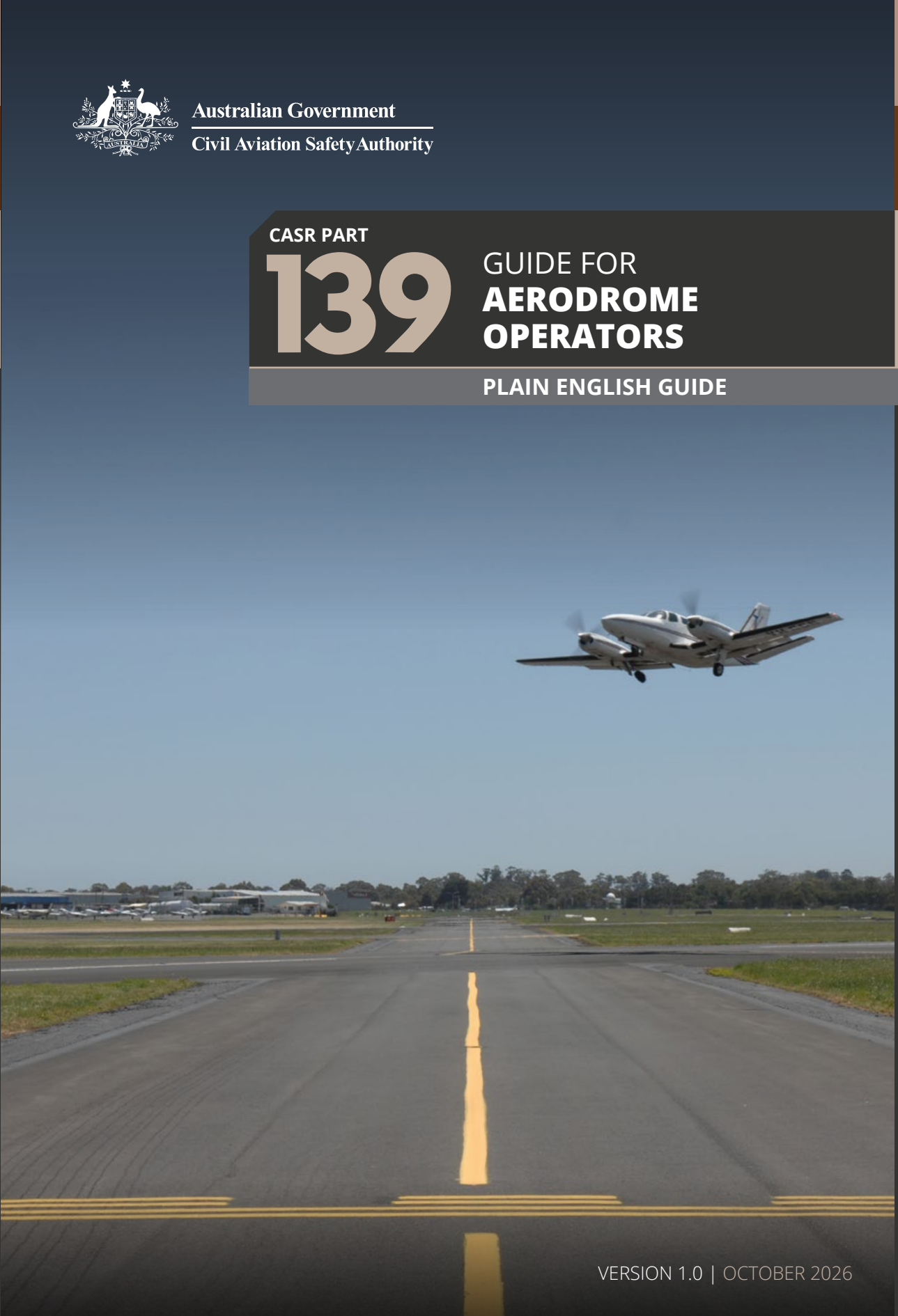
Australian Government
Civil Aviation Safety Authority

CASR PART

139 GUIDE FOR AERODROME OPERATORS

PLAIN ENGLISH GUIDE



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About this guide

Part 139 of the Civil Aviation Safety Regulations 1998 (CASR) and its associated Manual of Standards (MOS) sets out the applicable rules for operating certified aerodromes.

This Civil Aviation Safety Authority (CASA) plain English guide summarises and restates these regulations from Part 139, its associated MOS and relevant advisory documents. This guide reorganises the information contained in these documents to make it easier for you to find, understand and apply the rules for aerodrome administration, operations and maintenance.

You must comply with Part 139 of CASR rules applicable to aerodrome operations. The guide provides references to the corresponding legislation so you can easily refer to the full text of the CASR and the MOS. The current legislation can be found on the Federal Register of Legislation website.

We are committed to providing you with accurate, consistent and clear information to help you understand your legal obligations. All efforts have been made to ensure the information contained in this guide is correct at the time of publication. However, the information is subject to change without notice. You should ensure you are using the most current version of the guide, which can be found on the CASA website. Please visit the CASA website regularly for updates.

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CASA is responsible for the safety regulation of civil air operations in Australian territory, and for the regulation of Australian-registered aircraft outside Australian territory.

For further information, visit CASA's website: casa.gov.au

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Who is this guide for?

This guide is for operators and personnel involved in the operation and management of certified aerodromes. A certified aerodrome is an aerodrome whose operator holds an aerodrome certificate issued by CASA.

Aerodromes with a terminal instrument flight procedure are required to be certified. Operators of other aerodromes may also apply to CASA for an aerodrome certificate.

The operator of a certified aerodrome must comply with the applicable requirements of Part 139 of CASR and Part 139 Manual of Standards (MOS). These requirements cover how the aerodrome is operated and maintained, including its facilities, infrastructure, reporting, inspections, safety management and other operational requirements.

This guide is particularly relevant to:

- local councils
- resource and mining companies
- private aerodrome operators
- other organisations responsible for operating certified aerodromes.

It focuses on certified aerodromes supporting domestic and regional air transport, general aviation and non-scheduled international operations.

Part 139 also contains requirements that extend beyond the operation of certified aerodromes. These include requirements for certain aerodrome radio services, managing objects, structures and emissions that may create hazards for aircraft operations, and the provision of aerodrome rescue and firefighting services.

This guide is not designed to be used by:

- certified aerodromes designed to accommodate scheduled international operations
- certified aerodromes with more than 350,000 passenger movements in a financial year
- aerodromes used solely for military purposes aerodromes that are not certified, including aeroplane landing areas (ALAs) and helicopter landing sites (HLSs).

How to use this guide

In this guide, certain words have been defined to avoid repetition and improve readability.

Unless stated otherwise, the word 'you' refers to the aerodrome operator, and any personnel with responsibilities delegated by the aerodrome operator in the administration, operation and maintenance of the aerodrome.

A list of abbreviations and acronyms can be found in Appendix A and a full list of definitions in Appendix B.

Where we do not define a word in this document, consider its meaning to be that given in the regulations or, if none is given, the Macquarie Dictionary.

For improved understanding, the guide includes exceptions, notes, lightbulbs and explainers.

Exceptions – certain regulations set out a principal legal requirement that in certain circumstances can be varied, or in some cases ignored. You must read these exceptions to understand the requirements fully.

Notes – are included to provide additional information or context.

Lightbulbs – provide useful extra information and are generally based on CASA's advisory circulars (ACs) and other guidance material.

Explainers – provide a more detailed explanation and are based on CASA's ACs, definitions, or other useful information.

The following terminology table has been created to improve readability:

Term	Meaning
Act	the Civil Aviation Act 1988
aerodrome	an area of land or water (including any buildings, installations and equipment), either: › established as an aerodrome under the Air Navigation Regulations › the use of which as an aerodrome is authorised under the regulations made under the Act intended for use wholly or partly for the arrival, departure or movement of aircraft
aerodrome facility	any of the following physical things at an aerodrome: › the movement area including runways, taxiways, taxi lanes, shoulders, aprons, primary and secondary parking positions, runway strips and taxiway strips › infrastructure › structures › equipment › earthing points › cables › lighting › signage › markings › visual approach slope indicators › any other similar thing that is physical matter and is used for operating aircraft at the aerodrome **Note:** Aerodrome facilities are physical matter. For example, a safety management system is not an aerodrome facility. Management and administrative processes do not constitute an aerodrome facility.
approval	approval in writing by CASA, unless the contrary intention appears
approved	approved by CASA, whether with or without conditions, unless the contrary intention appears
becomes aware	in relation to an aerodrome operator's awareness of the numbers of aircraft movements at the aerodrome within a period – the operator is taken to know the relevant number of such movements as soon as a reasonable operator, monitoring such movements in any way, would know in relation to an aerodrome operator's awareness of the numbers of aircraft passenger movements at the aerodrome within a period – the operator is taken to know the relevant number of such movements at the earlier of the following: › the date of publication, if any, by the Department, of the aircraft passenger movement numbers for the aerodrome for the period › as soon as a reasonable operator, monitoring such movements in any way, would know
Department (the)	the Department of the Commonwealth administered by the Minister who administers CASR. At the date of making, this is the The Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts (DITRDCSA), but this may change from time to time in accordance with Administrative Arrangements Orders made by the Governor-General

Term	Meaning
equipment	any reference to equipment being required, fitted, carried or accessible means equipment which is operative or serviceable
may	indicates an option in the context of the requirement
MOS	refers to the Part 139 Manual of Standards unless indicated otherwise
movement area	the part of an aerodrome used for take-off, landing and taxiing aircraft, consisting of the runway(s), taxiway(s) and the apron(s)
must	indicates an obligation or necessity (i.e. a mandatory requirement)
pilot	when used in relation to the location of a thing relative to the pilot of an aircraft, means the pilot in command of the aircraft, unless the contrary intention appears
regulations	refers to the Australian civil aviation legislation, noting specific reference is made to the Federal Aviation Authority (FAA) (United States) and European Aviation Safety Agency (EASA) (European) regulations where necessary
RWYCC	runway condition code
terminal instrument flight procedure (TIFP)	officially designed, published flight paths that guide aircraft using instruments during the critical arrival, departure, and landing phases at an aerodrome, especially in poor visibility, while maintaining strict separation from ground obstacles via protected airspace surfaces

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CHAPTER 1
CERTIFICATION OF AERODROMES

1.1 Overview

(139.B and AC 139.B-01)

This chapter explains when an aerodrome must be certified, how to apply for an aerodrome certificate, and the responsibilities that come with maintaining certification. It also outlines the circumstances in which CASA may grant, suspend or cancel a certificate, and the processes that apply if certification changes.

For most aerodrome operators, certification is a one-time process followed by ongoing compliance with the Civil Aviation Safety Regulations (CASR), the Manual of Standards (MOS) and the procedures described in the aerodrome manual. Understanding these requirements will help you maintain your certification and ensure your aerodrome continues to operate safely and in accordance with regulatory requirements.

The chapter also explains the limited circumstances in which a ground surveillance system may be required as a condition of an aerodrome certificate, and the roles of CASA and air traffic service providers in establishing those requirements.

1.2 Do you need an aerodrome certificate?

(139.001 and 139.025)

Before operating or upgrading an aerodrome, you should determine if certification is required.

An aerodrome must be certified if it has a published terminal instrument flight procedure (TIFP), unless that procedure is only used for specialised helicopter operations.

A TIFP is a CASA-approved procedure that enables aircraft to take off, approach or land using instruments rather than visual cues. This typically occurs in poor weather or low-visibility conditions. Examples include non-directional beacon (NDB) or instrument landing system (ILS) approaches. The presence of a TIFP indicates that the aerodrome supports instrument flight rules (IFR) operations, which demand higher safety, infrastructure and operational standards.

A specialised helicopter operation involves the carriage of persons or cargo:

- between the Australian coast and an offshore installation
- between offshore installations
- to or from the helipad of a hospital
- to or from the helipad of a State or Territory emergency service.

For example: A hospital helipad has an instrument approach procedure that is used only by helicopters transporting patients or medical personnel to or from the hospital.

1.3 Applying for an aerodrome certificate

(139.020 and CASR 11.045)

When you are ready, apply for your aerodrome certificate in writing to CASA. You must include a copy of your proposed aerodrome manual (see chapter 4 of this guide).

In assessing your application, CASA may request that you:

- demonstrate you can provide the services that would be provided if the application is granted
- demonstrate you can operate a facility or item of equipment to provide the service
- allow them to inspect any relevant facility or equipment (whether operational or not).

CASA has published AC 139.B-01 Applying for aerodrome certification, to provide detailed information and guidance on the application and certification process.

If you wish to apply for aerodrome authorisations, exemptions and approvals, CASA AC 139.A-04 Applying for aerodrome authorisations, exemptions and approvals provides you with detailed guidance information.

Explainer: Consider your aerodrome operations

Before making an application for an aerodrome certificate, CASA recommends you discuss aircraft operating requirements with each potential aerodrome user:

- airlines intending to provide air transport services
- emergency service organisations
- flight training organisations
- aeroclubs and gliding clubs
- non-scheduled air transport operators
- aviation maintenance providers
- any other organisation that may base their operation at the aerodrome.

If you are considering incorporating a terminal instrument flight procedure in your aerodrome operations, CASA recommends you consult with a certified instrument flight procedure designer to identify and understand any potential facility requirements or operational implications.

CASA also recommends you consult external stakeholders regarding:

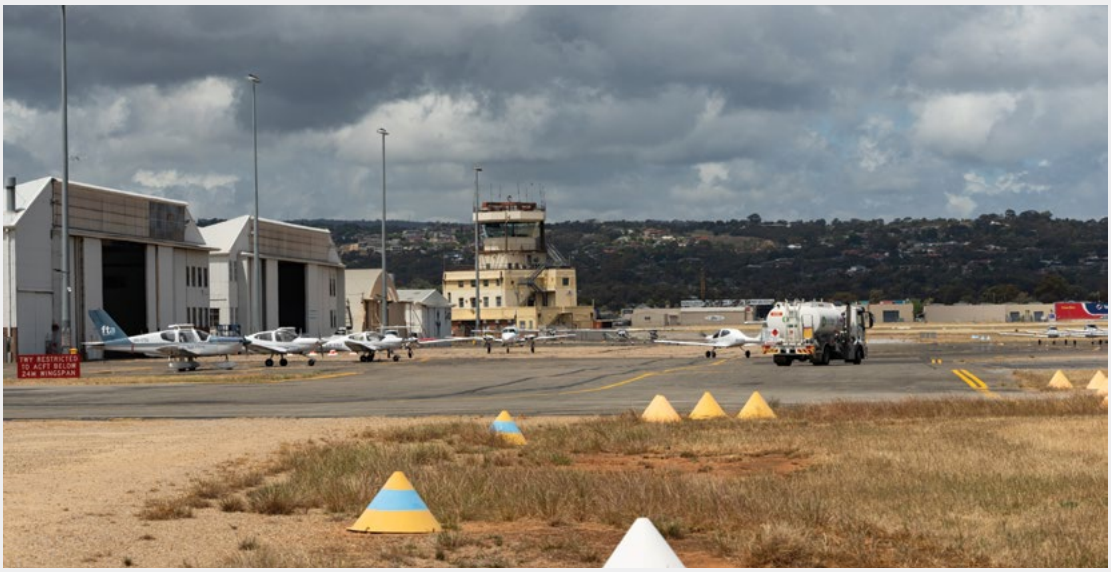
- the availability of communication, navigation and surveillance (CNS) and meteorological (MET) facilities
- the proximity of the aerodrome to other aerodromes, obstacles and terrain.

External stakeholders may include:

- Airservices Australia
- Bureau of Meteorology
- land-use planning authorities responsible for the aerodrome site and those in the aerodrome vicinity (i.e. within 15 km of the aerodrome)
- neighbouring aerodrome operators.

Emergency response plans administered by local authorities will be critical in the event of an aviation incident, accident or emergency. You should engage with local emergency response agencies early in the planning phase.

CASA may conduct a risk assessment if your aerodrome reaches certain passenger and aircraft movement numbers. The assessment will determine if your aerodrome needs an air traffic control service and/or an aerodrome rescue and firefighting service. If your aerodrome could potentially become a controlled aerodrome, early engagement with Airservices Australia is essential.



1.4 Granting, suspending or cancelling an aerodrome certificate

Granting an aerodrome certificate (139.030 and CASR 11.055)

CASA must grant you an aerodrome certificate if it is satisfied that:

- your aerodrome facilities and equipment comply with the relevant regulations and requirements
- your proposed aerodrome manual complies with the requirements (see chapter 4 of this guide)
- your aerodrome complies with the requirements relating to safety management, emergency preparedness and other systems (see chapter 5 of this guide)
- you could operate and maintain the aerodrome safely and in accordance with the aerodrome manual and civil aviation legislation.

Your aerodrome certificate is valid until you no longer require it, or it is suspended or cancelled by CASA.

Suspending or cancelling an aerodrome certificate (139.035)

CASA may suspend or cancel your aerodrome certificate by written notice, if it believes that:

- your aerodrome facilities and equipment do not comply with Part 139 or the Manual of Standards (MOS)
- your aerodrome manual does not comply with the requirements (see chapter 4 of this guide - Aerodrome manual)
- your aerodrome does not comply with the requirements for safety management, emergency preparedness and other systems (see chapters 5 and 6 of this guide – Safety and risk management and Emergency planning and response)
- you are not operating or maintaining the aerodrome safely and in accordance with your aerodrome manual and civil aviation legislation
- you have failed to operate and maintain the aerodrome with a reasonable degree of care and diligence
- you have breached a condition of your aerodrome certification
- your aerodrome maintenance, facilities or equipment do not meet the standard necessary for the safety of air navigation
- you have failed to allow CASA access to inspect the aerodrome.

Before suspending or cancelling your certificate, CASA must:

- give you a show cause notice that:
  - sets out the facts and circumstances that, in CASA's opinion, would justify the suspension or cancellation
  - invites you to explain why the certificate should not be suspended or cancelled
- consider any written submissions from you within the time allowed that address the facts and circumstances that may justify the suspension or cancellation.

Suspension or cancellation of your certificate takes effect either at the time:

- specified in the written notice
- you are given the written notice.

Suspension ceases either at the time:

- specified in the suspension notice
- at any other time directed by CASA.

You may apply for an authorisation, exemption, or approval when compliance with aerodrome standards cannot be met. AC 139.A-04 Applying for aerodrome authorisations, exemptions and approvals provides comprehensive information about when this may be applicable and how to apply.

Who to notify if your aerodrome ceases to be certified (139.040)

You must notify the following organisations in writing as soon as possible if your aerodrome ceases to be certified:

- the aeronautical information service (AIS) provider
- each certified designer responsible for maintaining a terminal instrument flight procedure (TIFP) for your aerodrome.

1.5 Conditions on an aerodrome certificate to operate a ground surveillance system

(139.125 and 139.130)

An air traffic services (ATS) provider may request CASA to impose or vary a condition where a safety assessment demonstrates that ground surveillance is necessary for the safe control of aircraft and vehicles in specified areas of the aerodrome.

If a ground surveillance system is required, then you must comply with the applicable requirements relating to surveillance equipment, vehicle equipment and vehicle movement procedures.

The information in this section is only relevant to aerodrome operators whose certificate requires a ground surveillance system because of an ATS request.

Request by an air traffic services (ATS) provider for a condition to be imposed or varied

If you operate a certified aerodrome with an ATS, the ATS provider may request that CASA:

- imposes a condition on your aerodrome certificate, requiring a ground surveillance system to operate one or more areas of your aerodrome
- varies the condition.

Such a request must both:

- specify where the ground surveillance system is to operate at your aerodrome
- include a safety assessment, demonstrating that the system is necessary to ensure the safe control of aircraft and vehicles operating in those areas.

The request must also:

- specify changes to the areas if the variation includes a change to where the ground surveillance system operates at your aerodrome
- include a safety assessment demonstrating that the requested variation is necessary to ensure the safe control of aircraft and vehicles operating in the relevant areas of your aerodrome.

Before making a request, the ATS provider must consult with you about the request.

CASA may impose or vary a condition requested by the ATS provider

CASA may either:

- impose the condition on an aerodrome certificate
- vary a condition already on the certificate.

The condition may include requirements for operating the aerodrome ground surveillance system. The final condition or variation may differ from what the ATS provider requested.

If CASA decides to impose or vary the condition requested by the ATS provider, it must give notice of the decision to both the ATS provider and you. The time the condition or variation takes effect must be no less than 6 months after the date of the notice.

If CASA refuses the request, it must, as soon as practicable, give written notice to you and the ATS provider, including reasons for the decision.

Regulation 139.125 outlined in this section does not limit CASA's other powers to impose or vary conditions on an aerodrome certificate.

1.6 Aerodrome facilities and equipment

(139.065)

The facilities and equipment at a certified aerodrome must meet the applicable standards in the Part 139 MOS.

The standards that apply will depend on your aerodrome, its facilities and the operations it supports. They cover the design, installation, operation and maintenance of facilities and equipment such as runways, taxiways, runway strips, visual aids, wind direction indicators and aerodrome lighting.

The Part 139 MOS also sets standards for access to movement areas and for the design and location of facilities to reduce hazards associated with aircraft operations.

When determining the standards that apply, you need to consider:

- the aerodrome reference code (see section 2.3 of this guide)
- the type of aircraft and operations the aerodrome supports
- whether operations are conducted during the day or at night
- whether the runway is visual or instrument
- whether a facility is new, existing or being upgraded.

CHAPTER 2
DETERMINING YOUR AERODROME REFERENCE CODE (ARC)

2.1 Overview

(MOS 4.01)

The aerodrome reference code (ARC) is the foundation for many of the design and operational standards that apply to a certified aerodrome. It provides a consistent method of matching an aerodrome to the size and performance characteristics of the aeroplanes it is intended to accommodate.

Understanding the ARC is important because it influences the standards for runways, taxiways, aprons, separation distances, obstacle limitation surfaces and other aerodrome infrastructure. Whether you are operating an existing aerodrome, planning upgrades or accommodating new aircraft types, the ARC helps determine whether your facilities remain suitable and compliant.

This chapter explains what the ARC is, how it is determined, and how the three elements of the ARC are used to identify the appropriate aerodrome standards.

2.2 What is an aerodrome reference code (ARC)?

(MOS 4.01)

Every certified aerodrome is assigned an aerodrome reference code (ARC), which defines the key design and operational standards that apply to it. A certified aerodrome must be designed to standards that accommodate the size and performance of aircraft that will use it. These include the aircraft's wingspan, outer main gear wheel span (OMGWS), and runway length required for take-off or landing. These standards are indicated by the ARC.

The ARC is important both for:

- operators using the aerodrome - to inform them of the aircraft size and performance that the aerodrome can accommodate
- aerodrome managers, planners and designers - to ensure that runways, taxiways, and other facilities are adequately sized for the aircraft operating at the aerodrome.

The ARC also provides a common language between aerodrome operators, designers and CASA to ensure that runways, taxiways, aprons and obstacle limitation surfaces (OLS) are built and maintained to consistent safety standards.

2.3 Aerodrome reference code (ARC)

(MOS 4.01)

You need to know what ARC applies to your aerodrome and its runways, because it is used throughout the aerodrome standards and can affect runway and taxiway dimensions, separation distances, obstacle clearances and other aerodrome facilities.

Understanding the ARC is particularly important when you:

- are certifying an aerodrome
- are planning a new runway, taxiway or other aerodrome facility
- are upgrading or changing existing facilities
- want to accommodate a larger or different aeroplane type
- are assessing whether existing aerodrome facilities remain suitable for the aircraft using them.

The ARC is made up of 3 elements:

- a code number (or runway code number), determined by the aeroplane reference field length
- a code letter, determined by the aeroplane wingspan
- the outer main gear wheel span (OMGWS).

If you operate an existing certified aerodrome, you should not normally need to work out the ARC as it should be stated in the aerodrome manual and existing aerodrome records. Published aerodrome information may also be available through the Aeronautical Information Publication (AIP), including the En Route Supplement Australia (ERSA) and relevant aerodrome charts.

If you are proposing a change to the aerodrome or the types of aeroplanes it accommodates, you may need to reconsider whether the existing ARC remains appropriate.

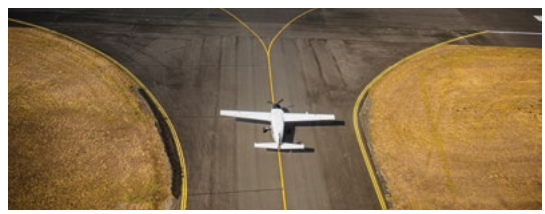


image: AdobeStock | Amelie

ARC element 1 – aeroplane reference field length

The first element of the ARC is a code number from table 1 that corresponds with the highest aeroplane reference field length required by aeroplanes using the aerodrome.

Table 1: Aerodrome Reference Code (ARC) number (or runway code number)

ARC element 1	
Code number	**Aeroplane reference field length**
1	less than 800 m
2	not less than 800 m
3	not less than 1,200 m
4	not less than 1,800 m

When selecting a code number, CASA recommends that you consider the aircraft types and operations to be accommodated. These considerations determine the standards for design, operations and reporting.

The ARC is based on the aeroplanes the aerodrome is intended to accommodate. It is not a description of the physical length of your existing runway.

For example, having a 1,500 m runway does not automatically make it a Code 3 runway. You need to consider the aeroplane reference field length of the aeroplanes the aerodrome is intended to serve.

The aerodrome operator decides both the runway length required for operations and the ARC that best reflects the aerodrome's intended use.

ARC element 2 – aeroplane wingspan

The second element of the ARC is the code letter from table 2 that corresponds to the largest wingspan of the aeroplanes using the aerodrome.

Table 2: ARC letter

ARC element 2	
Code letter	**Wingspan**
A	up to but not including 15 m
B	15 m up to but not including 24 m
C	24 m up to but not including 36 m
D	36 m up to but not including 52 m
E	52 m up to but not including 65 m
F	65 m up to but not including 80 m

For many smaller aerodromes, the applicable code letter will be determined by relatively small aeroplanes. However, you should consider the largest aeroplane the facilities are intended to accommodate, rather than the aircraft type that operates most frequently.

ARC element 3 – outer main gear wheel span (OMGWS)

The third element of the ARC is the OMGWS as described in table 3. The ARC will include the largest OMGWS for aeroplanes using your aerodrome.

Table 3: OMGWS

ARC element 3	
Code letter	**Wingspan**
OMGWS	up to but not including 4.5 m
OMGWS	4.5 m up to but not including 6 m
OMGWS	6 m up to but not including 9 m
OMGWS	9 m up to but not including 15 m

You may not routinely use or refer to the term OMGWS in the day-to-day operation of a small aerodrome. It is nevertheless important because landing gear dimensions can affect the aerodrome facilities and design standards required to safely accommodate an aeroplane.

The choice of the largest wingspan and OMGWS is your decision. If you do not choose the most appropriate options, there may be operational limitations for certain aeroplane types.

An example of an ARC is Perth Airport in Western Australia. It has an ARC of 4F made up from runway length of 3,444 m which is a Code 4 runway of > 1,800 m. It accommodates widebody aeroplanes with wingspans of 52 – 65 m, giving it an ARC of 4F, with an OMGWS of 9 m up to but not including 15 m.

If the aerodrome changes, or an operator wants to introduce a larger or different aeroplane, the existing ARC and associated facilities may need to be reviewed. A change in aircraft characteristics can affect whether existing runways, taxiways, separation distances and other facilities remain suitable.

