date on which revalidation or reassessment is required.

### 3.15.4 Training

Technicians who carry out functions associated with the operation and maintenance of facilities must be given specialised training on each facility type, and assessed as competent.

An ATEL/ANAV service provider must provide each technician with a certificate containing:

- Name of the technician; and
- Description of the operation and maintenance functions that the technician may perform; and

- Description of the kinds of facility or facilities for which the technician is authorised to perform those functions; and
- The period during which the certificate is effective.

### 3.15.5 Competency Assessment

It is necessary to have a procedure for ongoing competency checking, recency checking and refresher training to ensure ongoing retention of competence.

The competency assessments must be carried out by a person holding the qualifications prescribed in the Part 171 MOS for assessors, and the assessment process must ensure that each technician:

- Has received a course of training or instruction in the operation and maintenance of each facility for which he/she has responsibility; and
- Has been assessed as competent to operate and maintain those facilities without supervision.

### 3.15.6 Contract Technicians

Where an approved organization engages a third party organization to provide technicians to operate or maintain a facility covered by the Certificate, the certificate holder remains responsible for compliance with the requirements of Part 171, including the requirements in relation to technician qualifications, training and certification.

### 3.15.7 Functions Which can Only be Carried out by Technicians Holding a Personal Certification

In amplification of the above requirements, the term 'operate or maintain a facility' in the context of Part 171 means any actions undertaken on the facility which can affect its performance while it is in operational service.

This includes:

- Placing a facility into operational service; including the associated parameter checks and measurements of the performance of the facility taken immediately prior to its placement into service, to ensure its accuracy and integrity
- Removing a facility from operational service
- Monitoring the performance of a facility and undertaking executive or operational functions on the facility, including re-configuration of the facility while the facility remains in operational service (this does not necessarily include basic go/no-go monitoring of the status of the facility derived from built-in test equipment or supervisory systems)
- Undertaking periodic performance inspections, measurements and adjustments in accordance with the maintenance plan while the facility is in operational service
- Undertaking periodic maintenance in accordance with the maintenance plan while the facility remains in service; and
- Undertaking flight testing, measurement or flight calibration functions.

But does not include:

- Basic go/no-go monitoring or over-sighting the ongoing operational performance of any facility while it is online
- Testing, engineering trials, maintenance, modification, or repair of any facility that has been taken out of operational service
- Maintenance on a facility that has been taken out of service
- Engineering trials on a facility that has been taken out of service; or
- Repair of modules or components of a facility at a remote agency.

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These functions may be undertaken by persons holding qualifications equivalent to that required for technicians but not necessarily holding a personal certificate of authorisation to operate and maintain the particular facility.

## 4 Sample Documents

### 4.1 Application Form

#### 4.1.1 ATEL/ANAV Service Provider — Application Form

The ATEL/ANAV service provider application Form 1094 can be accessed on the [CASA Website](#).

### 4.2 Letters

#### 4.2.1 Sample Letters in relation to an Application for a Certificate

CASA officers can access templates for the sample letters via the Document Catalogue: [Document Catalogue \(sharepoint.com\)](#).

### 4.3 Certificate

#### 4.3.1 Issue of ATEL/ANAV Service Provider Certificate

The ATEL/ANAV service provider certificate is issued within Enterprise Aviation Processing (EAP).

### 4.4 Conditions of Approval

#### 4.4.1 Conditions of Approval for the ATEL/ANAV Service Provider Certificate

CASA officers can access templates for the conditions on ATS provider approvals via the Document Catalogue: [Document Catalogue \(sharepoint.com\)](#).

### 4.5 Checklist

#### 4.5.1 ATEL/ANAV Service Provider Certificate Checklist

The ATEL/ANAV Service Provider Certificate Checklist (Form 1099) can be accessed on the [CASA Website](#).