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Serviceability inspections

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Acknowledgement of Country

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

Artwork: James Baban.

Advisory circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.

Advisory circulars should always be read in conjunction with the relevant regulations.

Audience

This advisory circular (AC) applies to:

- aerodrome owners/operators
- the Civil Aviation Safety Authority (CASA)
- aerodrome reporting officers
- aerodrome personnel responsible for serviceability inspections.

Purpose

The operator of a certified aerodrome must establish a serviceability inspection program. The program should identify hazards and support prompt corrective action to address unsafe conditions. The Part 139 (Aerodromes) Manual of Standards (MOS) sets out minimum inspection requirements and the circumstances in which additional unscheduled inspections are required.

This AC provides supplementary guidance on:

- conducting scheduled and unscheduled serviceability inspections
- items to be inspected/checked
- reporting hazards
- recording the results of serviceability inspections
- maintaining serviceability inspection records.

For further information

For further information or to provide feedback on this AC, visit CASA's [contact us](#) page.

Unless specified otherwise, all subregulations, regulations, Divisions, Subparts and Parts referenced in this AC are references to the *Civil Aviation Safety Regulations 1998 (CASR)*.

Status

This version of the AC is approved by the National Manager, Flight Standards Branch.

Note: Changes made in the current version are not annotated. The document should be read in full.

Table 1: Status

Version	Date	Details
v2.0	September 2026	- Sections 2.1 and 2.2, Introduction – Additional information added. - Section 3.2, Unplanned Inspections – Additional detail added. - Section 3.3, Inspection Triggers Following Wildlife Events – New section. - Section 4.2.2, Human Factors Affecting Inspection Effectiveness – New section. - Section 4.3.1, Surface Conditions of the Movement Area (Paved) – Additional content added. - Section 4.3.3, Runway/Taxiway Strips and Runway End Safety Areas (RESA) – Additional content added. - Section 4.3.7, Lighting – Additional content added. - Section 4.3.11, Wildlife Hazard Management – Additional content. - Section 4.3.12, Temporary Works and Construction Areas – New section. - Section 4.3.14, Currency of NOTAMs and Published Information – Additional content added. - Section 4.3.15, Verification of Temporary Operational Restrictions – New section. - Section 5.1, Identification of an Unsafe Condition – Additional content added. - Section 5.4, Safety Management System Integration – New section. - Section 5.5, Monitoring of Safety-Critical Asset Deterioration Trends – New section. - Section 6.1, Checklist for Recording the Results of Inspections – Additional content added. - Appendix A, AC Cross-Reference Matrix – New appendix.
v1.1	July 2023	Recently published AC 139.C-04 reference amended, and some further editorial amendments made.
v1.0	June 2020	Initial release of this AC.

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1 Reference material

1.1 Acronyms

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

Table 2: Acronyms

Acronym	Description
AC	advisory circular
AIS	aeronautical information service
ARFFS	aviation rescue and firefighting service
AFRU	aerodrome frequency response unit
AROC	aeronautical radio operator certificate
ATC	air traffic control
ATSB	<i>Australian Transport Safety Bureau</i>
CAR	<i>Civil Aviation Regulations 1988</i>
CASA	Civil Aviation Safety Authority
CASR	<i>Civil Aviation Safety Regulations 1998</i>
CTAF	common traffic advisory frequency
ERSA	En Route Supplement Australia
FOD	foreign object debris
ILS	instrument landing system
MAGS	movement area guidance sign
MOS	Part 139 (Aerodromes) Manual of Standards
PANS-OPS	Procedures for Air Navigation Services – Aircraft Operations
PAPI	precision approach path indicator
RESA	runway end safety area
VASI	visual approach slope indicator

1.2 Definitions

Terms that have specific meaning within this AC are defined in the table below. Where definitions from the civil aviation legislation have been reproduced for ease of reference, these are identified by 'grey shading'. Should there be a discrepancy between a definition given in this AC and the civil aviation legislation, the definition in the legislation prevails.