CHAPTER 3
AERODROME INFORMATION

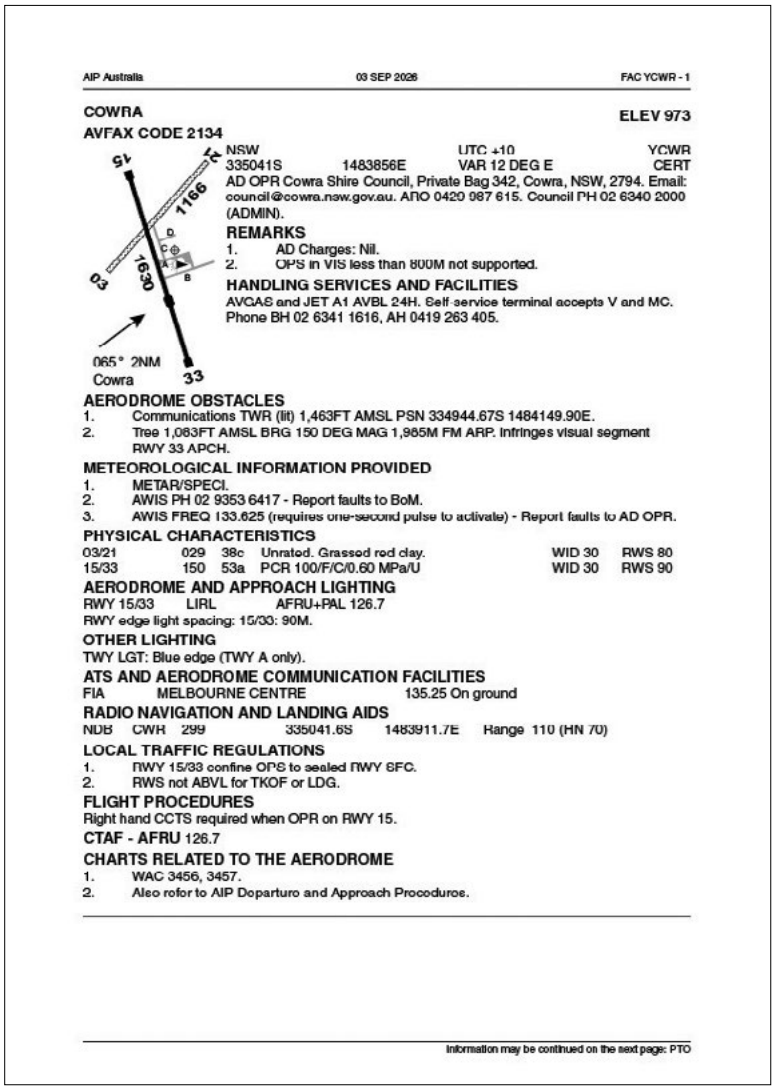
3.1 Overview

Aerodrome information published in the Aeronautical Information Publication (AIP) provides pilots and other aviation organisations with information they need to plan and conduct operations safely.

As the operator of a certified aerodrome, you have an important role in ensuring information about your aerodrome is accurate, current and provided to the Aeronautical Information Service (AIS) provider. In this role, you are an aeronautical data originator (ADO).

This chapter explains your role as an ADO, the role of the AIS provider, and how aerodrome information moves from the aerodrome operator through the aeronautical information system for publication and use by the aviation industry.

Figure 1: Example of aerodrome information published in the AIP



AIP Australia 03 SEP 2026 FAC YCWR - 1

COWRA **ELEV 973**

AVFAX CODE 2134

NSW UTC +10 YCWR
335041S 1483856E VAR 12 DEG E CERT

AD OPR Cowra Shire Council, Private Bag 342, Cowra, NSW, 2794. Email: council@cowra.nsw.gov.au. AHO 0429 087 615. Council PH 02 6340 2000 (ADMIN).

REMARKS
1. AD Charges: Nil.
2. OPS in VIS less than 800M not supported.

HANDLING SERVICES AND FACILITIES
AVGAS and JET A1 AVBL 24H. Self-service terminal accepts V and MC. Phone BH 02 6341 1616, AH 0419 263 405.

15 33 1166 1630 065° 2NM Cowra

AERODROME OBSTACLES
1. Communications TWR (lit) 1,463FT AMSL PSN 334944.67S 1484149.90E.
2. Tree 1,083FT AMSL BRG 150 DEG MAG 1,985M FM ARP. Infringes visual segment RWY 33 APCH.

METEOROLOGICAL INFORMATION PROVIDED
1. METAR/SPECI.
2. AWIS PH 02 9353 6417 - Report faults to BoM.
3. AWIS FREQ 133.625 (requires one-second pulse to activate) - Report faults to AD OPR.

PHYSICAL CHARACTERISTICS

03/21	029	38c	Unrated. Grassed red clay.	WID 30	RWS 80
15/33	150	53a	PCR 100/F/C/0.60 MPa/U	WID 30	RWS 90

AERODROME AND APPROACH LIGHTING
RWY 15/33 LIRL AFRU+PAL 126.7
RWY edge light spacing: 15/33: 90M.

OTHER LIGHTING
TWY LGT: Blue edge (TWY A only).

ATS AND AERODROME COMMUNICATION FACILITIES
FIA MELBOURNE CENTRE 135.25 On ground

RADIO NAVIGATION AND LANDING AIDS
NDB CWR 299 335041.6S 1483911.7E Range 110 (HN 70)

LOCAL TRAFFIC REGULATIONS
1. RWY 15/33 confine OPS to sealed RWY SFC.
2. RWS not ABVL for TKOF or LDG.

FLIGHT PROCEDURES
Right hand CCTS required when OPR on RWY 15.

CTAF - AFRU 126.7

CHARTS RELATED TO THE AERODROME
1. WAC 3456, 3457.
2. Also refer to AIP Departure and Approach Procedures.

Information may be continued on the next page: PTO

The figure is provided as an example only. For current aerodrome information, always refer to the current AIP published by the AIS provider.

3.2 Your role as an aeronautical data originator

As the aerodrome operator, you are an aeronautical data originator (ADO) for information about your aerodrome. This means you are responsible for originating and providing aerodrome information within your area of responsibility so that it can be processed and published through the aeronautical information system.

The AIS provider is responsible for receiving and managing aeronautical information for publication. Your responsibility as the ADO is therefore different from the role of the AIS provider. You originate and provide the aerodrome information and the AIS provider manages that information for publication and distribution.

3.3 Role of the Aeronautical Information Service (AIS) provider

The Aeronautical Information Service (AIS) provider receives aeronautical information from aeronautical data originators (ADOs), including aerodrome operators, and manages that information for publication and distribution to aviation users.

In Australia, Airservices Australia is the AIS provider. It publishes aeronautical information through products and services including the Aeronautical Information Publication (AIP).

The AIS provider may issue you with a data product specification (DPS), which sets out the format, content and quality requirements for the aerodrome information you provide. See section 3.6 of this guide.

Figure 2: Notification process

3.4 Aerodrome information and data reporting

(MOS 5.01 and CASR 175.445)

Accurate and up-to-date aerodrome information is essential for safe flight operations.

As the aerodrome data originator (ADO), you are responsible for ensuring that all published details about your aerodrome are correct and verified. This includes runway dimensions, lighting, navigation aids, frequencies, declared distances and any temporary changes.

You must promptly provide this information to CASA or Airservices Australia (as applicable) for inclusion in the Aeronautical Information Publication (AIP), NOTAMs and related databases.

You must also appoint someone within your organisation as the AIP responsible person. This is usually a single senior manager within your organisation.

Incorrect or outdated aerodrome data can cause operational errors or safety risks for pilots using the information for flight planning and approach procedures.

3.5 Information required to be provided to the AIS provider

(MOS 5.01, 5.02, 5.03, 5.04, 5.05, 5.06, 5.07, 5.08, 5.09, 5.10 and 5.11)

You must ensure that the information detailed in tables 4, 5, 6, 7 and 8 are reported to the AIS provider for publication in the Aeronautical Information Publication (AIP). This includes temporary changes that may require a Notice to Airmen (NOTAM).

This information must also be contained within your aerodrome manual. See section 4.3 of this guide.

When included in your aerodrome manual, the information must be reported as per the data product specification (DPS). If no DPS is applicable, the information must be specific as per the requirements of the MOS.

Table 4: Aerodrome information to be reported

Topic	Information to be reported
aerodrome diagram	illustrate on a single aerodrome diagram: › layout of runways, taxiways and aprons › nature of the runway surfaces › designations and lengths of the runways › designations of the taxiways › location of illuminated and non-illuminated wind direction indicators › location of the aerodrome reference point › location of the terminal buildings › location of any helicopter runway type final approach and take-off (FATO) areas or helicopter aiming points › location of any glider runway strips, if located external to a runway strip › location and type of a visual approach slope indicator system (VASIS) (if provided)
aerodrome administration statement	include the: › aerodrome operator's name, postal address, telephone number, email address, website and facsimile number (where applicable) › name and telephone number of the person nominated by you to be the contact for any matters arising outside normal business hours (an email address and facsimile number should also be provided if available) › use of aerodrome for military, public, or private operations, or a combination of these operations › aerodrome use charges **Note:** The telephone numbers, email addresses and facsimile numbers must be numbers or addresses that are regularly monitored for incoming calls, emails or faxes.
aerodrome location	for the aerodrome: › the name › the state or territory location › the latitude and longitude based on aerodrome reference point › the Y location code indicator › the elevation › the currency of any Type A and B charts

The aerodrome information you forward to the AIS provider, and information in your aerodrome manual, must be consistent. See chapter 4 of this guide for more information about the aerodrome manual.

Table 5: Movement area information to be reported

Topic	Information to be reported
runways	for each runway designation: › runway code number (see chapter 2 of this guide) › runway bearings, in degrees magnetic › length and width of the runway and its surface type(s) › for instrument runways, the geographic location coordinates of the threshold and the elevation of the midpoint of the runway threshold › strength rating of the runway pavement calculated using the aircraft classification rating – pavement classification rating (ACR – PCR) system › length and width of the runway strip › runway slope › runway declared distances and supplementary take-off distance available (STODA) › established obstacle limitation surface (OLS) for the runway › if published, relevant Type A charts for significant obstacles within the take-off area up to 10 km from the end of the runway and Type B charts for other obstacles around the aerodrome › identification of any obstacle-free zone (OFZ) › identification of any arrester system, its location and description
runway strip availability	if the aerodrome operator prepares a runway strip and makes it available for take-offs and landings, the information must include: › details of availability › any limitations on availability
taxiways	for each taxiway: › aerodrome reference code (ARC) letter › width › surface type › designation
aprons	for each apron of an aerodrome › surface type › location and designation of any aircraft parking position or stand (optional)

Type A aeronautical charts show obstacles within the take-off and landing flight path areas of runways used for scheduled international air transport operations. They provide a detailed visual representation of obstacles, including terrain features, that could present hazards during aircraft operations. Type B charts provide pilots with information needed to navigate using visual references. For more information, see the Airservices Australia Aeronautical Chart User Guide.

Table 6: Visual aid information to be reported

Topic	Information to be reported
approach and runway lighting systems	details of the following (as applicable): › type, length and intensity of the approach lighting system › runway threshold lights, including colour and wing bars › type of visual approach slope indicator system › length of the runway touchdown zone lighting › length, longitudinal spacing, colour and intensity of the runway centreline lights › length, longitudinal spacing, colour and intensity of the runway edge lights › colour of the runway end lights and wing bars › length and colour of the stopway lights › starter extension lighting › runway threshold identification lights (RTIL) › pilot-activated lighting system (PAL)
other lighting and secondary power supply	information including: › location, characteristics and hours of operation of any aerodrome beacons › lighting systems for taxiways, including taxi holding positions and stop bars › lighting systems for aprons, including the location and type of visual guidance docking systems (VDGSs) › any other movement area lighting systems › any obstacle lighting provided for OLS infringements › any secondary power supply, including the switch-over time

Table 7: Aerodrome operational procedures to be reported

Topic	Information to be reported
standard taxi routes	location and designation of standard taxi routes determined by either: › the aerodrome operator › the ATS provider
special procedures	any special procedures unique to the aerodrome that pilots would reasonably be expected to know in the interests of aviation safety
notices	cautionary or administrative information about the safe use of the aerodrome
low-visibility procedures	information on the following: › runways and equipment used under low-visibility procedures › the meteorological conditions under which low-visibility procedures are initiated, used and terminated › ground markings and lighting used for low-visibility procedures

Table 8: Other information to be reported

Topic	Information to be reported
navigation aids	details of any aerodrome navigation aids provided
rescue and firefighting service	category of any aviation rescue and firefighting service (ARFFS) based at the aerodrome
ground services information	› category of any aviation rescue and firefighting service (ARFFS) based at the aerodrome › details of: » fuel suppliers and their contact details, including regularly monitored after-hours contact details » any aerodrome weather information broadcasts provided by the aerodrome operator » ground-to-air communication systems, for example universal communications (UNICOM), aerodrome frequency response units (AFRU) and approved air-ground operator services provided by the aerodrome operator » any other aviation-related services provided to pilots by the aerodrome operator

3.6 Standards for published aerodrome information

(MOS 5.12, 5.13, 5.14, 5.15, 5.16 and 5.17)

All aerodrome information you give to the AIS provider must meet the required quality and integrity standards to ensure it:

› is consistent

› has the required level of detail to be published.

In most circumstances, the AIS will issue a data product specification (DPS) which defines the specific aerodrome information and level of detail required from you as the aeronautical data originator (ADO).

Detailed standards for the reporting of aerodrome information can be found in Chapter 5 of the MOS.

image: iStockphoto | Alberto Promares

CHAPTER 4
AERODROME MANUAL

4.1 Overview

Your aerodrome manual is the main document that explains how your aerodrome is operated and maintained. It brings together important information about your aerodrome, the people responsible for its operation, and the procedures they follow to keep it operating safely.

Your manual should reflect how your aerodrome operates. It needs to be clear, accurate and kept up to date so that the people who use it can understand their responsibilities and follow the correct procedures.

This chapter explains what your aerodrome manual needs to cover, who needs access to it, and how to keep it current when information, procedures or operations change.

4.2 What is an aerodrome manual?

(139.045 and MOS 10.01)

As the operator of a certified aerodrome, you must have an aerodrome manual that meets the requirements of the Part 139 MOS. You must operate the aerodrome in accordance with the procedures set out in your aerodrome manual.

You must ensure your manual:

- contains the information and procedures required by the Part 139 MOS
- accurately reflects your aerodrome's facilities and operations
- is kept up to date when relevant information, facilities or procedures change
- is accessible to the people who need to use it.

CASA has developed a sample aerodrome manual to assist you in developing the content of your own manual. The sample manual is available for you to download from the CASA website. If you use the sample manual, you should ensure the final version reflects your aerodrome operations.

If a temporary non-compliance or deviation becomes permanent, you must apply to CASA for approval. You must amend your aerodrome manual as soon as reasonably practicable to reflect the permanent change.

You must nominate one or more people or positions to take responsibility for reviewing, maintaining, amending and controlling your manual, and for ensuring aerodrome operations remain compliant with its contents. See chapter 7 of this guide.

4.3 Information to be included in your aerodrome manual

(MOS 5.01)

You must ensure that the content of your aerodrome manual includes and aligns with the information you provide to the AIS provider. See section 3.5 and table 4 of this guide.

Aerodrome information (MOS 5.02, 5.03 and 11.01)

You must ensure the following mandatory information is included in your aerodrome manual:

- a scaled aerodrome plan showing:
  - the movement area wind direction indicator
  - the aerodrome boundary
  - each visual approach slope indicator system, if installed
  - each approach lighting system, if installed
- a plan of any aerodrome facilities or equipment you own that are located outside the aerodrome boundaries
- the nominated aerodrome reference code (ARC) letter, number and OMGWS for each runway and taxiway, including taxi lanes as applicable
- the instrument classification of each runway
- details of any approvals, determinations, directions, exemptions or other instruments issued to you by CASA
- any conditions applying to the aerodrome certificate
- a statement clarifying any non-compliance with a requirement relating to the aerodrome, along with reasons and alternatives for the non-compliance.

In addition, you need to detail any facility that doesn't comply with the current requirements but was certified before 13 August 2020. (These are often referred to as grandfathered facilities).

The information above must be reported to the AIS provider and be included in your aerodrome manual. Where required information does not apply to the aerodrome, you may identify it as 'not applicable' in the aerodrome manual. For example, not all aerodromes have an Aviation Rescue and Fire Fighting Service (ARFFS) and so the manual would state 'Aviation Rescue and Fire Fighting Service (ARFFS): Not applicable.'

Aerodrome administration (MOS 5.03, and 11.02)

You must include the following aerodrome administration information in your aerodrome manual:

- management and administration of the aerodrome, including:
  - organisational structure
  - management positions, including the accountable manager responsible for aerodrome operations
- details of the individuals or positions responsible for:
  - aerodrome manual control
  - aerodrome operations and safety functions.

See chapter 7 of this guide.

Aerodrome serviceability inspections (MOS 11.03)

Your aerodrome manual must contain procedures for carrying out aerodrome serviceability inspections, including:

- carrying out the inspections during and after working hours, including:
  - the normal inspection schedule or timing
  - additional inspections following an incident, accident or adverse weather event
- items to be inspected or checked
- making changes to the runway condition code(s) (RWYCC) and runway surface contaminant types
- reporting inspection results
- taking prompt follow-up action to ensure any unsafe conditions are corrected at the aerodrome
- triggering a technical inspection of a facility if an unsafe condition is identified during a serviceability inspection
- maintaining inspection records
- arrangements for communicating with ATC during inspections, if applicable.

Your aerodrome manual must identify the positions responsible for:

- managing inspections
- carrying out inspections
- reporting inspection results
- taking follow-up action if an unsafe condition is identified during inspections.

The requirements for serviceability inspections and technical inspections are specified in sections 8.3 and 8.4 of this guide.

image: AdobeStock | starush

Aerodrome lighting (MOS 11.04)

Your aerodrome manual must contain procedures for:

- inspecting and maintaining aerodrome lighting, including obstacle lighting you maintain
- monitoring any secondary or stand-by power supply (if any)
- carrying out inspections and checks as required
- maintaining inspection records and taking follow-up action to correct deficiencies
- switching lights on and off, including intensity selection, if applicable, and back-up arrangements for a pilot-activated lighting system (PAL)
- carrying out routine maintenance and emergency maintenance
- dealing with partial or total power system failure through secondary power, stand-by power or any other means
- monitoring hazardous lights, lasers, and reflection or glare within the aerodrome boundary.

Your manual must also identify the individuals or positions responsible for:

- carrying out lighting inspections
- maintaining inspection records
- taking follow-up action if an unsafe condition is identified during an inspection
- operating aerodrome lighting, including switching systems, back-up power supply systems and portable lighting equipment
- maintaining aerodrome lighting
- monitoring hazardous lights, lasers, and reflections or glare within the aerodrome boundary.

These responsibilities are allocated to your aerodrome personnel. See chapter 7 of this guide.

Aerodrome lighting provides visual guidance for pilots and ground personnel operating at night or in reduced visibility. The lighting required will depend on the aerodrome and its instrument classification.

Aerodrome lighting must be commissioned before it is made available for use. This does not apply to portable lighting used:

- during an emergency, such as a medical emergency or emergency landing
- when the permanent lighting system is temporarily unavailable.

For guidance on commissioning aerodrome lighting, see AC 139.C-11 – Commissioning of aerodrome lighting systems.

After lighting is commissioned, you must ensure:

- details of the lighting system are provided to the Aeronautical Information Service (AIS) for publication in the AIP and on relevant aerodrome charts
- the aerodrome manual contains the required information about the lighting system.

This information may need to be updated when an existing lighting system is changed or upgraded.

Aerodrome reporting (MOS 11.05)

Your aerodrome manual must contain procedures for notifying the following through aerodrome reports:

- the AIS provider of any changes to aerodrome information published in the AIP (see chapter 3 of this guide)
- the Australian NOTAM Office of:
  - any change to the condition of an aerodrome facility
  - any hazards that may adversely affect aviation safety
- ATC (at controlled aerodromes) of any hazards that may adversely affect aviation safety
- ATC, AIS and pilots of relevant RWYCCs and runway surface descriptions.

Airservices Australia has information on procedures for notifications to the Australian NOTAM office in their NOTAM Data Quality Requirements for Aerodrome Operators document.

Your aerodrome manual must also contain procedures to ensure that each aerodrome report:

- is kept for at least 3 years after the report was created
- is readily accessible to you and any person responsible for preparing the aerodrome reports.

Your manual must identify the individuals or positions responsible for preparing aerodrome reports. These responsibilities are allocated to your aerodrome personnel. See chapter 7 of this guide.

Obstacle control (MOS 11.06, 7.18 and 7.19)

Your aerodrome manual must contain:

- procedures for monitoring both:
  - the take-off, approach and transitional surfaces for obstacles
  - the visual segment surface and any critical obstacles associated with published terminal instrument flight procedures at the aerodrome
- charts you publish, including the Type A chart take-off surface
- the height of buildings, structures, plumes and other developments within the aerodrome vicinity for infringements of the:
  - obstacle limitation surface (OLS)
  - surfaces or areas associated with published terminal instrument flight procedures at the aerodrome (as defined in the Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS))
- arrangements for notifying CASA (concerning the OLS) and the designer of the terminal instrument flight procedures if a proposed or actual infringement is identified
- arrangements for implementing obstacle control where proposed or actual infringements are identified within the aerodrome boundary
- arrangements for liaising with the relevant planning authorities and proponents to facilitate obstacle control, where possible, for proposed or actual infringements identified outside the aerodrome boundary.

Your aerodrome manual must also identify the individuals or positions responsible for:

- monitoring surfaces related to the obstacle limitation surface and terminal instrument flight procedures (as defined in PANS-OPS)
- notifying CASA or the terminal instrument flight procedure designer of a proposed or actual infringement
- implementing obstacle control within the aerodrome boundary
- liaising with relevant parties and facilitating obstacle control outside the aerodrome boundary.

These responsibilities are allocated to your aerodrome personnel. See chapter 7 of this guide.

Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) is a set of international standards developed by the International Civil Aviation Organization (ICAO). These standards are applied when designing instrument flight procedures, such as take-off and landing procedures for low-visibility conditions. PANS-OPS standards guide the identification of protected airspace around aerodromes that permanent obstacles must not infringe, helping to ensure safe flight operations under instrument flight rules (IFR).

Aerodrome works safety (MOS 11.07)

Your aerodrome manual must contain procedures for planning and safely carrying out aerodrome works, whether the works are time-limited or undertaken in an emergency. This includes procedures for:

- preparing a method of working plan (MOWP), including procedures to ensure safety standards are met
- notifying aircraft operators and other aerodrome users about the MOWP
- communicating with ATC, if applicable, and with aircraft while works are being carried out
- carrying out temporary or emergency works
- notifying aircraft operators and other aerodrome users about time-limited or emergency works
- carrying out works when the aerodrome is closed to aircraft operations
- using surface vehicles and equipment.

Also see section 8.7 of this guide for further details on aerodrome works.

Your aerodrome manual must also identify the individuals or positions responsible for all planning, conduct, arrangement and notifications related to aerodrome works. These responsibilities are allocated to your aerodrome personnel. See chapter 7 of this guide.

CASA Guidance is available in AC 139.C-15 Safe planning and conduct of aerodrome works.

Wildlife hazard management (MOS 11.08)

Your aerodrome manual must contain or reference wildlife hazard management procedures. Your procedures should address hazards to aircraft operations caused by wildlife on, or in the vicinity of, the aerodrome, including arrangements for:

- monitoring, assessing and mitigating wildlife hazards at the aerodrome
- reporting wildlife hazards to aircraft as applicable, through:
  - the AIP
  - NOTAMs
  - air traffic control
  - UNICOM
- working with local government, planning authorities, landowners or others responsible for activities or developments outside the aerodrome that may attract wildlife, to identify and reduce any increased wildlife risk to aircraft operations.

Your manual must identify the individuals or positions responsible for monitoring and mitigating wildlife hazards to aircraft operations at the aerodrome. Also see chapter 13 of this guide.

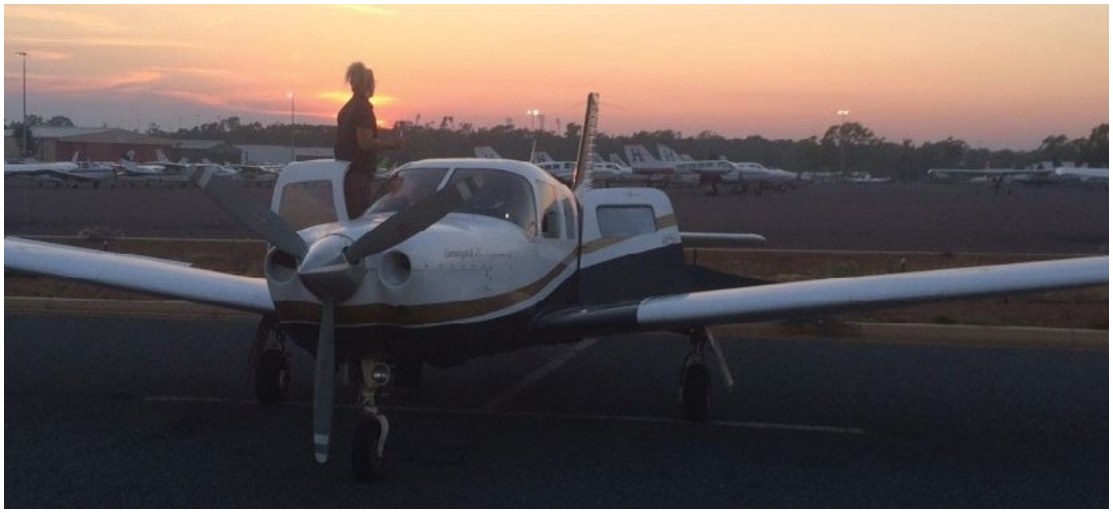


image: Gary Cowly

Aerodrome safety management
(MOS 25.02 and 26.01)

Your aerodrome manual must contain details of your safety management system (SMS) if, during a financial year, your aerodrome has either:

- 50,000 or more air transport passenger movements
- 100,000 or more aircraft movements.

If you don't have an SMS, your manual must include details of your aerodrome risk management plan (RMP) prepared in accordance with the MOS, if, during a financial year, the aerodrome has either:

- 25,000 or more air transport passenger movements
- 20,000 or more aircraft movements.

All other certified aerodromes should consider implementing an SMS and using it as part of their safety management activities. Further guidance is available in AC 139.C-26 Safety management systems for aerodromes and AC 139.C-27 Risk management plans for aerodromes.

See chapter 5 of this guide.

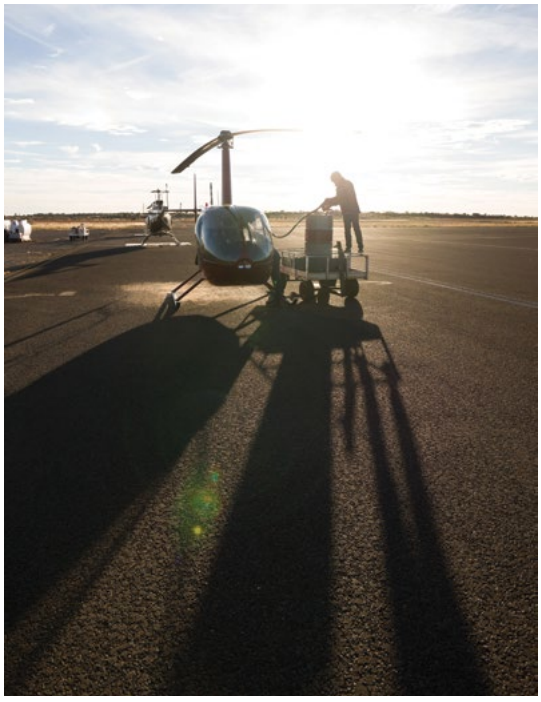


image: AdobeStock | Janelle

Aerodrome technical inspections
(MOS 11.10)

If technical inspections of your aerodrome are required, your aerodrome manual must contain procedures for carrying out the inspections, including:

- identifying the items that must be inspected, and when the inspections are to be carried out
- ensuring that technically qualified people carry out the inspections
- scheduling the inspection program and recording inspection results
- briefing technical inspectors on:
  - the required scope of the inspection
  - any technical matters or locations that must be inspected
- preparing and implementing any corrective action plans to ensure defects identified during an inspection are corrected as soon as possible
- providing CASA with copies of inspection reports.

All The requirements for technical inspections are specified in section 8.5 of this guide**.**

Corrective action plans must also include a timeframe for implementation.

Your aerodrome manual must identify the individuals or positions responsible for:

- managing the inspection program
- planning aerodrome technical inspections
- reporting inspection results, including follow-up action
- receiving and considering inspection reports
- taking follow-up action if defects or deficiencies are identified during an inspection.

These responsibilities are allocated to your aerodrome personnel. See chapter 7 of this guide.

Unauthorised entry to aerodromes (MOS 11.11)

Your aerodrome manual must contain procedures for preventing unauthorised entry to the movement area (airside) by:

- persons
- vehicles
- equipment
- mobile plant
- animals (including land based wildlife)
- other things that may compromise aircraft safety.

Your manual must also include procedures for:

- controlling airside access
- monitoring airside access control points and barriers, such as fencing.

Aerodrome emergency response (139.00 and MOS 11.12)

You must have an aerodrome emergency plan (AEP) if, during a financial year, your aerodrome has either:

- 50,000 or more air transport passenger movements
- 100,000 or more aircraft movements.

If your aerodrome meets one of these criteria, your AEP must set out the arrangements for responding to emergencies and coordinating the organisations and personnel involved. It must address the types of emergencies specified in chapter 6 of this guide.

If your aerodrome does not meet the criteria for an AEP, you must still have appropriate emergency response arrangements. Your aerodrome must be identified within the applicable local or State or Territory emergency response arrangements, and you must have procedures for coordinating with local emergency responders, accessing the aerodrome, managing an emergency and returning the aerodrome to operational status.

All certified aerodromes must also provide relevant emergency agencies with location details or maps showing the aerodrome and its immediate vicinity, including access points and other required information.

For more information about the aerodrome emergency plan, see chapter 6 of this guide. Further guidance is available in AC 139.C-18 Aerodrome emergency planning.

You may also be required to co-ordinate with Aerodrome Rescue and Firefighting Services. See chapter 15 of this guide.

If applicable, your aerodrome manual must contain, or refer to, your emergency procedures and must include:

- the positions of members of the aerodrome emergency committee, if established
- a description of the role of each emergency service organisation involved in the emergency response arrangements or aerodrome emergency plan.

It must also include procedures for:

- liaising with the authorised person responsible for local emergency planning arrangements
- notifying relevant parties and initiating an emergency response
- activating, controlling and coordinating aerodrome-based emergency responders, if any, during the initial stages of an emergency
- using emergency facilities at the aerodrome
- facilitating aerodrome access and managing assembly areas
- responding to a 'local stand-by' event, if applicable
- providing an initial response to a 'full emergency' event on, or in the immediate vicinity of, the aerodrome.

Your aerodrome manual must also describe arrangements for:

- keeping aerodrome emergency facilities, access points and assembly areas, if any, in a state of readiness
- ensuring emergency preparedness by both on and off-aerodrome responders through:
  - site inductions (if provided)
  - emergency response training, if provided
  - emergency exercises, if required
- returning the aerodrome to operational status after an emergency
- periodically reviewing your aerodrome emergency plan or monitoring the aerodrome's role in local emergency planning arrangements.

Your manual must identify the individuals or positions responsible for:

- maintaining aerodrome emergency response procedures, including emergency preparedness
- notifying procedures to initiate an emergency response
- initiating emergency response actions by aerodrome personnel
- returning the aerodrome to operational status after an emergency
- reviewing the aerodrome emergency plan, if applicable, or monitoring the aerodrome's role in local emergency planning arrangements.

These responsibilities are allocated to your aerodrome personnel. See chapter 7 of this guide.

Disabled aircraft removal (MOS 11.13)

Your aerodrome manual must contain procedures for removing an aircraft that is disabled on or near the movement area, including procedures for:

- identifying your role and the role of the holder of the aircraft's certificate of registration
- notifying the holder of the certificate of registration
- liaising with the Australian Transport Safety Bureau (ATSB), the Defence Aviation Safety Authority (DASA), and ATC if applicable
- obtaining the equipment and personnel required to remove the aircraft
- identifying:
  - the names and roles of the persons responsible for arranging aircraft removal
  - the telephone numbers of the relevant individuals for contact during and after normal working hours.

Further guidance is available in AC 139.C-20 Disabled aircraft removal.

Airside vehicle control (139.105 and MOS 11.14)

If surface vehicles operate on or near the aerodrome movement area, your aerodrome manual must contain procedures for:

- traffic movement, including speed limits and enforcement of traffic rules
- establishing a method for instructing and assessing drivers in relation to traffic rules
- requiring the driver of the surface vehicle to read back to ATC the safety related parts of any ATC clearances or instructions transmitted by voice.

For more information about airside vehicle management, see chapter 14 of this guide and AC 139 C-14 Airside vehicle control.

Aircraft parking control (139.105 and MOS 11.15)

Aircraft parking control procedures may be established at aerodromes where apron congestion creates a hazard to aircraft operations.

If your aerodrome has aircraft parking control procedures, they must be included in your aerodrome manual and cover the relevant arrangements for:

- allocating aircraft parking positions
- coordinating with air traffic control (ATC) and apron management personnel
- initiating aircraft engine start and push-back clearances
- identifying and using visual docking guidance systems (VDGS), where provided
- marshalling and follow-me services
- identifying the individuals responsible for planning and managing aircraft parking control and how they can be contacted during and after normal working hours (e.g. telephone numbers).

You must also ensure that organisations conducting apron activities follow the aerodrome's apron safety management procedures.

Protecting communication, navigation, surveillance and meteorological facilities (MOS 11.16 and 11.19)

Your aerodrome manual must contain procedures for protecting communication, navigation, surveillance and meteorological facilities (relevant facilities) at the aerodrome, including:

- controlling activities near relevant facilities, including ground maintenance activities
- supplying and installing hazardous emissions warning signs, including signs for electromagnetic and microwave radiation, in consultation with the facility provider.

Also see chapter 9 of this guide.

All-weather operations (MOS 11.7)

Your aerodrome manual must contain procedures for managing ground activities during low-visibility operations, including procedures for:

- measuring visibility along a runway and providing the information to ATC or, at non- towered aerodromes, to pilots (if required)
- minimising vehicle traffic within the movement area during periods of low-visibility operations
- ensuring vehicles do not interfere with CNS facilities during periods of low-visibility operations
- conducting manoeuvring area inspections during periods of low-visibility operations
- identifying:
  - the names and roles of the individuals responsible for managing low-visibility operations
  - the telephone numbers of the relevant individuals for contact during and after normal working hours.

These responsibilities are allocated to your aerodrome personnel. See chapter 7 of this guide.

Your aerodrome manual must also indicate the location of any transmissometers at the aerodrome.

Transmissometers are used to determine runway visual range (RVR). Where installed, they are located on the sides of runways, typically at either end with one at the midpoint of the runway.

More information on low-visibility requirements can be found in chapter 11 of this guide.

4.4 Form and content of the manual

(MOS 10.02)

Your aerodrome manual must:

- be in a format that can be readily updated
- be kept up to date
- be kept at your premises and made available to CASA for inspection on written or verbal request
- contain at least all required information relevant to your operations, as outlined in this chapter.

If information is required in the aerodrome manual, but is not relevant to your operations, your manual must contain a distinct placeholder for that information. Each placeholder must:

- use the heading 'NOT APPLICABLE' or 'N/A'
- identify the relevant MOS requirement by referencing the applicable provision of the MOS.

The contents of your aerodrome manual may be in a different order or structure from that described in the MOS, provided the aerodrome manual requirements are met.

Your aerodrome manual may be in:

- hard-copy format
- electronic format
- a combination of hard-copy and electronic formats, provided the manual is easily accessible and usable in that form.

If your aerodrome manual is in electronic format, you must ensure it is easily accessible to, and usable by aerodrome personnel during normal hours of operation. To ensure accessibility, your manual must be appropriately:

- stored
- retrievable by personnel
- transmitted
- displayed.

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4.5 Version control and changes to the manual

(139.050 and MOS 10.03)

Your aerodrome manual must enable readers to readily identify the following:

- the current version number, if one is used
- the release date for each section or page of the manual
- any changes or amendments made since the previous amendment or version.

Details of any changes to your aerodrome manual must include:

- tracked changes to the document where the changed information:
  - is shown in a different format from unchanged information
  - includes the date on which the change was made
- a table of current pages or sections that includes a written summary of each change and the date it was made
- another method that clearly identifies the location, date and nature of the change.

If you amend your aerodrome manual, you must provide the following to CASA within 30 days of making the amendment:

- written notice of the amendment
- a copy of the changed part of the aerodrome manual clearly identifying the change.

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4.6 Annual aerodrome manual validation and report

(MOS 12.11)

An aerodrome manual validation process ensures that your aerodrome manual provides accurate information about the infrastructure, facilities and operational procedures at your aerodrome. It verifies that the manual is a complete and accurate source of information and that the aerodrome is operated safely and in compliance with Part 139 and the MOS.

You must carry out an annual validation of your aerodrome manual if, during a financial year, your aerodrome has either:

- fewer than 10,000 air transport passenger movements
- fewer than 20,000 aircraft movements.

The validation must check for any non-compliance with standards in the MOS, and for any errors in reported information, including checks of:

- approach, take-off and transitional surfaces to ensure published aerodrome information is accurate to within 0.05% of the published gradient in the AIP-ERSA
- other surfaces associated with the OLS
- your monitoring of the instrument approach procedure critical obstacles nominated by the procedure designer for any terminal instrument flight procedures published for the aerodrome
- the currency and accuracy of:
  - aerodrome information published in the AIP
  - aerodrome operating procedures specified in the aerodrome manual and supporting documents
- the training and competency of each person appointed as a reporting officer or a works safety officer, to carry out their required functions.

The first validation must be carried out within 12 months of either:

› the date the Department publishes air transport passenger movement numbers indicating that, for the first time under the MOS, there have been fewer than 10,000 air transport passenger movements at the aerodrome for the financial year

› the date you become aware that, for the first time under the MOS, there have been fewer than 20,000 aircraft movements at the aerodrome during the financial year.

Validations must be carried out at least once every 12 months thereafter.

You must carry out an aerodrome manual validation as if it were the first validation if, during any financial year, when either:

› passenger numbers fall below 10,000 and rise again above this threshold in a subsequent financial year

› aircraft movements fall below 20,000 and rise again above this threshold in a subsequent financial year.

Parts of an aerodrome manual validation may be carried out at different times, provided the full validation process is completed within the same 12-month period.

You must immediately carry out a validation process if an aerodrome serviceability inspection identifies a defect or deficiency in relation to your aerodrome manual, including:

› incorrect aerodrome information published in the AIP or a NOTAM, or reported to ATC, if applicable

› any details in the manual that are incorrect or not current

› any procedure in use at the aerodrome that is not in accordance with, or conflicts with, procedures in the manual.

You must submit a report to CASA, within 30 days of identifying any such defects or deficiencies in your manual.

If you send CASA an amendment to your aerodrome manual addressing the deficient items outlined in this section, this will normally constitute an acceptable report.

After completing a validation, you must correct any errors or anomalies in the aerodrome manual as soon as possible. You must also retain records of the results of the annual validation for at least 3 years.

As part of the validation, the OLS must be checked by a person who is technically qualified or experienced in surveying or has both:

› a sound knowledge and understanding of the standards for obstacle limitation surfaces

› the ability to validate, by appropriate means, the accuracy of the current published information in the AIP.

Your aerodrome manual, supporting procedures and aerodrome information published in the AIP must be checked and confirmed by a person with sound knowledge of, and experience in:

› aerodrome operations

› applicable regulations

› standards for aerodrome inspection, reporting and maintenance.

These responsibilities are allocated to your aerodrome personnel. See chapter 7 of this guide. Persons validating or confirming the aerodrome manual should be trained in, or familiar with, auditing techniques.

Records of the qualifications and experience of persons conducting a validation or confirmation must be either:

› maintained as part of the aerodrome manual

› included in the annual aerodrome manual validation report.

4.7 Complying with the aerodrome manual

(139.055 and 139.060)

You must also ensure that the aerodrome is operated in accordance with the procedures set out in your manual. However, there may be circumstances where following a procedure in the manual would compromise the safety of an aircraft, an aircraft operation or a person using the aerodrome. In these circumstances, you may depart from the procedure where it is necessary to ensure safety. If this occurs, you must:

- identify why it was necessary to depart from the procedure to ensure safety
- record the circumstances and the action taken
- notify CASA in writing within 30 days of the non-compliance.

This provision is intended for situations when departing from your aerodrome manual is necessary for safety. It does not provide a general way to disregard or routinely vary the procedures in your manual.

4.8 Applying or adopting other material by the aerodrome manual

(MOS 10.04)

Your aerodrome manual may apply or adopt subsidiary materials, provided it clearly identifies them including:

- other manuals
- plans
- standard operating procedures
- databases
- files
- data lists or systems.

If subsidiary materials are included in your manual:

- you must treat the initial application or adoption of subsidiary materials as a change to the manual
- the subsidiary materials must be kept up-to-date
- you must comply with any procedures in the subsidiary materials
- you may provide CASA with copies of the subsidiary materials, but you are not required to do so unless CASA makes a written request for them.

After the initial application or adoption of subsidiary materials, you do not need to treat the application or adoption of later versions as a change to the manual.

CHAPTER 5
SAFETY AND RISK MANAGEMENT

5.1 Overview

(MOS 11.09, 25.01, 25.02 and 26.01)

Safety and risk management is about identifying hazards at your aerodrome, understanding the risks they create and taking appropriate action to manage those risks.

All certified aerodromes must have a structured approach to managing safety and risks. The requirements that apply depend on the number of passenger and aircraft movements at your aerodrome.

A safety management system (SMS) provides a systematic approach to managing safety through the organisational structures, accountabilities, policies, procedures and documentation needed to manage safety in a continuous and systematic way.

A risk management plan (RMP) provides a structured approach to identifying hazards, assessing safety risks, implementing controls and monitoring those controls.

This chapter sets out the requirements for:

- safety management systems (SMS)
- risk management plans (RMP).

5.2 Safety management system

Do you need a safety management system? (139.095 and MOS 25.02)

A safety management system (SMS) is a systematic approach to managing safety at an aerodrome that must include the organisational structures, accountabilities, policies, procedures and documentation required by this chapter to manage safety in a continuous and systematic way.

Your SMS is about making safety an everyday responsibility, not only through rules and checklists but also through clear communication, shared accountability and learning from incidents or near misses. A strong SMS helps ensure that everyone working at the aerodrome, from ground staff to management, plays an active role in keeping operations safe, compliant and resilient.

You must have a safety management system (SMS) if, during a financial year, your aerodrome has either:

- 50,000 or more air transport passenger movements
- 100,000 or more aircraft movements.

CASA does, however, recommend that all certified aerodromes implement an SMS. An SMS provides a systematic approach to managing aerodrome safety, including hazards related to aircraft operations and should include the following elements:

- safety policies and objectives
- safety risk management processes
- safety assurance processes
- safety promotion activities.

If you do not have an SMS, you must have a risk management plan (RMP). See section 6.3 of this guide.

Requirements of a safety management system (MOS 25.02)

An SMS is a systematic approach to managing safety at an aerodrome. It must take account of all organisational structures, accountabilities, policies, procedures and documentation required to manage safety at your aerodrome.

You must prepare and implement your initial SMS within 12 months of either:

- the date the Department publishes air transport passenger movement numbers indicating that there have been 50,000 or more air transport passenger movements for the first time at your aerodrome for the financial year
- the date you become aware that there have been 100,000 or more aircraft movements at the aerodrome for the first time in the financial year.

You must review your SMS and, if necessary, revise it within 12 months of its introduction, and at least every 12 months thereafter.

Passenger numbers and aircraft movements may reduce to below the numbers detailed in this section that mandates the implementation of an SMS.

You may then choose to not maintain your SMS. You must, however, then prepare and implement a new SMS as if it were the initial SMS if, during any financial year, either:

- passenger numbers then rise above 50,000 in a subsequent financial year
- aircraft movements then rise above 100,000 in a subsequent financial year.

You must ensure that your SMS is:

- maintained as a functioning system supported by the required SMS documentation
- appropriate to the size of your aerodrome and the complexity of its activities
- used to ensure that aviation safety risks at your aerodrome are reduced to a level that is as low as reasonably practicable.

Further guidance is available through AC 139.C-26 Safety management systems for aerodromes.

Matters you must address in your safety management system (MOS 25.03)

Your SMS must provide for, and include documented details of, your:

- commitment to, and responsibility for, aerodrome safety
- safety policy and objectives
- safety accountabilities of your aerodrome managers
- procedures for:
  - appointing safety management personnel
  - managing relevant third-party relationships and interactions
  - coordinating an emergency response plan
  - identifying and accessing documentation relevant to the SMS
- safety risk management processes, including:
  - hazard identification processes
  - risk assessment and mitigation processes
- safety assurance processes, including the procedures for:
  - safety performance monitoring and measurement
  - internal safety investigations
  - managing changes that may affect safety
  - continuous improvement of the SMS
- safety training and promotion processes, including procedures for:
  - SMS training and education
  - SMS safety communication.

Aerodrome apron safety is an important component of your SMS. Apron areas may experience simultaneous movements of aircraft, vehicles and people. CASA has developed AC 139.C-13 Apron safety management to provide guidance on managing safety on the aerodrome apron.

5.3 Risk management plans (RMP)

Do you need a risk management plan? (MOS 26.01)

You must have a risk management plan (RMP) if, during a financial year, your aerodrome has either:

- 25,000 or more air transport passenger movements
- 20,000 or more aircraft movements.

However, if your aerodrome has an SMS (see section 5.2 of this guide), you do not need a separate risk management plan. The required risk management activities are to be incorporated into your SMS rather than documented in a separate risk management plan.

Requirements of a risk management plan (MOS 26.01)

If your aerodrome requires a risk management plan (RMP), you must prepare and implement it within 12 months of either:

- the date the Department publishes air transport passenger movement numbers indicating that there have been 25,000 or more air transport passenger movements at the aerodrome for the financial year
- the date you become aware that there have been 20,000 or more aircraft movements at the aerodrome in the financial year.

Any procedure, system or manual you use to manage hazards affecting aircraft operations is taken to be an RMP and must comply with the requirements for risk management plans. You must ensure that your RMP is:

- maintained as a functioning plan
- appropriate for the size of your aerodrome and the complexity of its activities
- used to ensure that aviation safety risks associated with aerodrome activities are reduced to a level that is as low as reasonably practicable.

Your initial RMP must be reviewed and, if necessary, amended within 12 months of implementation, and at least once every 12 months thereafter.

You must prepare and implement a new RMP as if it were the initial RMP if, during any financial year, either:

- passenger numbers fall below 25,000 and rise above this threshold in a subsequent financial year
- aircraft movements fall below 20,000 and rise above this threshold in a subsequent financial year.

Matters you must address in your risk management plan (MOS 26.01)

Your RMP must address:

- hazard identification
- risk assessment and control
- the creation and management of relevant risk management plan documents, including:
  - a risk register
  - records of any dedicated risk assessments performed to address aerodrome hazards affecting aircraft operations.

Further guidance is available through AC 139.C - 27 Risk management plans for aerodromes..

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CHAPTER 6
EMERGENCY PLANNING AND RESPONSE

6.1 Overview

Emergency planning and response plans ensure that a certified aerodrome is prepared to effectively manage on-site and aviation-related emergencies. This means having clear, practised procedures that coordinate all parties, including aerodrome staff, emergency services and operators to protect life, property and operational continuity. While external emergency services such as police, fire, and ambulance take command of their specific roles, the aerodrome's responsibilities are distinct and include:

- initiating the emergency response
- providing accurate and timely information
- controlling access and movement on the airfield
- supporting responding agencies with resources and communication.

An emergency at an aerodrome can involve aircraft, people, hazardous materials, fire or other events that require a coordinated response. Being prepared means having arrangements in place so that aerodrome personnel, emergency services and other organisations know what to do and can work together effectively.

Depending on the level of activity at your aerodrome, you may need an aerodrome emergency plan (AEP). Even if you do not need an AEP, you must still have arrangements in place for responding to emergencies at your aerodrome.

Emergency response may involve an Aviation Rescue and Fire Fighting Service (ARFFS). ARFFS provides specialist rescue and firefighting services for aviation emergencies at aerodromes where these services are required. See chapter 15 of this guide for more information about ARFFS and when these services are required.

This chapter explains when you need an AEP, what it needs to cover and how it must be tested and reviewed. It also explains the emergency response arrangements, information and access you need to provide to emergency services, and how to prepare for returning the aerodrome to normal operations after an emergency.

6.2 Do you need an aerodrome emergency plan (AEP)?

(139.100, MOS 24.02 and 24.03)

You must have an AEP if, during a financial year, your aerodrome has either:

- 50,000 or more air transport passenger movements
- 100,000 or more aircraft movements.

A well-designed AEP ensures that everyone knows their role, response actions are coordinated and recovery can begin as soon as it is safe to do so.

Where an aerodrome is required to have an AEP, the plan must include procedures for responding to at least the following emergencies:

- an aircraft accident or incident on or in the vicinity of the aerodrome
- a full emergency
- a local standby
- a bomb threat
- a disabled aircraft
- a dangerous goods or hazardous materials incident
- an aircraft fire:
  - in a location where it could affect the safety of other aircraft, such as an aircraft docked at a terminal by an aerobridge, or
  - on the movement area
- other emergencies likely to present a hazard to aircraft.

In addition, if the aerodrome boundary is a shoreline or the aerodrome directly accesses an open body of water, the AEP must include water rescue arrangements.

The plan must be in place no later than 6 months after either:

- the date the Department publishes air transport passenger movement numbers for the aerodrome for the financial year
- the date you become aware that there have been 100,000 or more aircraft movements at the aerodrome during the financial year.

If your aerodrome does not require an emergency plan, it must be clearly identified in the applicable local or state emergency response plan and emergency response arrangements. You must have emergency response arrangements in place for your aerodrome.

This chapter covers the requirements for:

- aerodrome emergency plans
- aerodrome emergency response arrangements.

Refer to AC 139.C-18 Aerodrome emergency planning, for guidance on emergency planning obligations.

Many operators, for example, airlines, maintenance providers and aerial work organisations, are also required to maintain their own emergency response plans (ERPs) under other parts of the Civil Aviation Safety Regulations. These operator-specific plans work alongside your AEP, rather than replacing it. In practice, the aerodrome's plan sets out how on-site activities are coordinated during an emergency, while each operator's plan covers procedures for its personnel, aircraft and passengers. For example, an airline's ERP may detail how its crew manage an evacuation, while the aerodrome's AEP governs how emergency vehicles access the site and where passengers assemble for safety arrangements. Good communication and familiarisation between the aerodrome and its operators help ensure these plans align, avoiding duplication, confusion and gaps when every second counts.

6.3 Aerodrome emergency plan (AEP)

(MOS 24.02)

Core content

Your aerodrome emergency plan (AEP) must describe:

- the composition of the aerodrome emergency committee, if established
- procedures for liaison with emergency response authorities established under applicable state or territory emergency management legislation
- notification procedures for initiating an emergency response
- the roles and functions of your aerodrome personnel during an emergency
- your aerodrome's emergency facilities and equipment, and procedures for keeping them in a state of readiness
- procedures for responding to an emergency, including procedures for:
  - managing aerodrome access
  - escorting people from the aerodrome
  - emergency assembly arrangements
  - establishing an emergency command post
  - setting up aerodrome emergency facilities, including reception facilities, as applicable
- how you use any emergency communications systems
- how you ensure movement area safety during an emergency
- the airside emergency response by aerodrome personnel
- procedures for a local stand-by (for a controlled aerodrome)
- how you return the aerodrome to operational status after an emergency
- periodically reviewing the aerodrome emergency plan.

Emergency planning scenarios

Your AEP must consider the following emergency scenarios:

- an aircraft crash
- a full emergency (where multiple agencies may need deploying)
- a disabled aircraft
- a health or medical emergency involving a multiple-casualty aircraft incident, as defined in applicable state or territory emergency management legislation
- events involving hazardous materials on the movement area, including any spill likely to adversely affect the health or safety of a person, or the safety of an aircraft
- an aircraft fire:
  - at a location that may affect the safety of other aircraft
  - on the movement area
- other emergencies likely to present a hazard to aircraft.

Aerodromes adjacent to water

If one or more of your aerodrome's boundaries are shoreline or directly adjacent to an open body of water, your AEP must include water rescue arrangements.

Water rescue may be provided by the Aviation Rescue and Firefighting Service (ARFFS) if present at the aerodrome. If water rescue is exclusively provided by the ARFFS, a reference to their procedures is sufficient (for more information about ARFFS, see chapter 14 of this guide).

Emergency planning records

Records of reviews, exercises and emergencies conducted under your AEP must be both:

- maintained for at least 3 years after they are created
- made available to CASA on written request during that time.

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6.4 Emergency response arrangements

(MOS 24.03)

If your aerodrome does not require an emergency plan, it must be clearly identified in the applicable local or state emergency response plan and emergency response arrangements.

You must also have emergency response arrangements for your aerodrome that include:

- procedures for liaison with emergency response authorities established under applicable state or territory emergency management legislation
- notification procedures for emergency responders
- aerodrome access locations and procedures
- procedures for escorting external vehicles and personnel, if applicable
- procedures for establishing aerodrome emergency facilities, including communications systems, if available
- airside emergency response procedures for aerodrome personnel, if applicable
- procedures for preserving movement area integrity during an emergency
- procedures for returning the aerodrome to operational status after an emergency.

6.5 Aerodrome location details or maps for emergency agencies

(MOS 24.04)

You must provide emergency agencies with location details or maps of your aerodrome and its immediate surroundings. Location details or maps must include:

- primary and secondary access points
- any prescribed emergency assembly areas
- details of any aerodrome hazards present if you do not provide escorts for external vehicles.

Hazard information might include, for example, drainage infrastructure, open excavations, critical or sensitive areas for navigation and communication equipment, obscured foundations or footings.

6.6 Emergency preparedness of aerodromes

With an emergency plan (MOS 25.05)

You must test your AEP periodically. Options for testing include either:

- a full-scale aerodrome emergency exercise conducted every 2 years, together with partial emergency exercises in each intervening year (for example, a tabletop exercise), to ensure that any deficiencies identified during the full-scale aerodrome emergency exercise have been corrected
- a series of modular tests in which:
  - all modules are tested within a 3-year period
  - the interval between tests of any module and its previous test is not greater than 3 years
  - there is a full-scale aerodrome emergency exercise no earlier than 3 months before the expiry of the 3-year period.

To correct any deficiency found during an emergency or exercise, you must review the AEP within 30 days after either of the following:

- an emergency at the aerodrome
- an exercise conducted in accordance with the testing requirements in this section.

AEP procedures must be reviewed with local emergency responders at least annually.

CASA also recommends that you conduct a tabletop exercise (theoretical emergency situation) at least once every 24 months with your local emergency responders to formally evaluate emergency response arrangements.

With written approval from CASA, you may defer testing and reviewing your AEP for a maximum of 24 months if both:

- the emergency plan is activated during an actual emergency event that tests the entire plan (the relevant emergency)
- you apply for the deferral in writing, and provide CASA details of:
  - the date, time and nature of the most recent emergency exercise or modular tests
  - the date, time and nature of the relevant emergency on which the deferral request is based
  - all lead and support agencies that participated in the relevant emergency
  - how the relevant emergency tested the plan
  - any actions taken to correct any deficiencies identified in the AEP during the relevant emergency.

Without an emergency plan (MOS 25.06)

If your aerodrome does not require an emergency response plan, you must have emergency preparedness procedures that ensure that local emergency responders:

- are shown the location and operation of any applicable:
  - aerodrome access points
  - aerodrome assembly areas
  - aerodrome emergency facilities and equipment
- are made aware of any hazardous storage facilities at the aerodrome, including fuel storage facilities
- are made aware of any aerodrome or aviation-specific emergency procedures to be followed.

You must review your procedures with local emergency responders at least once every 2 years.

CHAPTER 7
AERODROME PERSONNEL

7.1 Overview

Safe aerodrome operations depend on having people with the right knowledge, experience and authority to carry out their responsibilities.

You need to identify the people responsible for key aerodrome functions and make sure they understand what is expected of them. Depending on the role, specific knowledge, experience, training or qualifications may also be required.

This chapter explains the key personnel involved in operating your aerodrome, including the accountable manager, reporting officers and works safety officers. It explains their responsibilities and the knowledge, experience, training and qualifications they need to carry out their roles.

7.2 What personnel do you need?

(139.110 and MOS 13.01)

Aerodrome personnel play a vital role in maintaining the safety, efficiency and compliance of aerodrome operations. They must be properly trained, competent and authorised to carry out their duties. Everyone working at the aerodrome needs to understand what to do and why it matters for safety.

Roles may include inspecting the movement area, reporting hazards, responding to emergencies or managing daily operations. The regulations emphasise clear role definitions, documented training and ongoing competency checks to ensure your personnel can perform their tasks safely, consistently and in coordination with other aerodrome users and emergency responders.