Table 3: Definitions

Term	Definition
aerodrome facility	any of the following physical things at an aerodrome as mentioned in this MOS for an aerodrome: a. the physical characteristics of any movement area, including runways, taxiways, taxilanes, shoulders, aprons, primary and secondary parking positions, runway strips and taxiway strips b. infrastructure c. structures d. equipment e. earthing points f. cables g. lighting h. signage i. markings j. visual approach slope indicators any other similar thing that is physical matter and is used for the operation of aircraft at the aerodrome.
aerodrome technical inspection	an inspection of the facilities, equipment and operation of a certified aerodrome, conducted by, or on behalf of, the aerodrome operator to ensure detection of any deterioration that could make any of the facilities, equipment or operations unsafe for aircraft operations.
manoeuvring area	that part of the aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

1.3 References

Legislation

Legislation is available on the Federal Register of Legislation website <https://www.legislation.gov.au/>

Table 4: Legislation references

Document	Title
Civil Aviation Safety Regulations 1998	Civil Aviation Safety Regulations 1998 Part 139
Manual of Standards	Part 139 (Aerodromes) Manual of Standards 2019

Advisory material

CASA's advisory materials are available at <https://www.casa.gov.au/publications-and-resources/guidance-materials>

Table 5: Advisory material references

Document	Title
AC 139.C-01	Aerodrome manual
AC 139.C-02	Aerodrome personnel
AC 139.C-04	Aerodrome technical inspections and aerodrome manual validations
AC 139.C-05	Aerodrome reporting and monitoring
AC 139.C-14	Airside Vehicle Control
AC 139.C-16	Wildlife hazard management
AC 139.C-20	Disabled Aircraft Removal
AC 139.C-26	Safety management systems for aerodromes
AC 139.C-27	Risk management plans for aerodromes

International Civil Aviation Organization documents

International Civil Aviation Organization (ICAO) documents are available for purchase from <http://store1.icao.int/>

Many ICAO documents are also available for reading, but not purchase or downloading, from the ICAO eLibrary (<https://elibrary.icao.int/home>).

Table 6 - ICAO references

Document	Title
ICAO International Standards and Recommended Practices	Annex 14 to the Convention on International Civil Aviation - Aerodromes Volume I
Doc 9981	Procedures for Air Navigation Services Aerodromes (PANS Aerodromes)

2 Serviceability inspection overview

2.1 Introduction

2.1.1 A certified aerodrome is required to have a documented inspection program to ensure the:

- continuing serviceability of the aerodrome
- timely identification of any hazards
- detection of deterioration in the condition of an aerodrome facility before the safety of aviation is compromised
- actions taken are recorded and communicated.

2.1.2 Although routine serviceability inspections are planned, additional unscheduled inspections should be considered, or may be required under the operator's serviceability inspection program, in circumstances such as:

- following a severe wind event, storm, or period of heavy rain
- if there is a reason to believe a hazard to aircraft may be present on the manoeuvring area
- following an incident or accident
- if a pilot or aviation rescue and firefighting service (ARFFS) provider reports a hazard
- before the commencement of reduced or low visibility operations
- when requested by CASA
- when requested by air traffic control (ATC)
- where operational circumstances indicate that an additional inspection would improve assurance of aerodrome serviceability.

2.1.3 Lighting systems and pavement seals will require increased frequency of specialised inspections as their time in service increases.

2.1.4 Depending on the type and frequency of aircraft operations, an aerodrome technical inspection or an aerodrome manual validation is also required. A technical inspector may consider serviceability inspection outcomes when conducting an inspection.

2.2 Inspection personnel

2.2.1 Serviceability inspections should be completed by reporting officers who have been trained and assessed as competent for the duties assigned.

2.2.2 An aerodrome operator should have procedures to verify that the reporting officer tasked with carrying out a serviceability inspection is appropriately trained and has been assessed as competent.