To operate your aerodrome safely and in compliance with regulations, certain roles must be filled by qualified and experienced personnel.

The essential positions are:

- accountable manager – responsible for overall safety and regulatory compliance
- reporting officer – responsible for inspecting the movement area and reporting hazards or defects
- works safety officer – required whenever aerodrome works are being carried out to manage safety and coordination.

These personnel may be:

- your employee
- a person engaged by you (by contract or other arrangement) to provide services, or their employee.

More than one person may carry out the responsibilities of these positions.

Each of these positions carries specific training, knowledge and qualification requirements, which are outlined in this chapter.

7.3 Accountable manager

(139.110, 139.120 and MOS 13.02)

The accountable manager must have a general knowledge of relevant civil aviation safety legislation and standards applicable to aerodrome inspection, reporting, operation and maintenance.

Your accountable manager is responsible for ensuring the aerodrome is operated and maintained:

- in compliance with civil aviation legislation
- safely and with a reasonable degree of care and diligence
- in accordance with the aerodrome manual.

7.4 Aerodrome reporting officer

(139.110 and 139.120)

The responsibilities of your aerodrome reporting officer (ARO) include:

- monitoring aerodrome serviceability
- reporting information to AIS providers
- reporting changes or occurrences at the aerodrome
- monitoring airspace and reporting infringements.

7.5 Works safety officer

(139.110 and 139.120)

Your works safety officer (WSO) is responsible for all activities and oversight necessary to ensure safety during aerodrome works.

7.6 Maintenance personnel

(139.110, 139.120 and MOS 13.05)

The types of maintenance positions required for an aerodrome depends on its size and the complexity of its operations.

A person carrying out the responsibilities of a relevant maintenance position for an aerodrome is responsible for assisting you in maintaining the aerodrome safely and in accordance with the aerodrome's aerodrome manual and civil aviation legislation.

7.7 Additional aerodrome positions

You may also need other support roles for your operations.

AC 139.C-02 Aerodrome personnel assists aerodrome operators to identify the various roles and responsibilities that are required by the Civil Aviation Safety Regulations 1998 (CASR) and the Part 139 (Aerodromes) Manual of Standards (MOS).

AIP responsible person (CASR 175.445)

As an aeronautical data originator (ADO), you are responsible for providing information to the aeronautical information service (AIS) provider for publication in the AIP.

You must appoint a senior manager as the AIP responsible person, who is responsible for providing accurate aeronautical data or information to the AIS provider. This role must be filled by a single person and cannot be shared.

NOTAM authorised person (CASR 175.445)

You are required to appoint a NOTAM authorised person. This person is responsible for requesting the issue, review and cancellation of NOTAMs.

Aerodrome manual controller (MOS 10.01)

You must appoint one or more persons, or positions, responsible for both:

- ensuring compliance with the aerodrome manual
- reviewing, maintaining, amending and controlling the manual.

Drug and alcohol management plan personnel (CASR 99.030 and 99.045)

You must develop a drug and alcohol management plan (DAMP) if you operate a certified aerodrome. You must nominate personnel to both of the following positions:

- DAMP contact officer
- DAMP supervisor.

For aerodrome operators, this means ensuring all personnel involved in safety-critical work, such as inspections, reporting, refuelling, or wildlife management, are covered by a compliant DAMP. You can find detailed requirements in Part 99 of CASR, which sets out how to establish, implement and maintain these programs. A sample DAMP manual is available on the CASA website.

If multiple organisations operate on the aerodrome, it is important that each has its own DAMP, or that the aerodrome's DAMP recognises and integrates with theirs, to ensure consistent standards across all safety-sensitive areas. Coordination and clear communication help ensure there are no gaps in managing drug and alcohol risks at your aerodrome.

Under Part 139 and Part 99, every certified aerodrome must have a Drug and Alcohol Management Plan (DAMP) in place. A DAMP outlines how your organisation manages drug and alcohol use in relation to safety-sensitive aviation activities, including education, testing and response procedures. You must complete the DAMP contact officer form and provide it to CASA. CASA EX42/26 — Implementation of Drug and Alcohol Management Plans (Micro-businesses and DAMP Organisations) Exemption 2026 may allow a micro-business with fewer than 10 employees and no scheduled air transport operations to meet its DAMP obligations by adopting a standard micro-business DAMP template.

Personnel engaged in wildlife identification and hazard mitigation (MOS Chapter 17)

You are not required to appoint personnel to specific wildlife monitoring and hazard mitigation positions. However, as part of each aerodrome serviceability inspection, you must monitor and record both:

- the presence and behaviour of wildlife on the aerodrome
- wildlife activity that is visible either:
  - in the vicinity of the aerodrome
  - from the aerodrome.

CASA expects you to provide evidence that personnel responsible for determining risk treatments are trained and competent in:

- developing effective wildlife management strategies
- ensuring those strategies do not create a hazard to aviation safety
- assessing the effectiveness of mitigation measures.

Chapter 13 of this guide provides more information about wildlife management and monitoring in the vicinity of aerodromes.

Certified air/ground radio operator (MOS 22.01)

You must hold an approval to operate a certified air/ground radio service (CA/GRS).

Your CA/GRS may only be provided by a certified air/ground radio operator (a CA/GRO). See chapter 10 of this guide for the requirements of a certified air/ground radio operator.

7.8 Training, knowledge and qualifications of aerodrome personnel

Accountable manager (139.115 and MOS 13.02)

Your accountable manager must have general knowledge of relevant civil aviation safety legislation and standards applicable to aerodrome inspection, reporting, operation and maintenance.

Reporting officer (139.115 and MOS 13.03)

Your reporting officer must be trained and able to demonstrate:

- a sound knowledge of aerodrome physical characteristics, including:
  - the movement area
  - obstacle limitation surfaces
  - aerodrome markings
  - visual aids, including lighting
  - the correct operation of essential aerodrome safety equipment
- an understanding of aerodrome information published in the AIP
- the ability to carry out an aerodrome serviceability inspection, including in relation to runway surface conditions (see section 8.3 of this guide)
- the ability to carry out the aerodrome reporting functions, including reporting runway surface conditions, in accordance with section 8.3 of this guide
- the ability to carry out wildlife monitoring and management functions for the aerodrome in accordance with chapter 13 of this guide
- a knowledge of the aerodrome procedures in the aerodrome manual, including the following, where applicable:
  - aerodrome works safety
  - aerodrome emergency planning and response
  - airside vehicle control
  - aircraft parking control
  - low-visibility operations.

These training requirements also apply to any personnel who conduct aerodrome serviceability inspections.

Works safety officer (139.115 and MOS 13.04)

Each works safety officer you appoint must be trained to be able to undertake the following functions to ensure that:

- the safety of aircraft operations is maintained in accordance with:
  - the standard for aerodrome works
  - the procedures in the aerodrome manual
  - the procedures in the applicable method of works plan (MOWP)
- aerodrome works are notified by NOTAM, if applicable, using text that reflects the MOWP
- ATC, if applicable, is provided with any information necessary for the safety of aircraft operations
- the works party or organisation is briefed daily on any matters necessary for the safety of aircraft operations
- aerodrome works are marked and lit in accordance with the MOS and the MOWP relating to:
  - unserviceable portions of the movement area
  - temporary obstructions
  - the limits of the works area
- vehicles, plant and equipment used for aerodrome works are:
  - properly marked and lit
  - under the supervision of a works safety officer
  - within a properly marked and lit works area
- all other directions in the MOWP relating to vehicles, plant, equipment and materials are complied with
- access to work areas is restricted to clearly identified access routes in accordance with the MOWP
- excavation works avoid damage to, or loss of calibration of, any underground power or control cable associated with a lighting system or any navigational aid
- reports are immediately made to the aerodrome reporting officer about any incident or damage to facilities likely to affect:
  - air traffic services
  - aircraft safety
  - published information in the AIP
- works are continually supervised while in progress when the aerodrome is open to aircraft operations
- works vehicles, plant and personnel are evacuated from the movement area when necessary for the safety of aircraft operations
- the movement area is returned to a safe condition for aircraft operations after vehicles, plant, equipment and personnel have been removed from the works area
- for time-limited works, all reasonable measures are taken to return the works area to normal safety standards at least 5 minutes before a scheduled or notified aircraft movement
- floodlighting, and any other lighting required for carrying out aerodrome works are managed so as not to create a hazard to aircraft operations.

Maintenance personnel (139.115 and MOS 13.05)

Maintenance personnel must be suitably trained, qualified (if applicable) and experienced to effectively carry out their responsibilities.

If applicable to their roles, they must also have knowledge of the procedures in your aerodrome manual.

CHAPTER 8
OPERATING AND MAINTAINING AERODROMES

8.1 Overview

Keeping your aerodrome safe and serviceable requires regular inspection, maintenance and careful management of any work carried out on or near areas used by aircraft.

You need to monitor the condition of your aerodrome, identify and correct defects, maintain its facilities and surfaces, and make sure changes or hazards that may affect aircraft operations are reported when required. Some aerodromes also need periodic technical inspections carried out by appropriately qualified or experienced people.

Aerodrome works need to be planned and managed so they do not create a hazard to aircraft or cause confusion to pilots. Depending on the type of work, you may also need a method of working plan (MOWP) setting out how the work will be carried out safely while aircraft operations continue.

This chapter explains how to inspect, maintain and monitor your aerodrome, manage aerodrome works and prepare and use a MOWP where one is required.

8.2 Maintaining aerodromes

(MOS 15.01)

As the operator of a certified aerodrome, you are responsible for maintaining the condition of the movement area, including runways, taxiways, aprons, lighting and other facilities. You must also ensure all inspections, reporting and maintenance activities are carried out in accordance with approved procedures.

A key part of this responsibility is managing aerodrome works safely. You must make all necessary arrangements to ensure that any works or maintenance activities do not create a hazard to aircraft or cause confusion to pilots. This requires proper planning, marking and communication with pilots and air traffic services and, where relevant, issuing NOTAMs to advise of any temporary changes or restrictions.

Aerodrome works can often be carried out without closing the aerodrome, provided that all safety precautions are strictly followed. This includes establishing clear work zones, using appropriate markings and lighting, maintaining obstacle clearances and ensuring that operational areas always remain safe for aircraft movement.

This chapter brings together the key operational and maintenance requirements and outlines how to manage aerodrome works, inspections and maintenance safely and effectively while keeping the aerodrome operational.

8.3 Inspecting, monitoring and reporting aerodrome condition

(139.075, 139.080, 139.085, 139.090 and MOS 12.01)

As the operator of a certified aerodrome, you must have processes in place to inspect the aerodrome and report information, changes and occurrences in accordance with the regulations.

Regular inspections help identify changes, defects or other conditions that may affect the safe operation of the aerodrome. The Part 139 MOS sets out:

- the types of inspections that must be conducted and when they are required
- the facilities and equipment that must be inspected
- who can conduct inspections and the qualifications and experience they must have
- the inspection records that must be kept
- when inspection findings must be reported or notified to CASA.

You are also responsible for ensuring that published aerodrome information remains accurate and that required information is provided to the Aeronautical Information Service (AIS) provider. See chapter 3 of this guide.

Changes or occurrences at the aerodrome that may affect aircraft operations must also be reported to the appropriate person or organisation. Depending on the circumstances, this may include providing information for publication by the AIS provider, issuing or requesting a NOTAM, or notifying CASA.

These requirements ensure that the condition of the aerodrome is regularly checked and that pilots, aircraft operators, CASA and other relevant parties have access to accurate and current information about the aerodrome.

8.4 Serviceability inspections

Serviceability inspections are regular operational inspections used to check that your aerodrome remains safe and serviceable for aircraft operations.

Unlike an aerodrome technical inspection, a serviceability inspection does not generally require you to engage external technical specialists. It is normally carried out by your aerodrome personnel who have been suitably trained to conduct the inspection.

The inspection involves checking the condition of the aerodrome and identifying anything that may affect aircraft safety or the continued use of the aerodrome. This includes checking areas such as runways, taxiways and other movement areas, visual aids, lighting, markings, signs, obstacles, foreign object debris (FOD) and other hazards.

You must conduct serviceability inspections at the required frequency and also when particular events or circumstances may have affected the condition of the aerodrome, such as severe weather or a reported hazard.

The following sections explain when you must carry out a serviceability inspection, when it must be conducted and what you need to inspect.

When a serviceability inspection is required (MOS 12.01)

You must carry out an aerodrome serviceability inspection:

- if there has been a severe wind event, a severe storm or a period of heavy or prolonged rainfall
- if a hazard to aircraft may be present on the manoeuvring area
- when requested in writing by CASA
- when requested by ATC (where applicable)
- when aeroplane operations are scheduled, notified to you in advance by the aeroplane operator, or known to be in progress at the aerodrome, and meteorological conditions may have caused:
  - the RWYCC to change
  - a runway surface contaminant type to be present or to have changed.

If pooling or ponding of water, or poor drainage, is observed on a runway, you must undertake remedial maintenance as soon as possible. See section 8.5 of this guide.

Aerodrome personnel are not expected to carry out an aerodrome serviceability inspection if weather events create a work, health and safety hazard - for example, if lightning requires the movement area to be vacated.

CASA recommends that an additional aerodrome serviceability inspection should be carried out if a pilot or an Aerodrome Rescue and Firefighting Service (ARFFS) provider reports a hazard.

If your aerodrome has scheduled air transport operations, you must carry out at least:

- two aerodrome serviceability inspections each week, with at least 48 hours between any 2 inspections
- one aerodrome serviceability inspection on each day that an air transport movement is scheduled
- two aerodrome serviceability inspections on each day that an international air transport movement is scheduled for a Code 3 or a Code 4 runway, if at least 6 hours elapse between movements.

A single aerodrome serviceability inspection may satisfy one or more of the inspection requirements listed above.

If your aerodrome has no scheduled air transport operations, you must carry out at least 2 aerodrome serviceability inspections each week, with at least 48 hours between any 2 inspections.

Serviceability inspections must be conducted or supervised by personnel who are suitably trained to meet all relevant training requirements.

Inspection timing (MOS 12.02)

You must conduct an aerodrome serviceability inspection before the first scheduled passenger air transport movement of the day.

If the first movement occurs before first light you must carry out the safety-critical elements of the inspection before the first movement. The remainder of the inspection must then be carried out as soon as sufficient daylight is available (which may be carried out after the first movement).

Safety-critical elements include, for example, foreign object debris (FOD), visual aids and significant hazards.

Should a serviceability inspection be required in the circumstances detailed in this section, for example a severe storm, the inspection shall be carried out as soon as possible.

Serviceability inspection requirements (MOS 12.03)

Table 9 summarises the elements that must be inspected as part of an aerodrome serviceability inspection.

The aerodrome inspection records must be maintained for at least 2 years after their creation and include:

- the date and time of completion of each serviceability inspection
- the results of each inspection
- a description of any action taken.

Table 9: Aerodrome serviceability inspection requirements

Topic	Information to be reported
foreign objects	☑ check for any significant object found (i.e. any object that may have an adverse effect on the safety of an aircraft) must be immediately reported to ATC (where applicable) **Note**: A significant object includes any aircraft parts which may have fallen from an aircraft, or the remains of wildlife which may have been struck by an aircraft.
surface conditions of movement areas	check for the presence of any of the following on movement areas: ☑ surface irregularities, including cracking or spalling ☑ pavement deflections, including rutting or slipping ☑ pooling or ponding of water, or poor drainage ☑ build-up of rubber or other contaminants that may reduce surface friction ☑ surface damage caused by the spillage of corrosive fluids ☑ subsurface leaks or pressure, including broken water mains and inadequate or defective drainage ☑ scour or erosion ditches ☑ termite mounds, sinkholes or other ground obstacles obscured by grass ☑ soft ground, particularly in combination with surface roughness and slipperiness ☑ any other signs of pavement distress that may rapidly develop into a hazard for aircraft
aerodrome markings, lighting, wind direction indicators and ground signals	check for the following on or near movement areas: ☑ loss of visibility of markers and markings ☑ incorrect markers or markings ☑ any change to the correct intensity level or alignment of lights ☑ discoloured or dirty lenses ☑ unserviceable, incorrectly fitted, or misaligned lights ☑ stand-by power equipment, including the fuel availability, if applicable, to ensure it is serviceable ☑ the condition of light bases, movement area guidance signs (MAGS) and navigation equipment within the movement area, including runway and taxi strips ☑ exposed edges around footings and other aerodrome installations ☑ damage to the wind indicator assembly or mounting ☑ damage to sleeve fabric or loss of conspicuous colour for wind indicators ☑ correct operation of the pilot-activated lighting (PAL), if installed ☑ correct operation of the broadcast aerodrome weather station, if installed

Topic	Information to be reported
cleanliness of movement areas	check the following on movement areas: ☑ foreign objects, such as aircraft fastening devices and other aircraft parts ☑ work tools, small items of equipment and personal items ☑ debris, such as sand, loose rocks, concrete, wood, plastic, tyre fragments, mud and other foreign bodies ☑ hazards created during and after construction activities, including hazards arising from vehicles and plant operating on unpaved, wet or contaminated surfaces
obstacles infringing take-off, approach, transitional and PANS-OPS surfaces	check for any infringements of, or obstructions present in, any of the following surfaces that are visible from the aerodrome: ☑ the take-off, approach and transitional elements of the OLS ☑ PANS-OPS airspace, including any critical obstacles that affect the safety or integrity of PANS-OPS airspace
wildlife on or in the vicinity of the movement area	check the following in regard to wildlife: ☑ the integrity of aerodrome fencing and the security of access points to the movement area ☑ the presence and behaviour of wildlife on, or likely to be on, the aerodrome, and identifying seasonal and environmental conditions that may act as attractants ☑ evidence of wildlife shelter provided by aerodrome infrastructure, for example, buildings, equipment and gable markers ☑ off-aerodrome wildlife attractants observable from the aerodrome site, such as mowing activities, seeding, standing water, uncovered waste disposal sites and deceased wildlife or animal remains ☑ the presence and operating condition of any wildlife hazard mitigation equipment incorporated into the aerodrome's wildlife hazard management procedures
empirical assessment of the bearing strength	check the bearing strength of unrated runway pavements and runway strips only if: ☑ an unsealed runway is unrated ☑ any part of the runway strip is available for aircraft operations **Note:** Although discretion, judgement and local knowledge always form part of empirical assessment of bearing capacity, CASA recommends that appropriate test procedures should be in place for the practical guidance of persons making the assessment.
aerodrome fencing and signage	check for: ☑ damaged fences ☑ unsecured gates ☑ signs of attempted entry onto the manoeuvring area by land-based wildlife or unauthorised persons
aerodrome frequency response unit	☑ check the correct functioning of the aerodrome frequency response unit (AFRU), (if any)
currency of NOTAMs	☑ check the accuracy and currency of all active NOTAMs requested by the aerodrome

Reportable occurrences (MOS 12.04)

A reportable occurrence is an event or condition at an aerodrome that has the potential to endanger the safety of an aircraft, its occupants or other people. The following are reportable occurrences and must be reported to the Australian NOTAM Office:

- any temporary or permanent change to published runway information, including changes to information contained in current permanent NOTAMs or in the Aeronautical Information Publication (AIP)
- aerodrome works affecting the manoeuvring area or obstacle limitation surfaces, including time-limited works that require more than 10 minutes to restore normal safety standards
- an outage or unserviceability of aerodrome lighting or obstacle lighting, unless it is fixed immediately
- temporary obstacles to aircraft operations, unless they are removed immediately
- any significant increase in, or concentration of, wildlife hazards on or near the aerodrome that constitute a danger to aircraft, unless the wildlife causing the hazard is dispersed immediately
- any change within the take-off climb area mentioned in subsection 5.12 (8) of the MOS that is due to a new or changed obstacle that results in a change of more than 0.05% to the published gradient runway data, unless the obstacle is dealt with immediately
- the emergence of new obstacles, unless they are removed immediately
- a radio navigation aid or landing aid you own that is unserviceable or has returned to service
- any other event that affects aircraft safety, unless the event is ceased immediately.

A reportable occurrence must be:

- initially reported in detail as soon as possible after it is observed
- updated, if necessary, with additional detail to enable further NOTAMs to be issued.

You must advise ATC of any unserviceability identified during a serviceability inspection that requires the issue of a NOTAM.

You must also issue a NOTAM and provide as much notice as possible, advising of any aerodrome works that will affect airline operations.

Global reporting format and aerodrome serviceability inspection requirements (MOS 12.04A)

If your aerodrome has an operational sealed runway, you must follow requirements for reporting the condition of the runway.

During an aerodrome serviceability inspection to assess runway conditions and overall aerodrome compliance, you must specifically check each operational runway for visible signs of:

- dampness
- standing water
- snow
- slush
- ice
- frost.

> **Note:** Snow, slush, ice and frost of various kinds are described as 'other contaminants' to distinguish them from dampness or water.

You must provide a runway condition report (RCR) when aircraft operations are:

- scheduled
- notified in advance by an aircraft operator
- in progress at the aerodrome.

The RCR must provide an appropriate surface description and the applicable runway condition code (RWYCC) for each operational sealed runway.

Table10 provides a summary of the categories of reportable runway conditions, the corresponding RWYCC, and who the report must be provided to.

Table 10: Determining and reporting the RWYCC

Runway surface description	Applicable RWYCC	Report to
DRY	6	› nil
WET (runway surface covered by visible dampness or water up to 3 mm depth) FROST SLUSH (up to 3 mm depth) DRY SNOW (up to 3 mm depth) WET SNOW (up to 3 mm depth)	5	› ATC (if available)
COMPACTED SNOW (Outside air temperature minus 15° C and below)	4	› Australian NOTAM Office › ATC (if available) › pilots (if ATC not available – but only where the aerodrome operator has available UNICOM or CA/GRS)
WET ('slippery wet' runway) DRY SNOW (more than 3 mm depth) WET SNOW (more than 3 mm depth) DRY SNOW ON TOP OF COMPACTED SNOW (any depth) WET SNOW ON TOP OF COMPACTED SNOW (any depth) COMPACTED SNOW (outside air temperature above minus 15° C)	3	› Australian NOTAM Office › ATC (if available) › pilots (if ATC not available – but only where the aerodrome operator has available UNICOM or CA/GRS)
STANDING WATER SLUSH (more than 3 mm deep)	2	› Australian NOTAM Office › ATC (if available) › pilots (if ATC not available – but only where the aerodrome operator has available UNICOM or CA/GRS)
ICE	1	› Australian NOTAM Office › ATC (if available) › pilots (if ATC not available – but only where the aerodrome operator has available UNICOM or CA/GRS)
WET ICE WATER ON TOP OF COMPACTED SNOW DRY SNOW OR WET SNOW ON TOP OF ICE	0	› Australian NOTAM Office › ATC (if available) › pilots (if ATC not available – but only where the aerodrome operator has available UNICOM or CA/GRS)

CASA Multi-Part AC 91-32 and AC 139-22 Global reporting format – Runway surface condition, is a multi-part advisory circular that gives guidance on implementing the Global Reporting Format (GRF). The GRF provides an internationally harmonised and standardised method of assessing and reporting runway surface conditions that affect flight operations.

8.5 Aerodrome technical inspection programs

(MOS 12 Division 2)

An aerodrome technical inspection is a detailed assessment of the aerodrome's facilities, equipment and operations to identify deterioration, deficiencies or other matters that could affect the safety of aircraft operations.

As the aerodrome operator, you are responsible for ensuring the required technical inspections are carried out. However, this does not mean that you must personally conduct each part of the inspection.

The inspection must be carried out by people with the appropriate technical qualifications or experience for the area being inspected.

Depending on the inspection, this may include people with expertise in civil engineering, electrical systems, surveying or aerodrome operations. You can use suitably qualified people within your organisation or engage external specialists where you do not have the required expertise in-house.

A technical inspection may therefore involve several different people, with each person inspecting the components relevant to their area of expertise.

Inspection requirements (MOS 12.09)

Table 11 summarises the components that must be included in an aerodrome technical inspection.

Table 11: Aerodrome technical inspection requirements

Inspection component	Inspection requirements
obstacles	inspect and assess: › obstacles by conducting an instrument survey of approach, take-off and transitional surfaces › other applicable surfaces associated with the OLS › the monitoring of the instrument approach procedure critical obstacles nominated by the procedure designer for any terminal instrument flight procedures published for the aerodrome
movement area pavements, drainage and associated strips	visually inspect and assess: › pavement condition › contamination, including from rubber build-up
aerodrome lighting and electrical reticulation systems	inspect and test: › visual aids on the movement area › apron floodlighting, including illumination of the apron and parking positions › illuminated wind direction indicators › pilot-activated lighting systems (if applicable) › stand-by and emergency aerodrome lighting (if applicable) › the visual approach slope indicator system (if applicable) › approach lighting systems (if applicable) › obstacle lights and beacons maintained by the aerodrome operator › any earthing points on the apron (if applicable)
visual aids	inspect and assess: › movement area markings › movement area guidance signs, including aircraft parking position signs › airside vehicle control signs › protection of navigational aids and meteorological equipment signs
equipment and facilities	inspect equipment and facilities used for: › wildlife hazard management, including aerodrome fencing and gates › aerodrome emergencies

Inspection component	Inspection requirements
aerodrome information	check the currency and accuracy of: › aerodrome information published in the AIP › aerodrome operating procedures specified in the aerodrome manual and supporting documents
safety management system or risk management plan	check to confirm: › documents and records are up to date › system or plan is functioning as documented
airside vehicle control arrangements	check to confirm: › documents and records are up to date › arrangements functioning as documented
reporting officer and works safety officer	check that appointed personnel: › have been appropriately trained and assessed › are competent to carry out their required duties

You may regard any survey, check, inspection, assessment or test performed and completed as a single and discrete task, as an 'element' for inclusion in technical inspection programs.

Inspections at higher volume movement aerodromes (MOS 12.06)

You must implement a technical inspection program if, during a financial year, your aerodrome has either:

› 50,000 or more air transport passenger movements

› 100,000 or more aircraft movements.

You must implement all elements of your first aerodrome technical inspection within 12 months after either:

› the date the Department publishes air transport passenger movement numbers indicating that, your aerodrome recorded 50,000 or more air transport passenger movements for the financial year

› the date you become aware that, for the first time, the aerodrome recorded 100,000 or more aircraft movements during the financial year.

After the first technical inspection, you must ensure each required element is inspected again within 12 months of the date it was last inspected.

You must prepare and implement a new technical inspection program as if it were the initial program if, during any financial year, either:

› passenger numbers fall below 50,000 and rise above that threshold in a subsequent financial year

› aircraft movements fall below 100,000 and rise above that threshold in a subsequent financial year.

Inspections at lower volume movement aerodromes (MOS 12.07)

You must implement a technical inspection program if, during a financial year, your aerodrome has either:

› at least 10,000 but fewer than 50,000 air transport passenger movements

› at least 20,000 but fewer than 100,000 aircraft movements.

You must implement all elements (as detailed above in this section of the guide) of your first aerodrome technical inspection within 12 months of either:

› the date the Department publishes air transport passenger movement numbers indicating that, for the first time under the MOS, the aerodrome recorded at least 10,000 air transport passenger movements for the financial year

› the date you become aware that, for the first time under the MOS, the aerodrome recorded at least 20,000 aircraft movements during the financial year.

Each element of subsequent technical inspections must be implemented annually, except for the following elements, which may be implemented every two years:

- inspection and assessment of movement area pavements, drainage and associated strips
- visual inspection and assessment of:
  - pavement condition
  - contamination, including rubber build-up
- inspection and testing of aerodrome lighting and electrical reticulation systems, including the following sub-elements:
  - visual aids on the movement area
  - apron floodlighting, including illumination of aprons and parking positions
  - illuminated wind direction indicators
  - pilot-activated lighting systems, if applicable
  - stand-by and emergency aerodrome lighting, if applicable
  - the visual approach slope indicator system, if applicable
  - approach lighting systems, if applicable
  - obstacle lights and beacons maintained by you
  - any earthing points on the apron, if applicable.

You must prepare and implement a new technical inspection program as if it were for the first time if, during any financial year, either:

- passenger numbers fall below 10,000 and rise above this threshold in a subsequent financial year
- aircraft movements fall below 20,000 and rise above this threshold in a subsequent financial year.

Other requirements for aerodrome technical inspection programs

(MOS 12.08)

Parts of your technical inspection program may be carried out at different times, provided all parts of the program are completed within the applicable inspection interval.

If a serviceability inspection identifies any defect or deficiency on the aerodrome, you must immediately inspect it under the technical inspection program.

Each technical inspection program must check for both:

- non-compliance with the MOS
- defects or deterioration in the condition of:
  - the movement area
  - visual aids and related equipment.

The following must be recorded in the technical inspection report if identified during a technical inspection program:

- any non-compliance with the MOS by an aerodrome facility, its equipment, operation, or aerodrome personnel
- any defect or deterioration in any facility, item of equipment or visual aid that could make the aerodrome unsafe for aircraft operations
- any incorrect aerodrome information:
  - published in the AIP or a NOTAM
  - reported to ATC, if applicable
- any information in the aerodrome manual that is incorrect or not current
- any procedure in use at the aerodrome that is not in accordance with, or conflicts with, a procedure in the aerodrome manual.

After you complete any element of the technical inspection program, you must prepare one or more plans for any corrective action that is needed. Each corrective action plan must include a timeframe for implementation.

If a technical inspector recommends an action and you do not support the action, you must include reasons in the relevant corrective action plan.

You must provide CASA with a copy of the technical inspection report within 30 days of receiving it, unless a longer timeframe is agreed by CASA in writing.

If CASA makes a request in writing, you must provide a copy of the plan for corrective action within 30 days. The plan must include details of any progress already made to address any defects or deterioration identified by the technical inspection.

You must both:

- keep records of each technical inspection program
- retain each record for at least 3 years after the technical inspection program to which the record relates was completed.

Note: This does not apply if you carry out parts of a technical inspection program at different times, then you must both:

- keep records of each part of each inspection program
- retain those records for at least 3 years after the final part of the inspection program is completed.

Conducting aerodrome technical inspections (MOS 12.10)

You must ensure that technical inspections are conducted by personnel who have either:

- relevant technical qualifications and experience
- demonstrable relevant technical experience.

The movement area, other pavements and drainage must be inspected by a person who has either:

- a recognised degree, diploma or certificate in civil engineering
- demonstrable relevant technical experience in civil engineering.

Aerodrome lighting and electrical facilities must be inspected by either:

- a qualified electrical engineer
- a licensed electrician with relevant aerodrome lighting knowledge and experience.

The obstacle limitation surfaces must be inspected by a person who is technically qualified or experienced in surveying.

Other surfaces must be inspected by a person with either:

- relevant technical qualifications and experience, or demonstrable relevant technical experience
- sound knowledge and understanding of OLS standards.

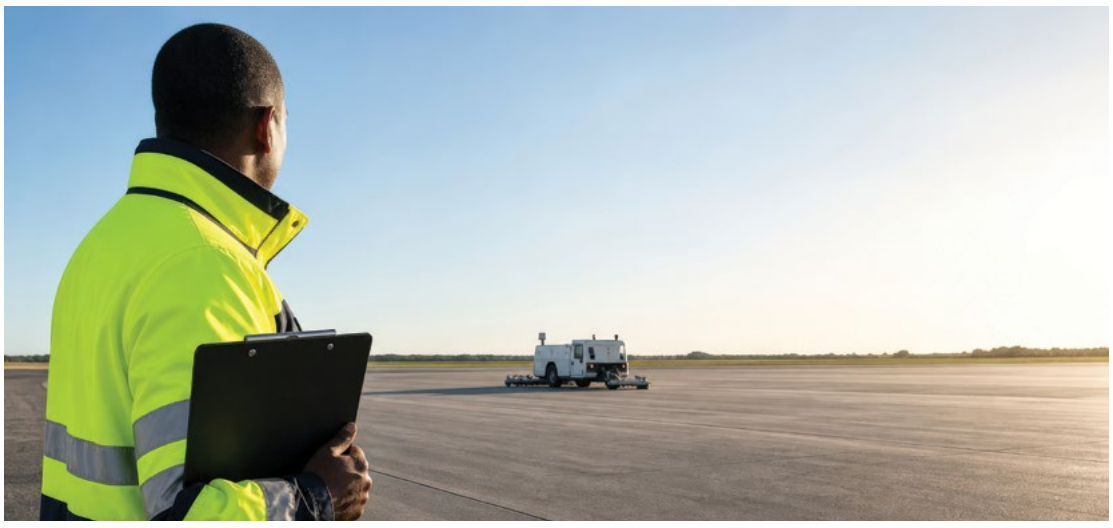
A person conducting an instrument survey of approach, take-off and transitional surfaces, or a check of other applicable surfaces associated with the OLS, must have a sound knowledge and understanding of the OLS standards and survey procedures.

Inspection checks of the aerodrome manual, supporting procedures and published aerodrome information in the AIP must be conducted by a person with sound knowledge of, and experience in, the civil aviation safety legislation applicable to the aerodrome inspection, reporting, operation and maintenance.

CASA recommends that technical inspectors are trained in, or are familiar with, auditing techniques.

Records of the qualifications and the demonstrated relevant technical experience held by all persons conducting aerodrome technical inspections must be either:

- maintained as part of the aerodrome manual
- included in the aerodrome technical inspection report.



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8.6 Pavement maintenance

Aerodrome pavements need to be maintained in a condition that supports safe aircraft operations. Deterioration, contamination, loose material or changes to the surface can affect aircraft braking, directional control and the risk of foreign object damage.

As the aerodrome operator, you are responsible for ensuring paved runways, taxiways and aprons are appropriately maintained. This includes keeping pavement surfaces clear of foreign objects and debris, monitoring their condition and arranging maintenance when deterioration or other deficiencies are identified.

Some pavement maintenance activities can be managed as part of your normal aerodrome inspection and maintenance program. Other activities may require specialist personnel or equipment. For example, measuring runway friction may require an appropriate friction-measuring device and a person who has demonstrated competency in its use.

Serviceability and technical inspections also play an important role in identifying pavement defects and determining when maintenance or other treatment is required.

The following sections explain the pavement cleanliness, surface friction and texture, and maintenance requirements that apply to aerodrome pavements.

Pavement cleanliness (MOS 18.01)

You must ensure all paved runway, taxiway and apron surfaces are kept clear of foreign objects and debris that could cause damage to aircraft.

Runway surface friction or texture (MOS 18.02)

You must maintain sealed runways in accordance with the surface texture or friction standards specified in section 6.09 of the MOS.

To measure the friction level of a sealed runway at an aerodrome, you must use an ICAO-accepted continuous friction measuring device with self-wetting features.

You must ensure any person using a friction-measuring device has demonstrated competency in its use.

The following activities must be undertaken to determine and maintain compliance with the requirements for sealed runway surfaces:

- the wet surface friction or texture characteristics of a runway must be evaluated as soon as possible after construction or resurfacing
- technical inspections must be undertaken to identify the need for maintenance or special surface treatment before surface conditions deteriorate below compliance limits. These inspections must include, as applicable:
  - periodic friction assessment
  - surface texture evaluation.

Continuous friction measurement is recommended for all aerodromes with runways classified as Code C and above, and for runways with grooves or scoring.

Guidance on evaluating runway surface friction characteristics is provided in ICAO Document, Assessment, Measurement and Reporting of Runway Surface Conditions (Cir 355).

Water pooling or ponding (MOS 18.03)

If pooling, ponding or poor water drainage is observed on a runway during an aerodrome serviceability inspection, you must ensure that remedial maintenance is undertaken as soon as possible.

Runways do not generally need to be overlaid, resurfaced or replaced solely because water ponding or pooling appears. However, maintenance action should be taken to address the formation of depressions or surface irregularities that allow water to pool, pond, or drain poorly.

8.7 Aerodrome works

Aerodrome works must be carefully managed so they do not create a hazard to aircraft or cause confusion for pilots. Depending on the type and extent of the work, you may be able to undertake them while the aerodrome remains open to aircraft operations.

As the aerodrome operator, you are responsible for ensuring the works are appropriately planned and controlled. For most planned works, this includes preparing a method of working plan (MOWP) and, where required, appointing a works safety officer to oversee the safe conduct of the works.

The following sections explain the requirements for different types of aerodrome works and how they must be managed while aircraft operations continue.

General requirements (MOS 15.01)

You must ensure aerodrome works do not create a hazard to aircraft or cause confusion to pilots.

You may carry out aerodrome works without closing the aerodrome, provided safety precautions are followed.

You must prepare a method of working plan (MOWP) for all planned aerodrome works unless:

- the works are time-limited
- the aerodrome is closed during the works
- the works are of an emergency nature
- the works do not require any restrictions on aircraft operations.

A MOWP is not required if you temporarily close the aerodrome. However, at least 14 days' notice of the planned temporary closure must be given in writing to:

- air transport operators using the aerodrome
- each other known organisation using the aerodrome likely to be affected by the closure
- CASA.

Aerodrome works are of an emergency nature if they are required for either:

- repair of unforeseen damage to part of the manoeuvring area
- removal of an obstacle.

Written notice of temporary aerodrome closure is not required if either:

- the aerodrome is not used for:
  - scheduled air transport operations
  - emergency services aircraft based at the aerodrome (fixed-base emergency services aircraft)
- the works do not create a hazard to aircraft or cause confusion to pilots.

If you intend to carry out aerodrome works without a MOWP, CASA recommends that you consult with operators of relevant air ambulance aircraft, any operators based on the aerodrome and other key stakeholders, in relation to the aerodrome works.

A NOTAM giving the time and date of the planned commencement of the works, or a planned change in works stage, must be requested for works where an MOWP is issued. The request must be made early as possible, but at least 48 hours before commencement of the works or works stage.

A NOTAM giving the details of works is not required for unforeseen events affecting planned works. However, as soon as possible after the change becomes known, you must either:

- request a NOTAM
- provide notification on either:
  - the AFRU, if applicable
  - the automatic terminal information service (ATIS), if applicable.

During works that are not of an emergency nature, you must ensure the aerodrome remains open for aircraft operations. However, if necessary, the aerodrome may be closed if a NOTAM giving notice of the closure is requested and issued at least 14 days before the closure takes effect.

For non-routine works that require a works safety officer, including the contact details for the officer in the MOWP satisfies the requirement to record that information in the aerodrome manual.

Time-limited works (MOS 15.03)

You may carry out aerodrome works as time-limited works only if:

- normal aircraft operations are not disrupted
- the movement area can be restored to normal safety standards
- any hazard created by the works can be removed 30 minutes before the affected movement area is required for aircraft operations.

Time-limited works include activities such as:

- maintenance of markings and lighting
- grass mowing
- rolling surfaces
- sweeping pavements
- minor repairs to pavements
- detailed surveys, other than wildlife monitoring activities and serviceability inspections.

Time-limited works may be carried out if normal aircraft operations are not disrupted and the movement area can be restored to normal safety standards in not more than 30 minutes.

You must issue a NOTAM at least 24 hours before works commence, for time-limited works needing more than 10 minutes to restore normal safety standards and remove obstacles. The NOTAM must state both:

- the date and time of commencement
- the time required to restore normal safety standards.

You must stop time-limited works and restore normal safety standards when required to allow an aircraft operation to take place.

You must take all reasonable measures to restore normal safety standards at least 5 minutes before the scheduled or notified time of an aircraft operation.

At a non-controlled aerodrome, works that have been stopped to allow the restoration of normal safety standards may be resumed if one of the following applies:

- for an aircraft arrival – immediately after the arrival, provided the safety of the aircraft is not endangered by the resumption of the works
- for an aircraft departure – at least 15 minutes after the departure
- for an aircraft arrival that does not take place – at least 30 minutes after the scheduled or notified arrival time.

If you operate a controlled aerodrome, works that have been stopped to allow restoration of normal safety standards may be resumed in accordance with ATC instructions. The timing for resuming works should comply, as far as practicable with, the requirements that apply at non-controlled aerodromes.

You may request ATC vary the time limits for restoring normal safety standards or resuming aerodrome works. Any approved variation is subject to any conditions or instructions imposed by ATC.

Managing and controlling aerodrome works (MOS 15.04)

You must appoint a works safety officer to ensure the safe conduct of aerodrome works. You must be satisfied that the person appointed is able to perform the functions of the role (see section 7.5 of this guide).

> **Note:** For time-limited works, you do not require a dedicated works safety officer if one of the persons carrying out the time-limited works has been trained to perform the function of the works safety officer.

If aerodrome works are being carried out while the aerodrome is open to aircraft operations, a works safety officer must always be present in the vicinity of the works.

You must include procedures for entering works areas in the MOWP. Access to works areas must be limited to routes shown in the MOWP or as directed by the works safety officer.

Runway pavement overlay, reconstruction, resealing or widening works (MOS 15.05)

For pavement overlay edge, reconstruction or widening works, the area where the new and the existing surfaces meet must have a maximum vertical surface difference of no more than 25 mm. This may require you to provide a temporary ramp between the new and the existing surfaces.

The longitudinal slope of a temporary ramp used for works described above, measured from the existing runway surface or previous overlay course, must be either:

- 0.5% to 1.0% for overlays up to and including 50 mm in thickness
- not more than 0.5% for overlays more than 50 mm in thickness.

The entire width of the runway must be overlaid during a single works session. However, if this is not possible, you must ensure both of the following:

- at least the central two-thirds of the runway width is overlaid in the single works session
- you provide a temporary transverse ramp of between 0.8% and 1.0% between the edge of the new overlay surface and the existing runway surface or previous overlay course, if the difference in levels exceeds 25 mm.

If it is not possible to achieve the longitudinal and transverse standards described above, different parameters may be used if both:

- the slopes do not create a hazard for aircraft
- details of the slopes, including the reasons why the standard longitudinal and transverse slopes cannot be achieved, are included in the MOWP.

Before you return the runway to temporary operational status, you must provide a centreline marking that complies with the specifications in the MOS.

Wiring for temporary lighting within the manoeuvring area is permitted above ground level during works periods if both:

- it does not create a hazard to aircraft operations
- details of the proposed wiring are included in the MOWP.

Works on runway strips (MOS 15.06)

You must carry out works on runway strips in the shortest possible time to minimise the hazard to aircraft operations.

If works on runway strips are within 23 m of the edge of the runway then, as far as possible:

- the works may only be undertaken on one side of the runway at a time
- the works area must not exceed either of the following at any time:
  - 9 m^2
  - for excavations only, a width of 100 mm and a total length of 280 m
- materials and items, such as gravel, and any markings or lights left within this part of the runway strip:
  - must not exceed 1 m in height above ground
  - must be removed if likely to be affected by propeller wash or jet blast
- plant and vehicles must vacate the area when the runway is in use.

If works on a runway strip are between 23 m from the edge of the runway or runway shoulder and the edge of the graded runway strip, the restrictions above apply as far as possible, except that both:

- the works area may extend to 18 m^2 at any one time
- the height of materials may extend up to 2 m above the ground.

If you cannot achieve the requirements and standards described above, you may use different parameters for the extended works or excavation area provided both:

- the extended works or excavation area do not create a hazard for aircraft
- details of the extended works or excavation area, including the reasons the standard excavation cannot be provided, are set out in your MOWP.

The remaining requirements for placement of materials and removal of plant and vehicles when the runway is in use, still apply.

If works are occurring in the vicinity of navigational aids, landing aids or meteorological equipment, you must ensure that vehicles or plant associated with the works do not affect the performance of those aids or equipment.

Refer to AC 139.C-15 Safe planning and conduct of aerodrome works. It will assist you to plan and implement works at an aerodrome and not create any hazard to aircraft operations or confusion to pilots. It contains a range of checklists as well as a sample NOTAM request form.

Planning and carrying out aerodrome works (139.070 and MOS 15.01)

Aerodrome works may be carried out without a method of working plan (MOWP) if the works do not create a hazard to aircraft or cause confusion to pilots and:

- the works are time-limited
- the aerodrome is closed during the works and notice of the closure is given to:
  - air transport operators using the aerodrome
  - other organisations using the aerodrome likely to be affected by the closure
- the works are of an emergency nature to either:
  - repair unforeseen damage to part of the manoeuvring area
  - remove an obstacle
- the works do not require any restriction on aircraft operations
- the aerodrome is not used for:
  - scheduled air transport operations
  - emergency services aircraft based at the aerodrome (fixed-base emergency services aircraft).

Temporary aerodrome closure during a works period may be one method of eliminating hazards to aircraft, provided no essential operations or emergency services aircraft are required to use the aerodrome.

If you intend to carry out aerodrome works without a MOWP, consult the affected operators based on the aerodrome. More information about MOWPs can be found in section 8.8 of this guide.

You must request a NOTAM giving the time and date of the planned commencement of the works, or a planned change in a works stage, for works where you issue a MOWP. You must make the request as early as possible, but at least 48 hours before commencement of the works or works stage.

However, this does not apply for unforeseen events affecting planned works if, as soon as possible after the change becomes known, you both:

- request a NOTAM
- provide notification through either:
  - AFRU
  - automatic terminal information service (ATIS).

An aerodrome must remain open for aircraft operations unless works are of an emergency nature. However, you may close the aerodrome if you request and issue a NOTAM giving notice of the closure at least 14 days before the closure takes effect.

If non-routine works require a works safety officer, inclusion of the officer's contact details in the MOWP satisfies the requirement to record that information in the aerodrome manual. Contact details must include telephone number(s) for the works safety officer during and after normal business hours.

8.8 Method of working plan (MOWP)

A method of working plan (MOWP) is a documented plan used to manage aerodrome works that may affect the safety of aircraft operations. It sets out how, when and where the works will be carried out, and the controls needed to keep the aerodrome safe while the works are underway.

A MOWP typically identifies the work areas and stages, operating restrictions, temporary changes to aerodrome facilities, markings or lighting, access arrangements, communication and notification requirements, and the responsibilities of those involved. It also explains how the work will be coordinated with aircraft operations and how affected areas will be returned to a safe condition.

MOWP requirements (MOS 16.01)

Your MOWP must accurately set out the arrangements for carrying out the works and be organised into sections addressing the following matters in sequence:

- title page
- works information
- restrictions to aircraft operations
- personnel and equipment
- aerodrome markers, markings and lights
- any applicable special requirements
- administration
- authority
- drawings
- distribution list.

You must assign each MOWP prepared in a year, a reference number consisting of:

- the code used to identify the aerodrome as published in the AIP-ERSA
- the last two digits of the year
- the number you give to the MOWP.

MOWPs that you issue must be numbered consecutively in the order of their issue.

The MOWP title must indicate the location of the works and provide a short description of the project.

Example: '[name of aerodrome]: runway 07/25 repairs'.

The title page must include the following dates:

- approval of the MOWP
- commencement of the MOWP
- expiry of the MOWP
- completion of the works.

The title page, or the following page must also include a table of contents for the MOWP.

Preparing the MOWP (MOS 15.02)

When preparing a MOWP, you must consult:

- air transport operators using the aerodrome
- emergency services that are likely to operate aircraft at the aerodrome during the works period
- ATC, if applicable
- the Aviation Rescue and Firefighting Service (ARFFS) unit at the aerodrome (if any), if the MOWP is likely to affect the unit's ability to ensure safe aircraft operations
- the provider(s) of any communications, navigation, surveillance or meteorological infrastructure or equipment likely to be affected by the works.

Consultation with other fixed-base operators at the aerodrome, such as flight training organisations, sport aviation organisations and aerial application operators etc, is also recommended.

You must supply a copy of the MOWP at least 14 days before works commence to both:

- each operator or organisation consulted about the works
- the local CASA office marked for the attention of an aerodrome inspector.

A MOWP may be provided less than 14 days before works commence only if both:

- the works are unforeseen and/or urgent
- the MOWP states that the works are unforeseen and/or urgent.

If you amend a MOWP after distribution to consulted operators or organisations, the amended MOWP must:

- be redistributed to those operators or organisations as soon as possible, but at least 48 hours before the works commence
- clearly identify the amendment.

Aerodrome works must be carried out in accordance with the MOWP or any amended MOWP.

Works information (MOS 16.02)

Each MOWP must both:

- include an outline of the full scope of the works and state which aerodrome facilities are affected
- set out for the works:
  - the planned commencement date and time
  - the duration of each stage
  - the planned completion time.

Each MOWP must also contain the following statement:

'The actual date and time of commencement will be advised by NOTAM, to be issued at least 48 hours before work commences'.

Restrictions to aircraft operations (MOS 16.03)

Each MOWP must include a 'restrictions to aircraft operations' (RTAO) section to enable aircraft operators to readily identify information affecting their operations.

The RTAO section must include each:

- manoeuvring area restriction
- aircraft type affected by the restriction, (if the aircraft types are affected differently by the works).

You must include drawings in the RTAO section showing any restrictions to aircraft operations during each stage of the works. The drawings should include:

- the manoeuvring area
- the approach and take-off areas.

For more information about preparing these drawings, see later in this section.

When you are undertaking works in more than one stage, you must include a table in the RTAO section to:

- show restrictions:
  - applicable to each stage of the works
  - for each type of aircraft operation
- outline the various work stages with scheduled start and completion dates
- include a remarks column with:
  - details of special restrictions
  - requirements for issuing NOTAMs
- outline details of special arrangements if emergencies or adverse weather conditions occur during works
- list the requirements for restoration of normal safety standards
- state any restrictions on the organisation carrying out aerodrome works
- include the full text of all planned NOTAMs associated with the aerodrome works.

Note: The start and completion dates for the works are to be notified and updated via NOTAM.

Note: If the schedule changes, an amended MOWP must be issued.

Personnel and equipment (MOS 14.05 and 16.04)

You must list in each MOWP, any time or circumstance when personnel and equipment are required to vacate the movement area for certain aircraft operations. For example, 'All personnel and equipment will clear runway strip 11/29 for air transport operations not later than XX minutes before 1200 hours.'

Your MOWP must identify both:

- routes to and from the works area
- procedures for entering a works area within the movement area.

You should also consider including information such as airside vehicle lighting requirements.

For example:

- how personnel and equipment access and egress the airside areas
- how personnel travel to and from the work sites while remaining off the movement area.

You could also include requirements such as prohibiting eating airside where food waste may attract birds and wildlife, and prohibiting smoking, vaping or the use of e-cigarettes airside.

Aerodrome markers, markings and lights (MOS 16.05)

You must attach drawings to each MOWP showing arrangements for the installation, alteration and removal of aerodrome markers, markings and lights in the works area and any other area affected by aerodrome works.

Your MOWP must set out procedures for ensuring that electrical services and control cables are not damaged during the works.

Special requirements (MOS 16.06)

Your MOWP must provide details of any special requirements during or on completion of aerodrome works, for example, arrangements for leaving pavement surfaces clean.

Administration (MOS 16.07)

Your MOWP must include:

- the name of the project manager and their contact telephone numbers during and after normal working hours
- the contact arrangements for the works safety officer(s) during and after normal working hours.

Authority (MOS 16.08)

Each MOWP must contain the following statement in a prominent place: All works must be carried out in accordance with the MOWP.

It must also:

- set out its expiry date and any alteration of that date
- be authorised and signed by your accountable manager.

Your project manager for the works may sign the MOWP where you have provided such written authorisation. You must ensure that the MOWP is complied with.

Drawings (MOS 16.09)

You must include drawings in each MOWP to provide a visual reference for each stage of the works, showing:

- specific details of the works area
- restrictions to aircraft
- the location of CNS equipment, including the associated critical or sensitive areas in proximity to the works area
- the location of visual ground aids and markings in proximity to the works area, including any unserviceability markers or markings required by the works
- details of the height and location of critical obstacles
- the location of temporary parts of the movement area (if applicable)
- access information, including standard routes for vehicles and equipment not normally operated on the aerodrome
- any areas used for storage of materials and equipment
- if excavation is required during the works, the location of critical electrical services and control cables that may be disturbed near the works area.

Drawings indicating specific details of the works areas are not required if:

- an alternative means of describing the location of the critical electrical services and control cables is provided
- the alternative means is readily available to the works safety officer during the conduct of works
- the alternative means is documented in the MOWP.

Distribution list (MOS 16.10)

The distribution list of your MOWP must include at least the following persons and organisations:

- the project manager
- the works safety officer
- the aerodrome security manager, where applicable
- the works organiser
- CASA
- and where applicable:
  - the aerodrome ATC
  - the aerodrome ARFF unit
  - air transport and emergency services aircraft operators using the aerodrome
  - fixed-base operators using the aerodrome
  - CNS service providers located on the aerodrome
  - meteorological service providers located on the aerodrome.

Note: MOWPs provided to CASA are normally required to be sent to the assigned aerodrome inspector.

8.9 CASA access to your aerodrome and aerodrome data

Access to aerodromes to conduct tests (139.135)

You must allow CASA to conduct tests of your aerodrome facilities and equipment, or operating procedures at your aerodrome, for the purpose of ensuring the safety of aircraft.

Access must be provided to any part of your aerodrome, any facilities and equipment for your aerodrome, or any of your records relating to your aerodrome.

CASA must:

- give you reasonable notice of any tests to be conducted
- carry out the tests at a reasonable time.

Requests for data from an aerodrome operator or ATS provider (139.140 and 139.145)

CASA may, by written notice, request you to provide aircraft movement data. The requested data may relate to the number and type of aircraft using your aerodrome.

You must provide the requested data either:

- within 28 days after the request is given
- a longer period if specified by CASA.

This requirement does not apply if you do not possess the data despite taking all reasonable steps to obtain it.

CASA may, also by written notice, request the ATS provider at your aerodrome submit aircraft movement data.

The requested data from ATS may relate to the following in relation to your aerodrome:

- the number of aircraft
- the type of aircraft
- the nature of the operations
- the flight rules applicable to aircraft.

The ATS provider must comply with the request within either:

- 28 days after the request is given
- a longer period, specified by CASA.

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CHAPTER 9
COMMUNICATION, NAVIGATION, SURVEILLANCE (CNS) AND METEOROLOGICAL (MET) FACILITIES

9.1 Overview

Communication, navigation, surveillance (CNS) and meteorological (MET) facilities support safe and efficient aircraft operations by providing pilots with:

- essential communication links
- navigation guidance
- weather information.

For pilots and aerodromes, CNS and MET facilities are safety-critical infrastructure. Pilots rely on them to navigate, communicate and land safely, while aerodromes rely on them to maintain safe operations, support airport capacity and meet regulatory requirements.

Depending on the size and complexity of your aerodrome, you may have many or none of the CNS and MET facilities listed in this chapter.

CNS and MET facilities are maintained by CNS or MET service providers. However, you are responsible for liaising with the service providers to ensure actions taken at the aerodrome or nearby do not adversely affect facilities.

This chapter describes CNS and MET facilities and outlines your responsibilities for liaising with service providers, maintaining protection areas, and ensuring CNS and MET facilities remain accessible and safe to use.

9.2 What are CNS and MET facilities?

CNS and MET facilities at an aerodrome may include:

- radio navigation facilities, including:
  - VHF omnidirectional range (VOR)
  - distance measuring equipment (DME)
  - instrument landing system (ILS)
  - non-directional beacon (NDB)
  - ground-based augmentation system (GBAS)
- surveillance sensor sites, including radar, automatic dependent surveillance – broadcast (ADS-B) and multilateration systems
- air-ground and point-to-point communications systems, including radio bearer systems and satellite communications sites
- air traffic services centres
- ATC towers
- meteorological facilities, including transmissometers.

Table 12 describes various CNS and MET facilities and explains what they do and how they are used.