2.2.3 Ongoing verification of the reporting officer's knowledge and practical application of the required tasks should occur at adequate intervals. [AC 139.C-02 - Aerodrome personnel](#) provides further guidance.

2.3 Inspection equipment

2.3.1 Reporting officers conducting serviceability inspections should:

- be provided with a two-way radio for communication with ATC if applicable, or for notifying intentions and monitoring the unattended radio frequency e.g. Common Traffic Advisory Frequency (CTAF) used at the aerodrome
- ensure that vehicles operating on the manoeuvring area (runway, runway strip, taxiway, and taxiway strip) are equipped with a rotating or flashing light that can be seen from all directions. The type and positioning of vehicle lighting is dependent on time (day/night) and the type of operations occurring at the aerodrome:
 - at an international aerodrome, or an aerodrome with scheduled air transport operations, vehicles are required to display a rotating or flashing light that meets the specifications stated in subsection 14.05(8) of the Part 139 MOS
 - at all other aerodromes, if a light cannot be placed on top of an airside vehicle, additional lights must be provided in other locations on the vehicle to ensure visibility in all directions at night. During daylight hours only, it is permissible to display the standard manufacturer-fitted vehicle hazard warning lights.
- ensure when a ground surveillance system in operation, vehicles operating in areas where the ground surveillance system is operational are also required to be fitted with surveillance equipment that meets the specifications stated in section 14.04 of the Part 139 MOS
- have a checklist to record the serviceability inspection occurrences and any findings. Section 6.1 of this AC provides guidance on recording inspections.

2.4 Foreign object debris

- 2.4.1 When conducting a serviceability inspection, the cleanliness of the movement area is of paramount importance to the safe operation of aircraft, and to those persons working on the aprons and other areas.
- 2.4.2 Foreign object debris (FOD) is fragments of loose material (such as sand, stone, paper, wood, metal, fragments of pavement) that are detrimental to aircraft structures or engines and may impair the operation of aircraft if they strike or are ingested into an aircraft engine.
- 2.4.3 Damage caused by debris is also known as foreign object damage.
- 2.4.4 The impact of damage caused by FOD may include delays or cancellations of flights, damage to engines and actions taken by the aircraft operator to recoup the cost of the impact.
- 2.4.5 FOD also poses a risk to persons working on or near the movement area as jet blast or propeller wash may forcibly propel the FOD.

3 Type and frequency of inspections

3.1 Planned serviceability inspections

- 3.1.1 The schedule of planned inspections is to be recorded in the aerodrome manual.
- 3.1.2 A minimum of 2 serviceability inspections are to be conducted each week, at least 48 hours apart. A serviceability inspection is also required to be completed each day that an air transport movement is scheduled to occur.
- 3.1.3 While the Part 139 MOS sets out minimum serviceability inspection requirements, an aerodrome operator should assess the complexity and the conditions of the local operating environment to establish a monitoring and inspection program which is commensurate with their identified risk level. The planned serviceability inspection schedule should be adjusted in accordance with the associated risks.
- 3.1.4 For aerodromes with scheduled passenger air transport operations, completing the inspection before the first scheduled movement of the day represents good operational practice. If the first movement occurs before sunrise, the core safety critical elements (e.g. FOD, visual aids, significant hazards) are to be completed initially, with the remainder of the inspection to resume as soon as there is sufficient daylight.

3.2 Unplanned serviceability inspections

- 3.2.1 In the event an unscheduled serviceability inspection in accordance with section 2.1.2 of this AC is required, the inspection is to be carried out as soon as possible. The reason for the inspection should be included in the inspection report.
- 3.2.2 Post-works inspections should verify:
- markings
 - lighting
 - pavement condition
 - FOD removal
 - declared distances
 - reopening criteria.
- 3.2.3 After storms/heavy rain, the inspection of runway end safety areas and runway strips should include changes caused by:
- washouts
 - settlement
 - erosion
 - exposed foundations.