Table 12: CNS and MET facilities with a description and their usage

Facility	Description	What it is used for
VHF omnidirectional range (VOR)	› typically visible as a white circular or cone-shaped ground antenna array › mounted on a cleared site, on or near an aerodrome	› provides aircraft with bearing information relative to the station › allows pilots to determine direction and track airways
distance measuring equipment (DME)	› usually a small equipment shelter with a vertical antenna mounted above it › often co-located with a VOR or ILS on or at a nearby site	› used by pilots to determine how far they are from the navigation aid
instrument landing system (ILS)	› two main antenna arrays: » a localiser antenna beyond the end of the runway aligned with the runway centreline » a glide slope antenna located beside the runway near the touchdown zone	› provides precise lateral and vertical guidance to aircraft during approach and landing, particularly in poor visibility and low cloud

Facility	Description	What it is used for
non-directional beacon (NDB)	› usually consists of: » a radio transmitter, » equipment hut and » one or more mast antennas › located on the airport or some distance away along an approach path or airway	› transmits an omnidirectional (in all directions) radio signal › determines the direction to the beacon in aircraft equipped with an automatic direction finder (ADF)
ground-based augmentation system (GBAS)	› usually includes: » several global positioning system (GPS) reference antennas around the airport » a processing facility and » a VHF data broadcast › one GBAS installation can support multiple runway approaches	› enhances GPS accuracy and integrity › provides precision approach guidance as a satellite-based alternative to ILS
primary or secondary radar site	› a large rotating radar antenna mounted on a tower or elevated platform (at the aerodrome or at a surveillance site with good line-of-sight coverage) › often enclosed in a protective radome	› detects and tracks aircraft for air traffic control surveillance and separation
ADS-B ground station	› small ground station (much smaller than conventional radar) with antennas mounted on poles or towers › located at aerodromes and across regional airspace to provide surveillance coverage	› receives aircraft position broadcasts from onboard GPS › supplies surveillance information to air traffic control
multilateration (MLAT) system	› a network of small antenna/sensor sites positioned around runways, taxiways and terminal areas	› airport surface surveillance and areas where radar is less effective
air-ground radio communications systems	› radio transmitters, receivers and antenna towers › may include VHF/UHF/HF antenna masts located around the aerodrome	› enables voice communication between pilots and air traffic controllers
satellite communications (SATCOM) site	› ground station with satellite dishes and associated communications equipment › located at strategic communication facilities or remote locations	› provides resilient communications links where terrestrial systems are unavailable or as backup systems
air traffic control (ATC) tower	› tall tower with a glass-walled control room (cab) at the top providing 360-degree visibility › usually located beside the manoeuvring area	› controls aircraft and vehicle movements on runways, taxiways and in the immediate vicinity of the airport
meteorological observation facility	› weather station containing sensors for wind, temperature, humidity, pressure and cloud observations › positioned at representative locations around the aerodrome	› provides weather observations and forecasts for pilots, air traffic control and airport operators

9.3 General requirements for CNS and MET facilities

(MOS 19.01 and 19.02)

CNS and MET facilities are maintained by CNS or MET service providers. However, you are responsible for consulting with the service providers to ensure actions taken at the aerodrome or nearby do not adversely affect facilities.

You must document your procedures for maintaining the areas around CNS and MET facilities on the aerodrome. The procedures must include consultation with the service providers to ensure that maintenance activities do not interfere with the operation of the facilities. You are required to follow instructions given by the CNS and MET service providers.

You must consult the relevant CNS or MET service provider to ensure that both:

- adequate provision is made for establishing restricted areas near CNS or MET facilities
- there is adequate control of vehicles and aircraft operations near CNS or MET facilities.

You must also consult the relevant CNS service provider to:

- determine the minimum distance required between a radio navigation facility and aerodrome roads, public roads, runways and taxiways
- ensure unauthorised personnel and vehicles are kept clear of the facility
- ensure grazing livestock are kept clear of the facility
- ensure, as far as possible, that suitable materials (preferably non-metallic) are used to construct the facility's perimeter fencing and warning signs.

You must consult the relevant surveillance sensor site service provider to:

- determine the minimum distance required between surveillance sensor sites and aerodrome roads, public roads, runways and taxiways
- ensure, as far as possible, that unauthorised personnel and vehicles are kept clear of the facilities
- ensure, as far as possible, that suitable materials (preferably non-metallic) are used to construct the facility's perimeter fencing and warning signs.

You must not proceed with any development proposal if it is assessed by the CNS or MET service provider as:

- not meeting the standards outlined in Chapter 9 of the MOS for the relevant CNS or MET facility
- likely to create a hazard to aircraft
- likely to adversely affect the operation of the CNS or MET facility.

However, the development proposal may proceed if both:

- a safety case demonstrates how any hazard or adverse effect may be mitigated
- after considering the safety case, the applicable CNS or MET service provider agrees to the development proposal in writing, with or without conditions.

If there is a line-of-sight requirement for ATC or ARFF under other regulations, you must actively preserve that line of sight unless otherwise approved in writing by CASA.

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9.4 Protecting MET facilities

(MOS 19.17)

Section 19.17 of the MOS focuses on protecting aerodrome weather monitoring facilities from activities or developments that could affect the accuracy of meteorological observations at the aerodrome.

It is important to protect the integrity of aerodrome weather observations. Any nearby development must be assessed for its impact on the weather station, and activities that could alter the local environment, such as spraying vegetation, extensive paving or external irrigation, are restricted to ensure weather data remains accurate and representative.

In particular:

- before proposing development in or around the instrument enclosure or its buffer zone, determine whether the development could adversely affect the operation or accuracy of the meteorological facilities
- do not use herbicides or weed sprays near the instrument enclosure if they could affect the natural vegetation within the enclosure
- only install walkways where access would otherwise be unsafe and keep it to no wider than 0.5 m
- do not artificially water the instrument enclosure from outside the enclosure as it may influence temperature, humidity or other meteorological conditions.

9.5 Protecting CNS facilities

(MOS 19.04, 19.05, 19.06, 19.07, 19.08, 19.09, 19.10, 19.11, 19.12, 19.13, 19.14,19.15 and 19.16)

Division 2 of Chapter 19 of the MOS sets out the detailed requirements for protecting each type of CNS facility. In general, for all the facilities, you need to:

- protect critical navigation, communication and surveillance equipment from interference
- maintain clear line-of-sight paths where required
- control building heights and nearby development
- protect facilities from electromagnetic interference
- refer developments within defined protection areas to the responsible CNS service provider before approval
- restrict vehicle access and construction activities around critical operational systems such as ILS.

For airport planning purposes, the most significant facilities from a safeguarding perspective are typically ILS, radar, GBAS, VOR/DME, communications facilities and satellite ground stations because they have the largest protected areas and greatest sensitivity to nearby development.

CASA recommends that you monitor and advise the relevant CNS or MET service provider of any development application which is outside the aerodrome boundary, but near, or likely to affect, an existing CNS or MET facility.

9.6 Where MET facilities can be installed

(MOS 19.18)

Section 19.18 of the MOS sets out the requirements for locating and maintaining meteorological (weather monitoring) facilities within an aerodrome. It applies to meteorological facilities installed within an aerodrome boundary by authorised meteorological service providers.

The objective is to ensure meteorological instruments measure weather conditions that accurately represent the local aerodrome environment. Weather stations should be located in open, unobstructed areas with natural ground cover, controlled vegetation, and sufficient separation from buildings, trees and other structures that could distort observations.

9.7 Where CNS facilities can be installed

(MOS 19.16)

Section 19.16 of the MOS sets out in detail where communications, navigation and surveillance (CNS) facilities can and cannot be located within an aerodrome.

In general, CNS facilities should be sited in accordance with relevant engineering, technical and operational requirements.

The intent is to keep obstacles out of runway, taxiway and approach areas unless they are essential for aircraft operations. Where essential CNS equipment must be located in these protected areas, it should present the lowest possible risk to aircraft by being low-profile and frangible.

CHAPTER 10
RADIOCOMMUNICATION FACILITIES

10.1 Overview

Radio communications help pilots and aerodrome personnel exchange information needed for safe and coordinated aircraft operations at a certified aerodrome. You must provide and maintain a means of effective two-way communication between aircraft, ground vehicles, and, where applicable, air traffic or aerodrome flight information services.

The requirements that apply to your aerodrome depend on the type and number of operations conducted and the radio facilities or services you provide.

Radio equipment must be installed, operated and tested in accordance with CASA requirements, and personnel trained and authorised to use it.

This chapter outlines the different types of radiocommunication facilities that may be required at your aerodrome where air traffic services are not provided.

Also refer to Multi-Part AC 64.B-01, AC 139-14 and AC 172-04 - Radiotelephony manual for ground operators.

10.2 What are radiocommunication facilities?

There are several radio communication terms used in this chapter. While they are related, they describe different frequencies, systems and services. Table 13 describes these terms.

Table 13: Radiocommunication facilities

Term	What it means
AFCS (aerodrome frequency confirmation system)	A system that allows a pilot to confirm they have selected the correct aerodrome frequency. An AFCS can be provided by an AFRU, UNICOM or CA/GRS.
AFRU (aerodrome frequency response unit)	An automated ground-based radio unit that responds to a pilot's transmission and confirms that the correct aerodrome frequency has been selected.
CA/GRS (certified air/ground radio service)	A CASA-approved radio service provided by a certified air/ground radio operator (CA/GRO). It provides pilots with relevant traffic, aerodrome weather and operational information but does not provide an air traffic control service.
CTAF (common traffic advisory frequency)	The radio frequency used by pilots operating at or near a non-controlled aerodrome to make broadcasts and exchange traffic information.
UNICOM (universal communications)	A ground-based radio communication service that can provide pilots with information about the aerodrome and its operations. A UNICOM is not an air traffic control service.

In simple terms, the CTAF is the frequency, an AFCS is the frequency-confirmation function, an AFRU is an automated unit that can provide that function, and UNICOM and CA/GRS are radio services that can provide frequency confirmation as well as other information.

Refer to AC 139.D-02 - Guidelines for certified air ground radio services for further information.

10.3 Certified air/ground radio service (CA/GRS)

(139.155, 139.160, MOS 22.01 and 22.03)

You must hold an approval to operate a certified air/ground radio service (CA/GRS). Approvals are issued by CASA once they are satisfied that your CA/GRS meets all the requirements as detailed in the Part 139 MOS.

Your CA/GRS call sign must be the location name of your aerodrome followed by the word 'radio'.

You must operate your CA/GRS for at least 30 minutes before arrival to 30 minutes after the departure of each scheduled air transport operation.

Your CA/GRS may only be provided by a certified (holds an approval) air/ground radio operator (a CA/GRO). Your CA/GRO must hold both:

- a flight radio operator licence or an approval under Part 64.B of CASR
- a Bureau of Meteorology Class A or B weather observer's qualification.

In addition they must hold or have held one of the following:

- an ICAO-recognised ATC licence or an Australian Defence Force (ADF) equivalent ATC licence
- an Australian flight service officer licence
- a CA/GRO certificate previously issued by CASA.

While performing their duties, your CA/GRO must use the standard aviation communication techniques and phraseology set out in the AIP.

If you provide a CA/GRS at your aerodrome, you must make the following services available to aircraft within the aerodrome's airspace:

- advice about relevant air traffic in designated airspace or on the aerodrome
- aerodrome weather and operational information, including the following:
  - wind speed and direction
  - the runway preferred by wind or noise abatement requirements
  - runway surface conditions
  - QNH (mean sea level pressure)
  - temperature
  - cloud base and visibility
  - present weather
  - other relevant operational information
  - a time check for departing aircraft
  - activation of aerodrome emergency services
  - aerodrome information to pilots who contact the service by telephone.

In addition to the services that must be provided to aircraft, your CA/GRO can supply aviation information requested by pilots. The pilot in command (PIC) is responsible for deciding whether to use the information provided.

If your CA/GRS is permanently located at your aerodrome, it must be equipped with the following:

- a suitable work area that provides the CA/GRO with (as far as practicable), a full view of the manoeuvring area, circuit area and the runway approach areas
- two-way very high frequency (VHF) radio communications
- an automatic aerodrome information service (an AAIS)
- a telephone
- a means of receiving NOTAMs
- meteorological instruments that meet both Bureau of Meteorology standards and ICAO Annex 3 (Meteorological Service for International Air Navigation) standards for providing wind direction, QNH and air temperature to the standards detailed in the MOS
- current aeronautical documentation, NOTAMs and charts relevant to IFR and visual flight rules (VFR) operations within the aerodrome common traffic advisory frequency (CTAF)
- the aerodrome emergency plan (AEP).

Your AAIS must broadcast aerodrome information in the following order:

- preferred runway
- wind direction and speed
- runway surface conditions
- QNH
- temperature
- cloud base and visibility
- present weather or ceiling and visibility OK (CAVOK)
- aerodrome operational information.

10.4 Aerodrome frequency confirmation system (AFCS)

(139.150 and MOS 22.02)

If your non-controlled aerodrome has more than 10 scheduled air transport movements per week, you must provide a ground-based aerodrome frequency confirmation system (AFCS). This requirement may be satisfied by one of the following facilities:

- an aerodrome frequency response unit (AFRU)
- a UNICOM service
- a CA/GRS.

Note: An AFCS may be used in conjunction with a pilot-activated lighting system.

10.5 Aerodrome frequency response unit (AFRU)

(MOS 22.04 and 22.05)

Your AFRU must comply with Australian Communications and Media Authority Equipment Compliance Requirements ECR 203A for Amplitude Modulated Transmitter/Receivers (Base and Mobile) for 25 kHz Carrier Frequency Separation in the Aeronautical Frequency Band 118–137 MHz.

Note: Australian Communications and Media Authority Equipment Compliance Requirements are available on the Federal Register of Legislation.

Your AFRU must operate across the frequency range 118.000 to 136.975 MHz at 25 kHz separation.

The receiver must be both:

- set for a sensitivity of at least 15 μV
- adjusted to a higher value in the case of nuisance activation or other interference.

If you provide an AFRU at your aerodrome and an aircraft within radio range transmits on the aerodrome frequency, your AFRU must:

- be able to detect aircraft VHF carrier transmissions of 2 seconds or more in duration
- automatically transmit one of the following responses on the aerodrome frequency at the end of the transmission:
  - a short, pre-recorded voice message, if no other aircraft transmissions have been received in the previous 5 minutes
  - a short (300 milliseconds) tone burst if any transmissions have been received in the previous 5 minutes.

The pre-recorded voice message normally takes the form of the aerodrome name. This assists pilots confirm they are listening to the correct frequency for their intended aerodrome. Additional safety related aerodrome information may also be included in the AFRU voice message.

A pilot can activate the AFRU by pressing and releasing the radio transmit button 3 times within 5 seconds. The AFRU will respond with a pre-recorded voice message if there has been no aircraft transmission on the frequency during the previous 5 minutes. If the frequency has been used during that time, the AFRU will respond with a short (300 millisecond) tone instead.

Your AFRU must have a minimum recorded voice message capacity of 8 seconds and audio transmissions must be clear and intelligible. The carrier transmission length must not exceed the duration of the AFRU recorded voice message. The carrier must cease when the voice modulation ends.

The AFRU recorded voice message or the tone burst must commence less than 500 milliseconds after the end of the aircraft transmission.

If the primary power supply for your AFRU fails, the power source must automatically change over to a stand-by power supply capable of operating the unit without interruption for 24 hours.

> **Note:** Unless expected aircraft traffic and transmission volumes are known, the transceiver should be capable of providing, at least 2 voice responses per hour over a 24-hour period.

If an internal fault results in continuous or jammed transmission of the VHF carrier, your AFRU must both:

- internally detect the continuous or jammed transmission within 1 minute
- shut down or automatically recycle the unit.

Your AFRU must indicate:

- the status of the primary power supply, including any failure
- whether a changeover to the stand-by power supply has occurred.

This may be achieved through either the external housing of your AFRU or remote monitoring of your AFRU.

10.6 Universal communications (UNICOM) services

(MOS 22.03 and 22.06)

A universal communications (UNICOM) service is a non-ATS radiocommunication service provided on an aerodrome common traffic advisory frequency (CTAF) to enhance the value of information available about your non-controlled aerodrome.

Your UNICOM service must not interfere with the exchange of aircraft-to-aircraft traffic information on the CTAF as the primary function of CTAF is to enable pilots to exchange traffic information to ensure aircraft separation.

Your UNICOM must operate for at least 30 minutes before arrival to 30 minutes after the departure of each scheduled air transport operation.

Your use of UNICOM service must be limited to the exchange of radio messages about:

- confirming the CTAF selected by aircraft
- general aerodrome weather reports
- aerodrome information
- estimated arrival and departure times
- passenger requirements
- aircraft refuelling arrangements
- aircraft maintenance and servicing, including the ordering of urgently required parts
- unscheduled aircraft landings.

> **Note:** General aerodrome weather reports you provide on a UNICOM service must be limited to simple factual statements about the weather, unless CASA has authorised you to make meteorological observations.

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CHAPTER 11
LOW-VISIBILITY OPERATIONS

11.1 Overview

(MOS 23.01)

Reduced visibility and low cloud can make it harder for pilots, air traffic controllers, vehicle drivers and other people operating airside to see aircraft, vehicles, obstacles and other hazards. Additional controls may be needed to keep aircraft and people safe while these conditions exist.

If your aerodrome supports operations in low-visibility conditions, you may need low-visibility procedures (LVPs). These procedures set out how activities at the aerodrome are managed as visibility deteriorates, including controlling vehicles and personnel, protecting navigation aids, coordinating with air traffic control and other organisations, and deciding when low-visibility measures are introduced and withdrawn.

Aircraft operations at aerodromes during reduced visibility or low cloud conditions present hazards to aircraft and other a erodrome users. As visibility reduces, air traffic service staff, pilots, vehicle drivers and other personnel become less able to identify hazards and take corrective action.

Low cloud can also reduce a pilot's ability to visually assess the aerodrome environment during approach.

If you operate a controlled aerodrome, you must establish low-visibility procedures (LVP) for aircraft operations when visibility is reduced or there is low cloud in the vicinity of the aerodrome.

The Multi-Part AC 139-05, AC 171-05 and AC 172-03 All-weather operations at aerodromes provides guidance on all-weather operations (AWO) and LVPs. This includes the preparation and termination phases and measures that support safe and efficient aerodrome ground operations during reduced aerodrome visibility conditions (RAVC).

This chapter explains when you need LVPs and how to develop, implement and review them. It also explains the runway visual range (RVR) equipment and additional runway standards that apply when your aerodrome supports certain low-visibility take-off and precision approach operations.

11.2 Developing low-visibility procedures (LVP)

(MOS 23.02)

Low-visibility procedures (LVPs) must:

- be developed in consultation with aircraft operators and any parties likely to be affected by them, including ATC and aerodrome service providers
- take local conditions into account.

As a minimum, your LVP must include procedures for:

- identifying specific circumstances in which LVP measures are to be initiated, fully implemented and terminated
- supporting the nominated aerodrome movement rate
- training and authorising airside drivers and other personnel to operate airside during LVPs
- controlling airside operations, including vehicles, drivers and other personnel
- withdrawing non-essential vehicles and personnel
- suspending routine maintenance of visual and non-visual aids
- securing airside access and preventing unauthorised or inadvertent entry
- alerting air transport operators, emergency services aircraft and other affected organisations to LVP
- coordinating LVP activities with ATC
- physically checking lighting installations and warning devices
- protecting the relevant critical and sensitive areas associated with ILS and other precision approach aids
- responding to emergencies
- establishing and promulgating a single source of definitive information about the current status of LVPs.

11.3 Implementing low-visibility procedures

(MOS 23.03)

When all or part of the manoeuvring area cannot be visually monitored from the ATC tower due to meteorological conditions, you must coordinate with ATC to initiate the aerodrome's LVP.

You must cooperate with ATC to ensure that LVPs are fully implemented:

- for approach operations – the earlier of either:
  - the reported cloud ceiling falling below the precision approach CAT I decision height published in the AIP for the runway to be used
  - visibility falling below the precision approach CAT I RVR minimum published in the AIP for the runway to be used
- for take-off operations – the reported runway visibility falls below 800 m, or RVR on the relevant runway falls below 550 m.

Note: RVR is runway visual range.

You should progressively introduce restrictions on aerodrome operations as weather conditions deteriorate. Applying restrictions should:

- relate to a specific RVR or runway visibility measurement in a worsening weather situation
- be based on the rate of weather deterioration and the amount of lead time necessary to implement extra measures.

Your LVP should be designed to implement most ground-based measures in good time to enable unrestricted operations to continue for as long as possible, both:

- as weather conditions deteriorate
- in certain circumstances before they are absolutely necessary.

The final LVP measures should only be implemented when weather conditions demand it. However, misunderstandings may occur about the status of LVPs at the aerodrome. Procedures should ensure that:

- the potential for misunderstandings is minimised
- there is a single point from which definitive information about the current status of LVPs can be confirmed.

ATC will inform pilots that LVPs are in force, only after:

- verifying that all LVP measures at the aerodrome are in place
- procedures are in place to safeguard ILS critical and sensitive areas, where your aerodrome:
  - conducts instrument approach operations with minima less than those for precision approach CAT I
  - is equipped for localiser-guided take-offs.

ATC will normally inform you when LVP measures must be implemented.

LVP are specific to each aerodrome and may apply to a segment or the entire manoeuvring area, as agreed with the air traffic management service provider.

You must advise ATC when you complete all your preparations for initiation of LVP.

At a non-controlled aerodrome, your LVP must be fully implemented before a pilot performs a low-visibility departure with a runway visibility below 800 m. You must advise the pilot when you have completed your preparations for the initiation of LVP required for low-visibility departures.

11.4 Reviewing low-visibility procedures

(MOS 23.04)

You must:

- regularly review the aerodrome LVPs to ensure they remain relevant and effective
- during each review, consult and cooperate with local ATC and other persons or organisations involved in LVP operations.

11.5 Runway visual range (RVR) equipment

(MOS 23.05)

If a runway is intended to support an operation mentioned in table 14, you must:

- ensure the runway has electronic runway visual range (RVR) equipment installed in at least the places specified in table 14 corresponding to the type of operation
- confirm with the ATS provider that the ATC tower has suitable RVR display equipment.

Table 14: Electronic runway visual range equipment

Type of operation	Location of electronic RVR sensors
Take-off operation with visibility < 150 m or Precision approach CAT III operation	Touchdown zone (TDZ) Midpoint zone (MID) Stop-end zone (END)
Take-off operation with a 150 m ≤ visibility < 350 m or Precision approach CAT II operation or Special Authorisation CAT II operation	TDZ MID or END
Precision approach CAT I operation with visibility < 800 m or Special Authorisation CAT I operation	TDZ

11.6 Standards for runways supporting certain precision approach operations

(MOS 23.06)

Your runway can only be nominated for a special authorisation (SA) CAT I instrument approach if:

- your aerodrome is a controlled aerodrome
- the runway meets the standards in the MOS for a precision approach runway
- the runway has electronic RVR equipment in the touchdown zone
- the runway has a declared landing distance available of at least 1,524 m.

A runway with an existing CAT II, CAT III or SA CAT II precision approach procedure is automatically eligible for SA CAT I instrument approach operations.

Where possible, the runway be equipped with an approach lighting system extending at least 720 m from the runway threshold. The lighting system should be either a precision approach CAT I lighting system or a precision approach CAT II and CAT III lighting system.

A runway can only be nominated for an SA CAT II instrument approach operation if:

- the aerodrome is a controlled aerodrome
- the runway meets the standards in the MOS for a CAT II precision approach runway, except for the following lighting facilities:
  - a precision approach CAT II and CAT III lighting system
  - runway centreline lighting
  - touchdown zone lighting
- the runway has electronic RVR equipment in the touchdown zone and at least one other zone of the runway
- the runway has a declared landing distance available of at least 1,830 m.

A runway with an existing CAT II or CAT III precision approach procedure is automatically eligible for SA CAT II instrument approach operations.

Where possible, the runway be equipped with an approach lighting system extending at least 720 m from the runway threshold. The lighting system should be either a precision approach CAT I lighting system or a precision approach CAT II and CAT III lighting system.

The operating minima in each case are determined by the available lighting facilities. The absence of runway centreline lighting, touchdown zone lighting or an approach lighting system will result in higher RVR minima. A shorter approach lighting system may also result in higher operating minima. See the Part 173 Manual of Standards – Standards Applicable to the Provision of Instrument Flight Procedure Design for further information.

11.7 Facilities and procedures for conducting runway visibility assessments

(MOS 23.07)

To conduct runway visibility (RV) assessments, you must:

- establish a system for using visibility markers or counting runway lights (or both) for assessing runway visibility
- establish and mark fixed locations from which assessments are to be conducted
- if runway markers are used:
  - locate visibility markers to be representative of the runway conditions
  - locate visibility markers within 10° of the runway centreline
  - provide visibility markers that both:
    - consist of dark objects of suitable dimensions or lights of moderate intensity
    - meet the standards (as detailed in the MOS) for structural strength and frangibility
- produce a visibility marker chart that includes:
  - the visibility markers used to assess runway visibility, showing their distances in metres and bearings from the point of observation
  - the identification of the day and night visibility markers in their proper positions by means of the designated symbols listed on the chart
  - the clear identification of the point of observation
- produce a conversion chart based on the actual spacing of the runway lights (if assessments are made by counting runway lights)
- include in the aerodrome manual, both:
  - the specific procedures for the conduct of runway visibility assessments at the aerodrome
  - the names of persons authorised to conduct runway visibility assessments.

Fixed locations for runway visibility assessments should be near the runway threshold or midpoint of the runway. For example, they may be located at a taxiway holding position adjoining the runway threshold, or at a point adjacent to the runway threshold, where the distance to visibility markers is known. These locations may be identified by painted symbols or similar markers.

11.8 Appointed persons conducting runway visibility assessments

(MOS 23.08)

You must ensure that any appointed runway visibility assessor has, both at the time of appointment and thereafter, the following attributes and qualifications:

- a distant visual acuity of at least 6/12 in each eye separately and at least 6/9 binocular with or without correcting lenses
- a certificate of proficiency in aeronautical radio telephony
- the competence to operate on the manoeuvring area
- demonstrated competence in:
  - identifying the location of each point of observation
  - identifying the visibility markers for each point of observation
  - identifying the relevant runway edge lights for making a runway visibility assessment
  - using the conversion table and the visibility markers chart
  - reporting a runway visibility assessment.

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11.9 Conducting runway visibility assessments

(MOS 23.09)

You must conduct runway visibility assessments without using any optical devices to enhance normal distance vision.

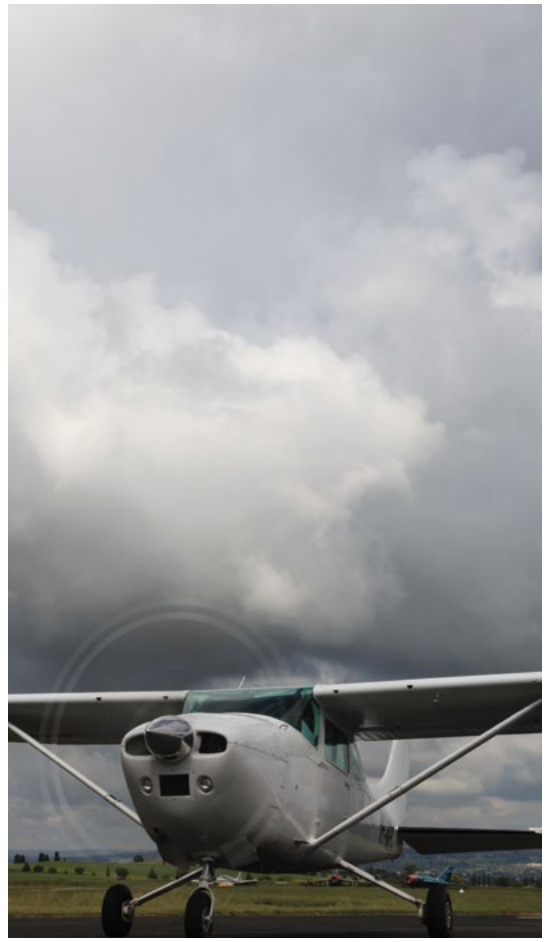
The term 'optical devices' does not include spectacles or contact lenses that the person usually wears for normal distance vision.

When conducting a runway visibility assessment, your appointed assessor must:

- make the assessment from a nominated observation point
- carry out the observation by:
  - establishing the farthest visible runway edge lights or visibility markers that can be seen and identified
  - determining the distance in metres, to the nearest 50 m, increment using the conversion table or visibility marker chart
  - immediately reporting the runway visibility along the specified runway to the ATS facility serving the aerodrome, if available, or to the person who requested the report, using the following format:
    RUNWAY VISIBILITY, RUNWAY [runway number], THRESHOLD [distance assessed in metres] {if applicable: MIDPOINT [distance assessed in metres]}, ASSESSED AT [time] UTC
  - reporting the lowest value observed if the runway visibility varies during the assessment
- limit reports to the following range of values:
  - lower limit – 350 m
  - upper limit – 1,500 m
- reporting the runway visibility as 'less than 350 m' when the runway visibility is below 350 m
- only providing a runway visibility assessment to a pilot if it was conducted within the previous 20 minutes.

However, your runway visibility assessor must not:

- make the observations through a window at any time, unless it is otherwise impossible to make the observations
- report any weather phenomena that are reducing the runway visibility (other than a runway visibility assessment in accordance with section MOS 23.07 – see section 11.7 of this guide) unless the assessor is either:
  - authorised as a meteorological observer by, or on behalf of, the Director of Meteorology
  - approved by CASA, in writing.



CHAPTER 12
HAZARDS TO AIRCRAFT OPERATIONS

12.1 Overview

Hazards to aircraft operations can arise from activities, objects, structures or emissions within an aerodrome or in the surrounding area. These hazards may affect aircraft while on the ground, taking off, landing or operating in the vicinity of an aerodrome.

Responsibilities for identifying, managing and notifying hazards may apply to both aerodrome operators and other persons whose activities, objects, structures or emissions create or may create a hazard to aircraft operations.

As an aerodrome operator, you must have systems in place to identify, assess and manage hazards that may affect aircraft operations within your area of responsibility. This includes hazards originating outside the aerodrome that may affect its safe operation.

If you are a person proposing or undertaking an activity or constructing or erecting an object or structure that may create a hazard to aircraft operations, you may have separate obligations, including notifying CASA of certain proposed objects, structures or emissions.

This chapter explains the responsibilities of aerodrome operators and other persons in relation to hazards to aircraft operations, including when CASA must be notified. It also explains how CASA may determine that an existing or proposed object, structure or emission is a hazard to aircraft operations..

12.2 Notifying CASA of certain proposed objects, structures and emissions

(139.165 and 139.170)

A person must notify CASA if they propose to construct or erect an object or structure in the vicinity of an aerodrome that:

- will have a height of 100 m or more above ground level
- will include an emissions source that generates a gaseous efflux with a velocity exceeding 4.3 m per second at the point of emission
- is of a kind prescribed by Chapter 7 in the Part 139 MOS.

As soon as practicable after the person decides to construct or erect an object or structure, they must notify CASA in writing, of:

- the proposal
- the proposed height and location of the object or structure
- the details of the velocity and location of the emissions if the object or structure includes an emissions source
- the proposed timeframe for constructing or erecting the object or structure
- any other information about the proposal that is prescribed by the Part 139 MOS and detailed here in this chapter.

Guidance can be found in Multi-Part AC 139.E-01 and AC 175.E-02 Objects and structures that affect aviation safety.

If a person creates an emission source (with a velocity exceeding 4.3 m per second at the point of emission) that is not associated with an object or structure they must notify CASA of:

- the proposal
- the proposed location of the activity
- the proposed timeframe for undertaking the activity
- the details of the emissions source that will be created
- any other relevant information about the proposal.

12.3 Determination that existing objects, structures or emissions sources are a hazard to aircraft operations

(139.175 and 139.185)

CASA may make a written determination that any of the following may be hazardous to aircraft operations at your aerodrome:

- an existing object or structure that has a height of 100 m or more above ground level
- an existing object or structure that includes an emissions source that generates a gaseous efflux with a velocity exceeding 4.3 m per second at the point of emission.

If CASA makes such a determination, CASA must:

- publish the particulars of the hazard to which the determination relates in the AIP or NOTAMs (unless the hazard is of a kind that you are required to report under Division 139.C.3 Aerodrome inspections, monitoring and reporting)
- give written notice of the determination to the person who owns, occupies or controls the object, structure or emissions source, if CASA can identify them.

12.4 Determination that proposed objects, structures or emissions sources are a hazard to aircraft operations

(139.180 and 139.185)

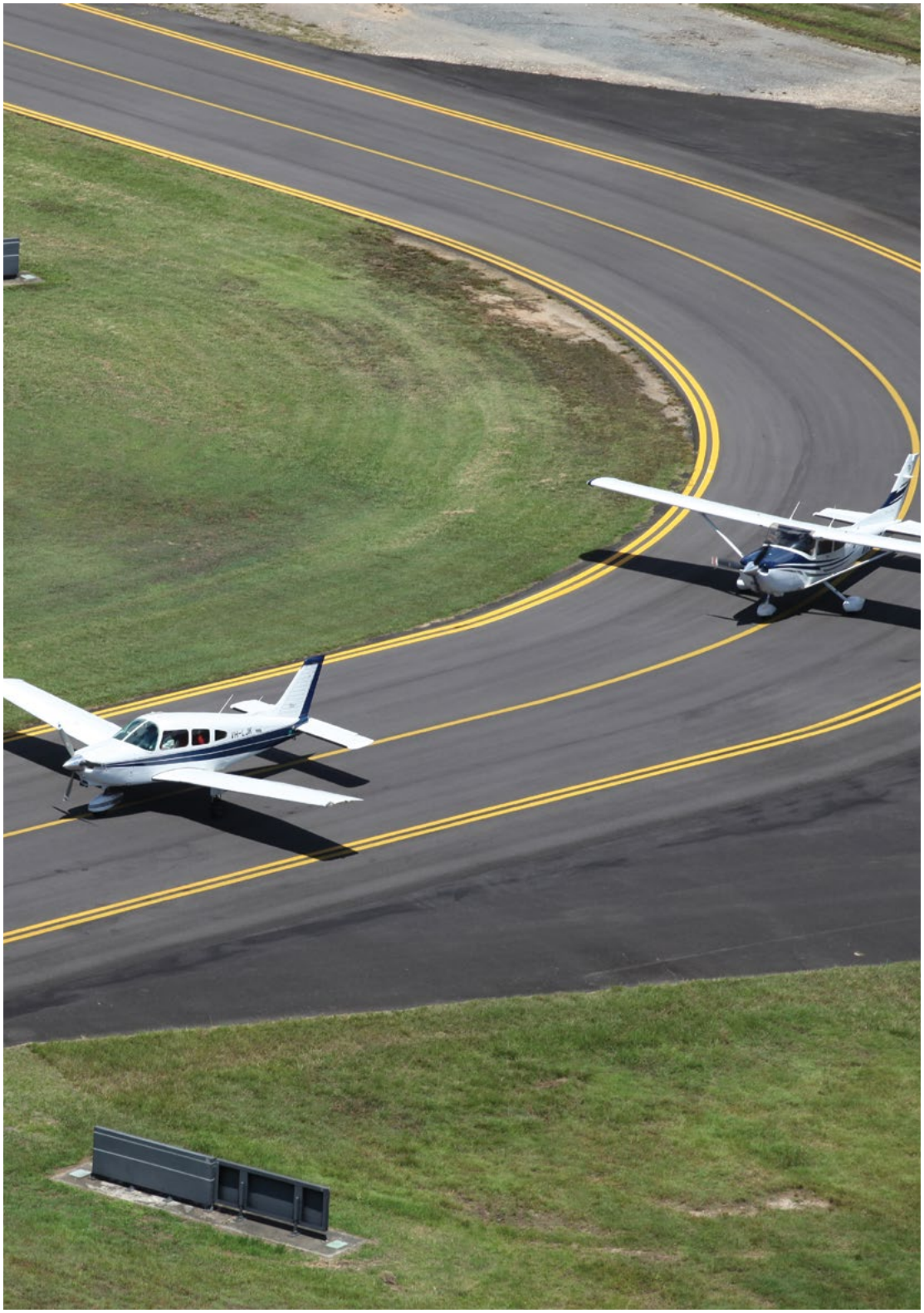
CASA may make a written determination that a proposed object, structure or emission that meets the following criteria may be hazardous to aircraft operations at your aerodrome:

- an object or structure that will have a height of 100 m or more above ground level
- an object or structure that will have an emission source that generates a gaseous efflux with a velocity exceeding 4.3 m per second at the point of emission.

If CASA makes such a determination, it must give written notice to:

- the person proposing to construct or erect the object or structure, or undertake the activity
- the relevant authority that may give approval to construct or erect the object or structure or undertake the activity generating the emissions.

> **Note:** The following provide information about powers to remove or mark hazards affecting an aerodrome:
>
> - Division 9 of Part 9 of the CAR
> - the Civil Aviation (Buildings Control) Regulations 1988
> - Part 12 of the Airports Act 1996 and the Airports (Protection of Airspace) Regulations 1996.



CHAPTER 13
WILDLIFE HAZARD MANAGEMENT

13.1 Overview

(139.105)

Wildlife on or near an aerodrome can create a significant hazard to aircraft operations. The operator of a certified aerodrome must have processes for identifying and managing wildlife hazards in accordance with the regulations.

Your wildlife hazard management processes must be appropriate to the wildlife hazards and aircraft operations at your aerodrome. This includes monitoring wildlife activity, assessing the risks it creates and taking action to reduce those risks.

Where required, you must also have a wildlife hazard management plan. The plan provides a structured approach to managing identified wildlife hazards and sets out how these hazards will be monitored, assessed and controlled.

Wildlife hazard management is not limited to wildlife being physically on the aerodrome. You should also consider wildlife and potential attractants in the vicinity of the aerodrome that may create a hazard to aircraft operations.

image: AdobeStock | Jon Steinbeck

13.2 Wildlife detection, monitoring and observation

(MOS 17.01)

As part of an aerodrome serviceability inspection, you must monitor and record at least the following:

- the presence and behaviour of wildlife on the aerodrome
- wildlife activity that is visible either:
  - in the vicinity of the aerodrome
  - from the aerodrome.

In consultation with local planning authorities, you must seek to monitor wildlife attractant sites within 13 km of the aerodrome reference point.

You must also monitor any reported wildlife aircraft strike events at, or in the vicinity of, the aerodrome.

If your aerodrome has multiple wildlife hazards, CASA recommends a dedicated wildlife inspection, including wildlife counts, be carried out independently from the aerodrome serviceability inspection.

> **Note:** For background information, refer to Guideline C of the National Airport Safeguarding Framework.

13.3 Wildlife hazard assessments

(MOS 17.02)

Any detected wildlife hazard must be assessed for its potential risk to aircraft operations.

If you have a safety management system (SMS), or a risk management plan (RMP), (see chapter 5 of this guide), the assessment must be conducted in accordance with that system or the plan.

When conducting a wildlife hazard assessment, you must include:

- wildlife observations
- reported aircraft strike event
- reported aircraft near miss events.

> **Note:** If multiple wildlife hazards are identified, the wildlife species must be ranked in their order of risk.

13.4 Do you need a wildlife hazard management plan

(MOS 17.03)

You must prepare and implement a wildlife hazard management plan if, during a financial year, your aerodrome has either:

- 50,000 or more air transport passenger movements
- 100,000 or more aircraft movements.

Refer to AC 139.C-16 Wildlife Hazard Management for more information.

You must prepare and implement the plan within 6 months of either:

- the date the department publishes figures showing that there have been 50,000 or more air transport passenger movements at your aerodrome for the financial year
- the date you become aware that there have been 100,000 or more aircraft movements at the aerodrome during the financial year.

You must prepare and implement a new wildlife hazard management plan as if it were for the first time if, during any financial year, either:

- passenger numbers fall below 50,000 and rise above this threshold in a subsequent financial year
- aircraft movements fall below 100,000 and rise above this threshold in a subsequent financial year.

A wildlife hazard management plan is not required:

- for aerodromes without international operations where a wildlife hazard assessment demonstrates, using statistical and other data, that the wildlife hazard risk is low
- where CASA approves the assessment in writing, subject to any conditions.

Regardless of passenger and air traffic movement volumes, you should develop a wildlife hazard management plan if your aerodrome has a high wildlife hazard risk.

CASA may issue you with a written direction to prepare and implement a wildlife hazard management plan if necessary for aviation safety.

Note: If required for aviation safety, CASA may revoke an approval exempting an aerodrome from the requirement for a wildlife hazard management plan and issue a direction to create a management plan.

A wildlife hazard management plan must be included in, or referenced by, the aerodrome manual.

13.5 Preparing a wildlife hazard management plan

(MOS 17.04)

You must prepare your wildlife hazard management plan in consultation with a suitably qualified or experienced person, such as an ornithologist, zoologist, biologist, ecologist or a person with demonstrated expertise in managing wildlife hazards to aviation.

Your wildlife hazard management plan must at least:

- identify relevant aerodrome or contracted personnel and define their responsibilities and functions
- identify sources and locations of wildlife attractants on and in the vicinity of the aerodrome that are likely to cause wildlife to transit the take-off, approach and transitional surfaces
- set out procedures for the following wildlife hazard management activities including:
  - detection
  - monitoring
  - risk assessment and analysis
  - reporting wildlife hazards to pilots through the AIP, NOTAM and ATC (if applicable)
  - mitigation, including passive and active measures
- specify liaison arrangements with local planning authorities within a radius of at least 13 km from the aerodrome reference point
- set out your strategy for wildlife hazard reduction
- include records of the qualifications and experience of key personnel identified in the plan.

You are also responsible for implementation and continuous review of the plan. The plan must be reviewed if:

- an aircraft experiences multiple wildlife strikes
- an aircraft sustains substantial damage as a result of a wildlife strike
- an aircraft engine ingests wildlife
- the ongoing presence of wildlife is observed on the aerodrome in numbers or of a size, reasonably capable of causing an event described above.

Note: You must review your plan at least every 12 months or within 12 months of an event described in this section.

Wildlife hazard reporting (MOS 17.05)

If you assess the wildlife at your aerodrome as presenting an ongoing hazard to aircraft, you must give written advice to the AIS provider, to include an appropriate warning notice in the AIP-ERSA.

Note: You must report wildlife strikes to the Australian Transport Safety Bureau in accordance with the Transport Safety Investigation Regulations 2003.

If an appropriate warning is not included in AIP-ERSA, you must ensure a timely NOTAM warning of a wildlife hazard is issued to pilots using the aerodrome, if the hazard is both:

- higher risk than usual
- short-term or seasonal nature.

See AC 139.C-16 Wildlife Hazard Management at aerodromes for details on what information CASA recommends should be included in the NOTAM.

If you assess a wildlife hazard as being a serious and imminent threat to aviation safety, you must directly advise pilots using the aerodrome via CTAF or UNICOM.

Wildlife hazard mitigation (MOS 17.06)

You must implement controls to mitigate wildlife hazard risks within the boundaries of your aerodrome.

For the management of hazards from land-based wildlife, it is recommended you have continuous fencing around your aerodrome boundaries or containment of the movement area.

13.6 Training

(MOS 17.07)

Your personnel who monitor and report on wildlife hazards must be trained to:

- conduct wildlife observations and identify high-risk species
- assess wildlife populations and describe their behaviour
- record information
- collect any remains of a wildlife strike on the aerodrome
- attempt to facilitate identifying:
  - any wildlife involved in a strike event
  - any resulting damage to an aircraft
- report the outcomes of observation, monitoring and strike collection activities.

Your personnel responsible for wildlife hazard mitigation must be trained to:

- engage in active wildlife management without causing a hazard to aviation safety
- assess the effectiveness of any mitigation measures that are taken.

You must create training records for your personnel who are responsible for wildlife monitoring and reporting, to show compliance with the training requirements described above. You must keep these records for at least 3 years.

To perform their roles properly, your personnel responsible for wildlife hazard monitoring should have access to wildlife identification materials and equipment including:

- field guides
- identification guides
- scopes or binoculars
- active management tools
- carcass handling equipment
- species identification kits
- appropriate personal protective equipment (PPE).

CHAPTER 14
AIRSIDE VEHICLE ACCESS AND CONTROL

14.1 Overview

(139.105)

Safe vehicle operations on the movement area are critical in preventing runway incursions, collisions and confusion between ground and air traffic. You must establish clear procedures for authorising, controlling and operating vehicles in airside areas.

This includes establishing rules for who can drive airside, how vehicles are identified and equipped, and the communication and access protocols that must be followed. You must also provide appropriate training and supervision to ensure personnel understand the hazards associated with aircraft operations and the importance of maintaining situational awareness.

This chapter addresses access control and vehicle operations airside on your aerodrome. The information included addresses the requirements for vehicles operating airside and the communication and control measures you need to establish to maintain safety.

Some aerodrome operators will need to develop an airside driver's permit process to ensure the driver can safely operate their vehicle or plant on the movement area of the aerodrome.

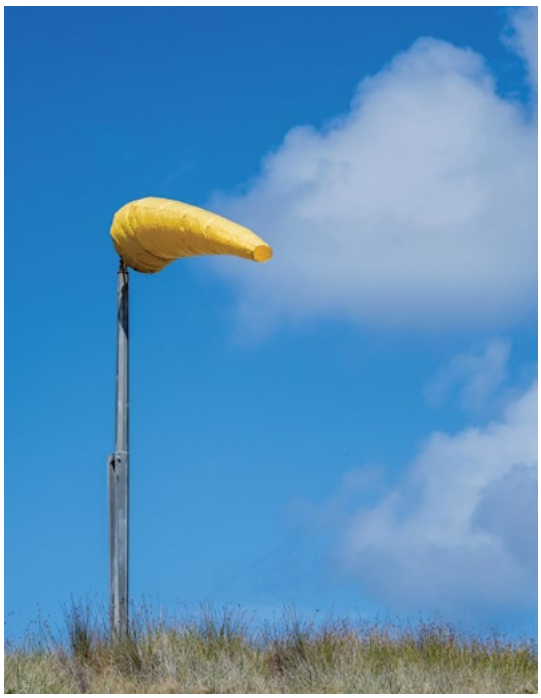


image: AdobeStock | Tetra Images

14.2 Training of personnel

(MOS 14.01)

A driver (airside driver) operating a vehicle on the airside (an airside vehicle) of your aerodrome must be trained to know and understand the following:

- the terminology used to describe the movement area
- the purpose and location of all airside areas
- hazardous or prohibited airside areas
- the significance of aerodrome visual aids and signs.

If your aerodrome does not have scheduled air transport operations, a driver induction may replace formal training, provided that the points above are covered in the induction.

You must ensure that no vehicle is operated airside unless it is an airside vehicle driven or operated by a properly trained or inducted airside driver.

These training requirements do not apply if a driver of an airside vehicle is under direct escort by a driver in another airside vehicle who is both:

- trained as described above
- authorised by you to provide the escort service.

Your aerodrome manual must include procedures to ensure that any escort service provider, who is not one of your personnel, is monitored for compliance with the requirements outlined in this section.

You may provide a dedicated airside licence, permit or authorisation to manage significant hazards associated with airside vehicle control. See section 14.3 of this guide.

Also see AC139.C-14 Airside vehicle control.

14.3 Mandated airside access permits

(MOS 14.02)

This section applies if, during a financial year, your aerodrome has either:

- more than 350,000 air transport passenger movements
- more than 100,000 aircraft movements.

In these circumstances, you must do the following within 6 months of the Department publishing the aerodrome's movement numbers for the financial year:

- establish a permit system for operating vehicles and motorised equipment airside
- verify the competency of all airside drivers
- actively monitor all airside drivers to ensure they are licensed and comply with airside driving rules.

Your airside driver permit system should include the requirements for a driver to disclose to you (or their employer if a third party), any change of status to their State or Territory driving licence.

In general, airside driver permits should have a defined validity period. You should also document any conditions for airside driver permit renewal such as refresher training, competence checks, etc.

If your aerodrome does not meet these requirements see section 14.4 of this guide.

An airside driver's permit does not in itself demonstrate a person's competence in the operation or use of specialist vehicle-mounted equipment (e.g. fuel tankers, aircraft loaders).

14.4 Operations where airside permits are not required

If you are not required to have airside access permits, you should still have procedures in place for drivers accessing movement areas, such as monitoring published aeronautical radio frequencies when operating on or adjacent to the manoeuvring area.

Refer to Multi-Part AC 64.B-01, AC 139-14 and AC 172-04 Radiotelephony manual for ground operators for further information.

Also see AC139.C-14 Airside vehicle control.

14.5 Airside vehicle requirements

(MOS 14.03)

Your aerodrome manual must include procedures to ensure that airside vehicles, including airside ground equipment, are maintained to prevent any:

- avoidable breakdowns or unsafe operation
- fuel, lubricant or hydraulic fluid spills.

Airside vehicles and equipment may include those operated by third parties with airside access. Your aerodrome manual must have procedures addressing prevention of breakdowns and spills by third party vehicles and equipment.

You must both:

- establish speed limits for airside vehicles operating on the movement area
- have arrangements to monitor and enforce traffic rules, including speed limits.

Your aerodrome manual must include procedures to ensure that, except when required for servicing the aircraft, airside vehicles must not be driven:

- under an aircraft
- within 3 m laterally of any part of an aircraft
- within 1 m of overhead clearance of any part of an aircraft.

An airside vehicle operating on a runway strip, a runway, a taxiway strip or taxiway must be equipped for communications with either:

- at least a VHF receiver capable of monitoring the CTAF or relevant ATC frequencies for a non-controlled aerodrome or an aerodrome where ATC is not in operation
- a VHF radio capable of two-way communications with ATC for a controlled aerodrome where ATC is in operation.

However, a vehicle operating on a designated live taxiway crossing marked across a taxiway on the manoeuvring area is not required to be equipped for communications, if:

- at a controlled aerodrome, the ATS provider has agreed in writing to the location of the live taxiway crossing
- the crossing is marked with vehicle service road markings
- all drivers using the crossing are appropriately licenced, trained and assessed in relation to the dangers of using the live taxiway crossing
- you monitor compliance with the relevant vehicle procedures
- vehicles do not cross a designated live taxiway when low-visibility procedures are in effect.

> **Note:** You are responsible for designation of a relevant live taxiway crossing, in consultation with the ATS provider.

An airside vehicle or item of equipment is also not required to be equipped for communications if it is under escort by another vehicle equipped for communications.

If using a transmitter on a runway strip, a runway, a taxiway strip or a taxiway, your airside vehicle operator must:

- be certified under Part 64 of CASR for the use of radiocommunication equipment
- monitor the relevant frequency at all times when operating on the manoeuvring area.

If you are required to use an aeronautical radio while operating on a runway strip, runway, taxiway strip or taxiway, you must hold an Aeronautical Radio Operator Certificate (AROC) issued under Part 64, or an equivalent licence that authorises you to use an aeronautical radio. An appropriately endorsed flight crew licence is an example of an equivalent licence that will satisfy this requirement.

Airside vehicles must remain clear of a runway strip, a runway, a taxiway strip or a taxiway when it is in use, or intended to be used, by an aircraft. However, if there is a safety-related or operational requirement, the vehicle may operate in these areas.

14.6 Surveillance equipment installed on an airside vehicle

(MOS 14.04)

Surveillance equipment installed on a vehicle must be both:

- a non-transponder device emitting 1090 MHz extended squitter using Downlink Format 18 (DF=18)
- compatible with the aerodrome ground surveillance system.

Your aerodrome surface movement guidance and control system in use must:

- comply with the requirements for B2 Low class transmitters in accordance with ICAO Annex 10, Volume IV, chapter 5, as in force or existing from time to time
- transmit power of at least 8.5 dBW but less than 18.5 dBW.

14.7 Airside vehicle lighting requirements

(MOS 14.05)

An airside vehicle must display lights when moving or operating either:

- on the movement area at night
- during periods of low visibility.

An airside vehicle moving or operating on a runway strip, a runway, a taxiway strip or a taxiway must display lights during daylight hours. However, providing the lighting complies with the Australian design rules:

- a vehicle directly connected to an aircraft, including a glider, is not required to have a light during daylight hours provided the vehicle's hazard warning lights are in operation
- an airside vehicle operating during daylight hours may use standard manufacturer-fitted vehicle hazard warning lights (if your aerodrome does not have schedule air transport operations).

Note: A glider under tow by a vehicle is considered a taxiing aircraft and a dedicated vehicle mounted light is not required.

The Australian Design Rules are available at: Australian Design Rules | Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts

An airside vehicle must have a light mounted on its roof. However, if this is not possible, additional lights must be provided in other locations on the vehicle to ensure visibility from all directions.

If your aerodrome has scheduled air transport operations, all airside vehicles must be fitted with a dedicated rotating or flashing vehicle hazard light. The rotating or flashing light must:

- be yellow or amber in colour
- flash between 60 and 90 times per minute
- where possible, have a peak intensity of between 40 cd and 400 cd
- be mounted on top of the vehicle and be visible from all directions (if this is not possible, equivalent rotating or flashing lights must be provided in other locations on the vehicle to ensure visibility from all directions).

The rotating or flashing light must operate whether the vehicle is on a runway strip, a runway, a taxiway strip or a taxiway, whether moving or stationary.

Aircraft servicing equipment that cannot move independently and is used only on aprons is not an airside vehicle and is not required to display lights.

An airside vehicle or item of equipment is not required to comply with the lighting requirements if it is under escort by another vehicle which does comply.

Note: Vehicle hazard lights should be visible from at least 200 m in daylight conditions.

14.8 Surface vehicle control and communications

(MOS 14.06)

If you operate a controlled aerodrome, you must ensure that vehicles operate on the manoeuvring area only with authorisation from the ATC service, whenever the service is in operation.

Authorisation may be given through an ATC clearance or under a written agreement between you, as the aerodrome operator, and the ATS provider.

The driver of a vehicle operating, or intending to operate, on the manoeuvring area must:

- comply with any clearances and instructions issued by an air traffic controller
- read back to the air traffic controller the safety-related parts of any clearance or instruction including:
  - any route specified in a clearance or instruction
  - any clearance, conditional clearance or instruction to operate on, enter, stop on, wait on, hold short of, cross or vacate any runway or taxiway
  - any radio frequency instructions.

image: AdobeStock | Austockphoto

CHAPTER 15
AERODROME RESCUE AND FIREFIGHTING SERVICES (ARFFS)

15.1 Overview

Aerodrome Rescue and Firefighting Services (ARFFS) provide specialist rescue and firefighting capability at aerodromes where these services are required.

As an aerodrome operator, you are not responsible for carrying out the functions of the ARFFS provider. However, you need to understand when ARFFS must be provided at your aerodrome, what the service does and how it interacts with the operation of your aerodrome and your emergency response arrangements.

ARFFS are required at aerodromes with scheduled international traffic or specified levels of domestic passenger traffic. An aerodrome that is not required to have ARFFS may also choose to provide the service. In most cases, the service is provided by a separate organisation approved by CASA.

The ARFFS provider is responsible for meeting the regulatory requirements that apply to the service, including requirements for personnel, training, vehicles, equipment, facilities, response times and operational procedures.

This chapter explains when ARFFS are required at your aerodrome, what you need to know about the service as the aerodrome operator, and provides an overview of the requirements that apply to the ARFFS provider.

15.2 Who needs to provide rescue and firefighting services?

(139.700 and 139.710 and 139.755)

As a signatory to the Chicago Convention, Australia requires that certain classes of aerodrome provide aerodrome rescue and firefighting services (ARFFS) of an adequate standard.

ARFFS must be provided at aerodromes that:

- have scheduled international traffic
- have had more than 350,000 passengers pass through on air transport flights during the previous financial year.

If you operate an aerodrome that is not required to provide an ARFFS, you may still choose to provide one.

The functions of the ARFFS are to both:

- rescue persons and property from an aircraft that has crashed or caught fire during landing or take-off
- control and extinguish, and to protect persons and property threatened by, a fire on the aerodrome, whether or not in an aircraft.

The ARFFS provider may also perform fire control and rescue services elsewhere than at your aerodrome, but the provider must give priority to aerodrome operations.

In general, most aerodrome operators contract the aerodrome rescue and firefighting services to another provider, who must be approved by CASA to provide the service.

This chapter provides a brief outline of:

- the requirements the ARFFS provider must meet
- information about the functions, personnel requirements and conduct of ARFFS operations.

AC 139.H-01 ARFFS - Recommended practices: Category determination provides detailed guidance about ARFFS aerodrome operations and the requirements of Part 139H and chapter 9 of Annex 14 to the Chicago Convention.