3.3 Inspection triggers following wildlife events

- 3.3.1 Triggers for additional inspections may include one or more of the following:
- significant bird strike
 - mass wildlife movement

- flooding attracting wildlife
- nearby land use changes.

4 Conducting serviceability inspections

4.1 Introduction

- 4.1.1 To ensure consistent results, procedures for carrying out serviceability inspections should be documented.
- 4.1.2 While serviceability inspections are predominantly conducted in a vehicle, the higher the speed of the vehicle the potentially less effective the inspection. The speed of the vehicle should therefore be kept as low as practicable.
- 4.1.3 In certain circumstances, such as where the aerodrome has wide runways or multiple taxiway intersections, the inspection may be performed by more than one serviceability inspector.
- 4.1.4 Regular serviceability inspections carried out by pavement specialists allow a far more comprehensive assessment as part of preventative maintenance.
- 4.1.5 While monitoring by visual inspection will enable the identification of failed lamps, lights should be closely inspected to detect contamination of fittings by dirt and rubber deposits or misalignment. Inspections completed after sunset and before to sunrise provide clearer visibility of light and colour output of the lighting system.

4.2 Operating on the manoeuvring area

4.2.1 Runways

- 4.2.1.1 It is essential that any potential hazards associated with a runway inspection activity are identified and addressed, and that staff with inspection duties have a clear understanding of what is involved and how the task is to be safely carried out.
- 4.2.1.2 To best ensure visibility of aircraft by the person conducting the inspection and the visibility of the vehicle by pilots, runway serviceability inspections should be carried out in the direction opposite to that being used for landing or taking off.
- 4.2.1.3 A listening watch is to be maintained on the appropriate radio frequency. At a controlled aerodrome, vehicle drivers should meet the communication and authorisation requirements established for the aerodrome. At some controlled aerodromes this may include holding an Aeronautical Radio Operator Certificate (AROC) or equivalent approval so they can read back instructions from the air traffic controller.
- 4.2.1.4 If runway lighting is installed, serviceability inspections should be undertaken with the lights illuminated in order to identify unserviceable lamps and possible failures of light fittings.
- 4.2.1.5 Where the aerodrome has a high intensity lighting system, inspections of the lighting system selected at high intensity during daylight, and inspections of the low intensity of the lights at night may be considered.
- 4.2.1.6 The times of commencement and completion of the serviceability inspection should be noted and reported in the inspection checklist. Outcomes of the inspection should be recorded in accordance with the aerodrome manual procedures.
- 4.2.1.7 At a controlled aerodrome ATC should participate in the development of inspection procedures. These procedures should require:
 - ATC clearance to be obtained before crossing or entering any runway

- on every occasion before entering the runway at a controlled aerodrome, an entry request should be made to ATC. Likewise, upon leaving the runway, the control tower should be advised when the serviceability inspection vehicle has vacated the runway
- if, during a serviceability inspection, ATC requests inspection personnel vacate the runway, the vehicle should move outside the runway before advising the control tower that they have vacated the runway. Inspection personnel should not re-enter the runway until in receipt of a specific clearance to do so. Inspection personnel should not vacate a runway by driving through an instrument landing system (ILS) critical or sensitive area unless specifically instructed to do so by ATC.
- upon completion of the runway inspection, the control tower should be advised of the status of the manoeuvring area as necessary.

4.2.2 Human factors affecting serviceability inspection effectiveness

- 4.2.2.1 The effectiveness of a serviceability inspection depends not only on the condition of the aerodrome facilities being inspected, but also on the ability of inspection personnel to detect, assess and accurately report hazards. Human factors can reduce inspection effectiveness. If not managed, they may result in hazards, defects or changes in serviceability being missed or incorrectly assessed.
- 4.2.2.2 Serviceability inspections should be conducted under conditions that support effective observation, communication, situational awareness and decision-making. Serviceability inspection personnel and aerodrome operators should consider whether factors such as fatigue, workload, environmental conditions or other operational pressures may adversely affect the quality and effectiveness of an inspection.
- 4.2.2.3 Serviceability inspection personnel should consider whether:
- adequate visibility exists to inspect the area effectively
 - weather conditions are affecting hazard detection
 - fatigue may affect concentration or judgement
 - workload or time pressures may reduce inspection quality
 - distractions may divert attention from inspection tasks
 - communication systems are functioning effectively.