15.3 .Requirements to be complied with by ARFFS provider

(139.H.3)

Section H.3 of Part 139 sets out the detailed requirements of the ARFFS provider covering the following areas:

Table 15: Requirements of the ARFFS provider with references to the regulation for further information

The ARFFS provider must:	Regulation
have knowledge, equipment and expertise to deal with any hazard likely to arise during an aviation accident or incident	139.765
ensure that the service is available during the availability period or periods as published in ERSA	139.770
ensure suitable facilities for standby points (so emergency vehicles can achieve the required response time) and storing extinguishing agents	139.772
appoint a person as officer in charge of ARFFS operations	139.773
publish hours-of-service availability in the ERSA and inform the Australian NOTAM Office about any reduction in service	139.775
have sufficient stock of suitable fire extinguishing agents	139.785
have sufficient vehicles and equipment and keep instructions for their maintenance and upkeep	139.795 139.800 139.805
have operational equipment approved by CASA before use	139.810
have protective clothing and equipment for its firefighters and rescue personnel	139.815
have sufficient communications equipment (that does not interfere with the air traffic service communications equipment) with appropriately qualified radio operators	139.820
have tools and equipment to test and maintain their equipment	139.825
only use new vehicles and equipment that have been approved by CASA and once personnel have been trained in their use	139.830
have sufficient trained personnel stationed at places so they can respond to emergencies in the correct time	139.835
have firefighters that meet specific medical standards, and a system for ensuring they continue to meet those standards	139.840
have firefighters that are suitably trained and who receive ongoing training	139.845
have a CASA-approved operations manual available at each operational station and accessible by all personnel	139.850 139.855
have a system for electronically recording voice communication by radio or telephone during an ARFFS operation	139.860
record details of any aircraft accident or incident or building fire they have provided a service for	139.865
plan procedures to be used if an emergency interrupts the ARFFS	139.870
collect, index, store and maintain the records (voice and written) relating to the service and keep them for 5 years	139.875

The ARFFS provider must:	Regulation
maintain a sound and effective organisation suitable for the delivery of the service	139.880
have a system for rectifying any service failures	139.885
have a quality control system that ensures the service complies with all standards and requirements	139.890
have a system for managing changes	139.895
have a safety management system	139.900
tell CASA who its managers are, its organisational structure and how many staff of each class it has to provide the service	139.905
give safety related information about changes, faults or interruptions to the service to aerodrome users (and also to CASA in certain circumstances)	139.910

Note: Your provider may also arrange to provide service to the Defence Force (for a joint user aerodrome) arrange with other state, territory etc to provide services beyond airside of the aerodrome (see 139.780).

15.4 Conduct of ARFFS operations

(139.H.4)

During an ARFFS operation, the officer in charge and the firefighters may carry out a range of actions that affect the aerodrome and aerodrome personnel and users.

The officer in charge of the ARFFS at your aerodrome may both:

- give directions to firefighters and volunteers under his or her control
- take any action they consider necessary to manage the operation.

Firefighters may also take action without the authorisation of the officer in charge if it is necessary and not practical to obtain authorisation.

Under these circumstances, the officer in charge and the firefighters may perform the actions in table 16 for the purpose of the ARFFS operation.

Table 16: Actions of the officer in charge and/or the firefighters.

The officer in charge and/or the firefighters may:	Officer in charge	Firefighters
enter (by force, if necessary), take possession of and deal with, in any appropriate way, premises, an aircraft or other property	Y	Y
close a road or other thoroughfare to traffic	Y	Y
use a convenient water supply (including shutting off water supply from a main or pipe to obtain greater pressure or supply)	Y	Y
disconnect electricity supply to premises	Y	Y
remove flammable, explosive or other dangerous material from premises, an aircraft or other property	Y	Y
remove from the vicinity of the operation a person or thing the presence of whom or which is interfering, or is likely to interfere, significantly with the operation	Y	–
take a fire engine or other fire appliance onto land or premises	Y	Y
shore up or destroy a wall or building that is insecure or may be dangerous to persons or property	Y	–
direct or authorise a firefighter or a volunteer to do something that, under this regulation, the officer may do	Y	–

OVERSIZE
AVIATION RESCUE
FIRE FIGHTING
AIRSERVICES AUSTRALIA
3

APPENDICES

Appendix A: Abbreviations and acronyms

Term	Meaning
AAIS	automatic aerodrome information service
AC	advisory circular
ACR	aircraft classification rating
ADF	Australian Defence Force
ADO	aerodrome data originator
ADS-B	automatic dependent surveillance – broadcast
AEP	aerodrome emergency plan
AFCS	aerodrome frequency confirmation system
AFRU	aerodrome frequency response unit
AHD	Australian Height Datum
AIP-ERSA	Aeronautical Information Publication – En Route Supplement of Australia
AIP	Aeronautical Information Publication
AIS	Aeronautical Information Service
ALA	aircraft landing areas
ARC	aerodrome reference code
ARFFS	aviation rescue and firefighting service
ARO	aerodrome reporting officer
ASDA	accelerate-stop distance available
ATC	air traffic control
ATIS	automatic terminal information service
ATS	air traffic service – a generic name for one or more of the following: › a flight information service › an alerting service › an air traffic advisory service › an air traffic control service › an area control service › an approach control service › an aerodrome control service
A-VDGS	advanced visual docking guidance system

Term	Meaning
AWO	all weather operations
CA/GRO	certified air/ground radio operator
CA/GRS	certified air/ground radio service
CAR	Civil Aviation Regulations (1988)
CASA	Civil Aviation Safety Authority
CASR	Civil Aviation Safety Regulations 1998
CAT	category
CAVOK	ceiling and visibility OK
CNS	communication, navigation and surveillance
CTAF	common traffic advisory frequency
DAMP	drug and alcohol management plan
DPS	data product specification
DME	distance measuring equipment
END	stop-end zone
ERP	emergency response plan
ERSA	En Route Supplement Australia
FATO	final approach and take-off
FOD	foreign object debris
ft	feet
GBAS	ground-based augmentation system
GPS	global positioning service
GRF	global reporting format
HF	high frequency
HLS	helicopter landing site
ICAO	International Civil Aviation Organization
IFR	instrument flight rules
ILS	instrument landing system
LDA	landing distance available
LVP	low-visibility procedure
MAGS	movement area guidance signs

Term	Meaning
MET	meteorological
MID	midpoint zone
MOS	Manual of Standards
MOWP	method of working plan
NDB	non-directional beacon
NOTAM	notice to airmen
OFZ	obstacle-free zone
OLS	obstacle limitation surface
OMGWS	outer main gear wheel span
PAL	pilot-activated lighting
PANS-OPS	procedures for air navigation services – aircraft operations
PCR	pavement classification rating
PIC	pilot in command
PPE	personal protective equipment
QNH	mean sea level pressure
RAVC	reduced aerodrome visibility conditions
RCR	runway condition report
RMP	risk management plan
RTAO	restrictions to aircraft operations
RTIL	runway threshold identification lights
RV	runway visibility
RVR	runway visual range
RWY	runway
RWYCC	runway condition code
SA	special authorisation
SATCOM	satellite communications
SMS	safety management system
STODA	supplementary take-off distance available
TDZ	touchdown zone
TIFP	terminal instrument flight procedures
TKOF	take-off
TODA	take-off distance available
TORA	take-off run available
TWY	taxiway
UHF	ultra-high frequency
UNICOM	universal communications
UTC	coordinated universal time (as determined by the International Bureau of Weights and Measures)
VASIS	visual approach slope indicator system
VDGS	visual docking guidance system
VFR	visual flight rules
VHF	very high frequency
VOR	VHF omnidirectional radio range
WAM	wide area multilateration
WSO	work safety officer

Appendix B: Definitions

Term	Meaning
accelerate-stop distance available (ASDA)	the length of the take-off run available (TORA) plus the length of any stopway (SWY) **Note:** ASDA = TORA + SWY. **Note:** Any available clearway (CWY) or runway end safety area (RESA) is not included.
aerodrome	an area of land or water (including any buildings, installations and equipment), either: › established as an aerodrome under the Air Navigation Regulations › the use of which as an aerodrome is authorised under the regulations › made under the Act › being such an area intended for use wholly or partly for the arrival, › departure or movement of aircraft
aerodrome beacon	an aeronautical beacon used to indicate the location of an aerodrome from the air
aerodrome facilities and equipment	facilities and equipment, inside or outside the boundaries of an aerodrome, that are installed or maintained for use by aircraft operating at the aerodrome
aerodrome facility	any of the following physical things at an aerodrome: › the physical characteristics of any movement area including runways, taxiways, taxi lanes, shoulders, aprons, primary and secondary parking positions, runway strips and taxiway strips › infrastructure › structures › equipment › earthing points › cables › lighting › signage › markings › visual approach slope indicators › any other similar thing that is physical matter and is used for the operation of aircraft at the aerodrome **Note:** Aerodrome facilities are physical matter. For example, a safety management system is not an aerodrome facility. Management and administrative processes do not constitute an aerodrome facility. **Note:** The expression aerodrome facility is defined in the MOS and has a different meaning to aerodrome facilities and equipment.
aerodrome frequency confirmation system	a system which both: › responds automatically when a radio transmission is broadcast on an assigned aerodrome frequency › is used to confirm that the correct aerodrome frequency has been selected on the air band radio
aerodrome movement	for an aircraft, means a take-off, a landing, or a touch-and-go manoeuvre at an aerodrome

Term	Meaning
Aerodrome Terrain and Obstacle Chart - ICAO (Electronic)	an electronic chart that portrays such terrain, obstacle and aeronautical data for an aerodrome as is reasonably required to: › enable an operator to: » carry out operating limitations analysis for aircraft using the aerodrome » know whether the operator's aircraft may land at, and take off from, the aerodrome within the operating limitations of the aircraft; and » develop procedures for use in the event of either: – a missed approach or take-off – an emergency during landing or take-off; and › support the following activities for the safety of air navigation: » instrument procedure design (including circling procedures) » aerodrome obstacle restriction and removal » provision of source data for the production of other aeronautical charts **Note:** See section 2.3 of this guide
aeroplane reference field length	the minimum field length required for an aeroplane to take off at maximum certificated take-off mass, at sea level, in standard atmospheric conditions, in still air and with zero runway slope, as shown in either: › the aeroplane's aircraft flight manual approved by the national aviation authority which issued the initial type certificate for the aeroplane › equivalent data from the aeroplane manufacturer
aircraft classification rating (ACR)	a number expressing the relative effect of an aircraft on a pavement for a specified standard subgrade category **Note:** For guidance see AC 139.C-07: Strength rating of aerodrome pavements, as existing from time to time and freely available on the CASA website.
aircraft movement	› the landing of an aircraft at an aerodrome › the take-off of an aircraft from an aerodrome › a touch-and-go manoeuvre of an aircraft at an aerodrome
aircraft movements	when referred to numerically for an aerodrome, for a financial year, means the numbers of aircraft movements at the aerodrome during the financial year, as compiled by the aerodrome operator or the ATS provider **Note:** CASA may require an aerodrome operator or an ATS provider to provide it with aircraft movement data: see regulations 139.140 and 139.145 of CASR.
aircraft parking position	an open-air designated area on an apron for parking an aircraft **Note:** An aircraft parking position is also known as an aircraft stand. **Note:** An aircraft parking position does not include any area that is within a fully or partially enclosed aircraft hangar. **Note:** An area designated on an apron as being available for the parking of aircraft is considered to be an aircraft parking position.
airline	an aircraft operator operating aircraft in regular public transport operations

Term	Meaning
airside	the following areas, access to which is restricted by the aerodrome operator, or by a Federal or State authority, to authorised persons only: › the movement area of the aerodrome › where their purpose and use is to directly support aircraft operations – the terrain and buildings adjacent to the movement area, or particular portions of such adjacent terrain and buildings **Note:** The word 'landside' is used colloquially to denote areas of an aerodrome that are not airside, for example, passenger terminals.
airside driver	a person who drives or operates an airside vehicle a person who drives or operates an airside vehicle
airside vehicle	a vehicle, including equipment that is mobile under its own power, that is operated airside under the authorisation of the aerodrome operator
air transport operation	a passenger transport operation, a cargo transport operation or a medical transport operation, that is either: › conducted for hire or reward › prescribed by an instrument issued under regulation 201.025 **Note:** An aerial work operation is not an air transport operation.
air transport passenger	a passenger in an air transport operation
air transport passenger movement numbers	for an aerodrome, for a financial year, means the numbers, published by the Department, of air transport passenger movements at the aerodrome during the financial year, and any reference to air transport passenger movements is a reference to the movements compiled in these numbers
AIS provider	a single recording system combining the capabilities and the functions of an FDR and CVR
apron	a defined area on a land aerodrome to accommodate aircraft for the purposes of loading or unloading passengers, mail or cargo, fuelling, parking, or maintenance
AFRU	aerodrome frequency response unit and is the abbreviation used for an aerodrome frequency confirmation system
ARFF unit	for an aerodrome, means the aviation rescue and firefighting unit at the aerodrome
Australian height datum	the datum that sets mean sea level as zero elevation
barette	3 or more aeronautical ground lights closely spaced in a transverse line so that from a distance they appear as a short bar of light **Note:** Transverse means transverse to the runway centreline.
Chicago Convention	the Convention on International Civil Aviation
civil aviation safety legislation	the Civil Aviation Act 1988, the regulations made under the Act, and instruments, including Civil Aviation Orders and Manuals of Standards, made under the Act or the regulations, and other instruments made under any of the foregoing
clearway (CWY)	a defined area at the end of the take-off run available (TORA), on the ground or water under the control of the aerodrome operator, that is selected or prepared as a suitable area over which an aeroplane may make a portion of its initial climb to a specified height

Term	Meaning
critical obstacle	the obstacle within the take-off climb area, or within the approach area, or within both areas, which subtends the greatest vertical angle when measured from the inner edge of the take-off climb surface and/or the approach surface
daylight	the period between the beginning of morning civil twilight and the end of evening civil twilight
declared distances	› take-off run available (TORA), being the length of runway declared available and suitable for the ground run of an aeroplane taking off **Note:** TORA may include additional length available from a starter extension if provided. › take-off distance available (TODA), being the length of the take-off run available plus the length of the clearway, if provided › accelerate-stop distance available (ASDA), being the length of the take-off run available plus the length of the stopway, if provided › landing distance available (LDA), being the length of runway which is declared available and suitable for the ground run of an aeroplane landing
earth mat area	the area of virgin ground that is directly underneath, and in immediate proximity to, a communication, navigation, surveillance site
elevation	the vertical distance of a point or a level, on or affixed to the surface of the Earth, measured from mean sea level
facility	has the same meaning as aerodrome facility
FATO area	a final approach and take-off area of an aerodrome used for helicopter operations
frangible	of low mass, designed to break, distort or yield on impact so as to present the minimum hazard to aircraft
ground-based augmentation system (GBAS)	a ground-based augmentation system comprised of a VHF data broadcast (VDB) antenna and (typically) 4 remote satellite measurement unit (RSMU) antennas, with each of these components: › separately located › performing specific functions › with different siting requirements and restrictions
gravel	for a surface, means that the surface is comprised of gravel and any binding additives but is not sealed
high frequency (HF)	the high frequency band, that is radio frequencies in the range 3,000 to 30,000 kHz
ICAO Annex	for a numbered ICAO document, means the Annex, of that number, to the Chicago Convention
ICAO Annex 4	Annex 4, Aeronautical Charts
instrument flight rules (IFR)	the rules and procedures set out in CASR subdivision 91.D.4.3

Term	Meaning
instrument landing system (ILS)	an instrument landing system comprised of the following components: › VHF localizer equipment › UHF glide path equipment › VHF marker beacons or distance measuring equipment (DME) › localizer far field monitor antennas **Note:** Each component of an ILS performs specific functions, and is separately located along the longitudinal axis of, or alongside, the runway. Different siting requirements, and restrictions to access and movement, apply to each site.
ILS critical area	an area about the localizer and glide path antennas where vehicles and aircraft must be excluded during all ILS operations because the presence of vehicles or aircraft inside the area will cause unacceptable disturbance to the ILS signal-in-space
ILS sensitive area	an area extending beyond the ILS critical area, both: › where the parking and movement of vehicles and aircraft is controlled to prevent the possibility of unacceptable interference to the ILS signal during ILS operations › which is protected against interference caused by large moving objects outside the ILS critical area but still normally within the airfield boundary
instrument approach areas	a series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix or, where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or enroute obstacle clearance criteria apply
instrument meteorological conditions (IMC)	meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minimum specified for visual meteorological conditions
instrument runway	one of the following types of runway nominated for the operation of aircraft using instrument approach procedures: › non-precision approach runway, being a runway, served by visual aids and non visual aids, intended for landing operations following an instrument approach operation with a minimum descent height or decision height (DH) at or above 250 ft (a type A operation) in runway visibility of not less than 1,000 m › precision approach runway, Category (CAT) I, being a runway, served by visual aids and non-visual aids, intended for landing operations following an instrument approach operation with a DH lower than 250 ft (a type B operation) but not lower than 200 ft, and either: » in visibility of not less than 800 m » with a runway visual range (RVR) of not less than 550 m › precision approach runway, Special Authorisation Category I (SA CAT I), being a runway, served by visual aids and non-visual aids, nominated for landing operations following an instrument approach type B operation with a DH lower than 200 ft but not lower than 150 ft, and an RVR of not less than 450 m › precision approach runway, Special Authorisation Category II (SA CAT II) being a runway, served by visual aids and non-visual aids, nominated for landing operations following an instrument approach type B operation with a DH lower than 200 ft but not lower than 100 ft, and an RVR of not less than 350 m

Term	Meaning
instrument runway (cont.)	› precision approach runway, CAT II, being a runway, served by visual aids and non visual aids, nominated for landing operations following an instrument approach type B operation with a DH lower than 200 ft, but not lower than 100 ft, and an RVR of not less than 300 m › precision approach runway, CAT III, being a runway, served by visual aids and non visual aids, for landing operations following an instrument approach type B operation to and along the surface of the runway and: » for CAT IIIA – nominated for operations with a DH lower than 100 ft or with no decision height, and an RVR of not less than 175 m; and » for CAT IIIB – nominated for operations with a DH lower than 50 ft or with no decision height, and an RVR of less than 175 m but not less than 50 m » for CAT IIIC – nominated for operations with no DH or RVR limitations **Note:** Instrument approach procedures are classified as follows: › Non-precision approach (NPA) procedure: an instrument approach procedure designed for 2D instrument approach type A operations › Approach procedure with vertical guidance (APV): a performance-based navigation (PBN) non-precision instrument approach procedure designed for 3D instrument approach type A operations › Precision approach (PA) procedure: an instrument approach procedure based on navigation systems (ILS, MLS, GLS and SBAS CAT I) designed for 3D instrument approach type A or B operations. **Note:** When preparing or nominating their infrastructure to support the desired aircraft operation, the aerodrome operator determines the classification of instrument runway for which the runway is to be nominated provided that the relevant standards in this MOS are achieved. A certified designer under Part 173 of CASR may then be tasked to design the optimal terminal instrument flight procedure to the capabilities of the instrument runway. **Note:** Special Authorisation Category operations may only be utilised by aircraft operators who meet specific requirements for flight crew competency, aircraft capability and any conditions relevant to the terminal instrument flight procedure. **Note:** The visual aids provided need not necessarily be matched to the scale of the non-visual aids provided. CASA recommends that visual aids should be determined based on the requirements for the intended classification of operation and in consultation with the aircraft operators for whom it is intended to be utilised.
intermediate holding position	a designated holding position for traffic control, at which taxiing aircraft and vehicles: › must stop and hold only if instructed by the aerodrome control tower › if stopped, must not proceed until given clearance by the aerodrome control tower
international air transport operation	an international air transport operation whether or not it is conducted in accordance with a published schedule
jet blast	the thrust force from an aircraft jet or turbofan engine when the aircraft is on or close to the ground
landing area	that part of a movement area for the landing or take-off of aircraft

Term	Meaning
landing distance available (LDA)	the length of runway (RWY) available for the ground run of a landing aeroplane. The LDA commences at the runway threshold **Note:** LDA = length of RWY (if threshold is not displaced). **Note:** The stopway (SWY) and clearway (CWY) are not part of the LDA.
low-visibility procedure (LVP)	a procedure applied at an aerodrome for protecting aircraft operations during conditions of reduced visibility or low cloud
manoeuvring area	that part of the aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons
marked	› when used in relation to a marking – refers to the marking › when used in relation to a marker – refers to the marker
marker	means an object displayed above ground level in order to indicate an obstacle or delineate a boundary
marking	a symbol or group of symbols displayed on the surface of the movement area of an aerodrome to convey surface movement, or aeronautical information
marking	a symbol or group of symbols displayed on the surface of the movement area of an aerodrome to convey surface movement, or aeronautical information
method of working plan (MOWP)	a plan to ensure that aerodrome works do not present a hazard to aircraft operations
movement area	area means that part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the aprons
movements	for the definition of aerodrome traffic density, means the sum of the following: › each take-off of an aircraft with passengers on board › each landing of an aircraft with passengers on board › each aerodrome movement that is a touch-and-go manoeuvre
nominated	for an ARC, means nominated by the aerodrome operator
non-instrument runway	a runway for the operation of aircraft using visual approach procedures
notice to airmen (NOTAM)	a notice issued by the Australian NOTAM Office containing information or instructions concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to persons concerned with flight operations
obstacle-free zone (OFZ)	the airspace above the inner approach surface, inner transitional surface, baulked landing surface, and that portion of the runway strip bounded by these surfaces, which is not infringed by any fixed obstacle other than a low mass and frangibly mounted one required for air navigation purposes

Term	Meaning
obstacle limitation surfaces (OLS)	a series of planes, associated with each runway at an aerodrome, that defines the desirable limits to which objects or structures may project into the airspace around the aerodrome so that aircraft operations at the aerodrome may be conducted safely. The obstacle limitation surfaces are as follows: › the outer horizontal surface › the conical surface › the inner horizontal surface › the approach surface › the inner approach surface › the transitional surface › the inner transitional surface › the baulked landing surface › the take-off climb surface
obstacles	fixed (whether temporarily or permanently) and mobile objects, structures, and parts of such objects and structures, that: › are located on an area provided for the surface movement of aircraft › extend above a defined surface designated to protect aircraft in flight › stand outside the defined surfaces mentioned in the points above and that have been assessed as being a hazard to air navigation
procedures for air navigation services – aircraft operations (PANS-OPS)	Doc.8168-OPS/611 Volume II (Procedures for Air Navigation Services – Construction of Visual and Instrument Flight Procedures) approved and published by decision of the Council of the International Civil Aviation Organization, as in force or existing from time to time
passenger movement numbers	in relation to an aerodrome for a period, means the sum of the total numbers of passengers who arrive at, or depart from, the aerodrome for the period: (a) as published by the Department; or (b) if paragraph (a) does not apply – as calculated in accordance with a method approved in writing by CASA
paved	for a surface, means that the surface is prepared as a pavement
pavement	a surface that is constructed from a combination of a sub-base, a base course, and a surface course, placed on a subgrade to support the traffic load and distribute it to the subgrade **Note:** A subgrade is a prepared foundation or the natural surface on which the pavement is constructed.
pavement classification rating (PCR)	a number expressing the bearing strength of a pavement for unrestricted operations by aircraft with aircraft classification rating (ACR) less than or equal to the PCR **Note:** For guidance see CASA Advisory Circular (AC) 139.C-07: Strength rating of aerodrome pavements, as existing from time to time and freely available on the CASA website.
precision approach runway	as described in the precision approach runway dot points in the definition of instrument runway above
precision approach terrain chart – ICAO	a chart providing detailed terrain profile information for a defined portion of the final approach to a runway to enable an aircraft operator to assess the effects of the terrain when determining decision height using radio altimeters

Term	Meaning
QNH	altimeter subscale setting to obtain elevation (on the ground) or altitude
runway (RWY)	a defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft
runway end safety area (RESA)	an area symmetrical about the extended runway centreline and adjacent to the end of the runway strip, primarily to reduce the risk of damage to an aeroplane which undershoots or overruns the runway
runway slope	slope means the slope of a runway, presented as a percentage deviation from the horizontal. It is calculated by dividing the difference between the maximum and minimum deviations from the horizontal along the runway centreline, by the runway length, multiplying the quotient by 100 and expressing the product as a percentage deviation from the horizontal
runway strip	a defined area, including the runway and stopway, provided to both: › reduce the risk of damage to aircraft running off a runway › protect aircraft flying over the runway during take-off or landing operations
runway type FATO	the final approach and take-off area of an aerodrome having characteristics similar in shape to a runway
runway visibility (RV)	the distance along a runway over which a person can see and recognise a visibility marker or runway lights
scheduled air transport operation	an air transport operation conducted in accordance with a published schedule
sealed	for a surface, means that the surface is wholly, or preponderantly, sealed with a surface treatment which may include bitumen, asphalt, concrete or another suitable treatment
secondary power supply	for an aerodrome's functionality, means an electrical power supply that is both: › automatically connected to the relevant load when the primary power source fails › derived from: » the normal public electrical power supply, but in a way that: – supplies power for the aerodrome's functionality from a special substation that is not the normal substation; and – supplies the power through a special transmission line that follows a route different from the normal power supply route; and – makes extremely remote the possibility of a simultaneous failure of the normal public electrical power supply and the power supply for the aerodrome; or » 1 or more generators, batteries, or similar devices which deliver a constant, reliable and sufficient supply of electrical power for the relevant aerodrome service
shoulder	an area adjacent to the edge of a pavement so prepared as to provide a transition between the pavement and the adjacent surface
stopway (SWY)	a defined rectangular area on the ground at the end of the take-off run available prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned take-off
switch-over time	for a light, means the time required for the actual intensity of a light measured in a given direction to fall from 50% and recover to 50% during a power supply changeover when the light is being operated at intensities of 25% or above

Term	Meaning
tabletop exercise	a theoretical discussion in which an emergency event is simulated, usually with timescales significantly compressed, and relevant persons verbally describe how they respond to the emergency but without any physical demonstration of the actual response
take-off distance available (TODA)	the full length of the runway plus the length of any clearway. However, if there is no designated clearway, the part of the runway strip between the end of the runway and the runway strip end must be included as part of the TODA **Note:** TODA = TORA + CWY.
take-off run available (TORA)	the full length of the runway available in the relevant take-off direction **Note:** TORA = length of RWY. **Note:** Neither stopway (SWY) nor clearway (CWY) are included in the TORA.
take-off runway	a runway designated for take-off only
taxi lane	a portion of an apron designated as a taxiway and for use only to provide access to, and egress from, aircraft parking positions **Note:** A fully or partially enclosed aircraft hangar is not within the meaning of aircraft parking position, as defined.
taxiway (TWY)	a defined path on an aerodrome on land, established for the taxiing of aircraft from one part of an aerodrome to another. A taxiway includes a taxi lane, an apron taxiway and a rapid exit taxiway **Note:** Taxi lane, apron taxiway, exit taxiway, rapid exit taxiway and taxiway system are also defined terms.
taxiway intersection	a junction of 2 or more taxiways
taxiway strip	an area including a taxiway provided to protect an aircraft operating on the taxiway and to reduce the risk of damage to an aircraft which accidentally runs off the taxiway
terminal instrument flight procedure (TIFP)	officially designed, published flight paths that guide aircraft using instruments during the critical arrival, departure, and landing phases at an aerodrome especially in poor visibility, while maintaining strict separation from ground obstacles via protected airspace surfaces
threshold	the beginning of that portion of the runway usable for landing
time-limited works	aerodrome works that may be carried out if normal aircraft operations are not disrupted and the movement area can be restored to normal safety standards in not more than 30 minutes
touchdown zone	the portion of a runway, beyond the threshold, where landing aeroplanes are to first contact the runway
Type A chart	a chart which contains information on all significant obstacles within the take-off area of an aerodrome up to 10 km from the end of the runway
Type B chart	an obstacle chart which provides obstacle data from around the aerodrome
ultra-high frequency (UHF)	the ultra-high frequency band, that is radio frequencies in the range 300 to 3,000 MHz
universal communications (UNICOM)	a non-air traffic control communication facility operated to provide an advisory service to enhance the value of information normally available at a non-controlled aerodrome

Term	Meaning
unsealed	for a surface, means that the surface is not sealed
very high frequency (VHF)	the very high frequency band, that is radio frequencies in the range 30 to 300 MHz
visibility marker	a dark object of suitable dimensions for use as a reference in evaluating runway visibility
visual aids	visual aids to navigation in the form of markers, markings, lights, signs, signals, displays or wind direction indicators, or combinations of these, which provide information to aircraft and vehicles on, or using, the movement area of an aerodrome
visual flight rules (VFR)	flight rules for flight in visual meteorological conditions
Y location code	the international code prefix used to identify Australian aerodromes Example: YMML identifies Melbourne Airport.

Appendix C: Exemptions referred to in this guide

Exemption/Instrument	Repeal Date	Section in this guide
CASA EX42/26 – Implementation of Drug and Alcohol Management Plans (Micro businesses and DAMP Organisations) Exemption 2026	31 May 2029	section 7.7

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