4.2.3 Operating on taxiways

- 4.2.3.1 Procedures for carrying out serviceability inspections on an active taxiway should also be documented. The following are matters for consideration:
- a listening watch should be maintained on the appropriate radio frequency
 - the times of commencement and completion of the inspection should be recorded in accordance with the aerodrome manual procedures
 - if taxiway lighting is installed, inspections should be undertaken with the lights illuminated in order to identify unserviceable lamps and possible failures of light fittings.

4.3 Items to be inspected/checked

4.3.1 Surface conditions of the movement area (paved)

- 4.3.1.1 The condition of pavement surfaces is an important part of aviation safety. Pavement inspections are required to ensure surfaces are clear of foreign object debris and have no defects that could present a hazard to aircraft or persons.

4.3.1.2 The serviceability inspection should check:

- the cleanliness of the surfaces to ensure they are free from FOD
- pavement edges to ensure they allow water to drain off the pavement. Pavement edge differentials should be assessed against applicable MOS standards and maintenance criteria. Significant edge differentials should be recorded and assessed for operational impact. Anything greater than 25 mm may be hazardous to the directional control of aircraft.
- for scaling, spalling, bumps, or rutting
- for any surface cracking including vegetation growth in cracks
- for water pooling or ponding on paved surfaces that may attract birds or result in the aquaplaning of aircraft or vehicles, caused by:
 - blocked drains
 - ineffective pits
 - blocked culverts
 - erosion around drainage systems
 - any other blocked drainage pathways.
- for any holes, erosion, or other signs of pavement distress
- for rubber build-up or other contaminants which may reduce surface friction, or cause surface damage
- for any subsurface leaks or pressure
- vegetation along runway edges that could impede drainage from the pavement surface.

4.3.2 Surface conditions of the movement area (unpaved)

4.3.2.1 The condition of unpaved surfaces is just as important as paved surfaces, and they should be inspected with the same thoroughness. The serviceability inspection is to include an empirical assessment of the bearing strength of the runway, and the runway strip if it is available for aircraft operations. The serviceability inspection of unpaved surfaces should check:

- the cleanliness of the surfaces to ensure they are free from FOD
- for ruts, depressions, wheel tracks, humps, soft ground, or variations from the normal smooth surfaces that could present a hazard
- for scour and erosion that could cause directional control problems
- for termite mounds, sink holes, erosion ditches, or other ground obstacles obscured by grass
- the condition of grass surfaces, ensuring grass height is not excessive
- for areas of standing water (may be an attraction to birds).

4.3.2.2 Procedures for an empirical assessment should be established for the practical guidance of reporting officers tasked to undertake the assessment.

4.3.3 Runway / taxiway strips and runway end safety areas (RESA)

4.3.3.1 These surfaces should be inspected to the same level of thoroughness as the movement area surfaces. Hazards to the movement of aircraft that deviate from the defined runway or taxiway should not be present in these areas. As a minimum the serviceability inspection should check:

- there are no ruts, depressions, humps, or variations from the normal smooth surface that could present a hazard to aircraft

- there are no unassessed objects in these areas, except those that must be located there because of their function (e.g. runway lights, signs, or navigation aids)
- the base for any equipment is at the same level as the surrounding safety area or no more than 25 mm higher
- the condition and fit of pit covers
- the ground has not been eroded around the light bases, pit covers or other fittings that should be flush with the surface.
- inspection of frangibility:
 - frangible signs
 - frangible light fittings
 - frangible navigational aids
 - integrity of frangible couplings.

4.3.4 Aprons

4.3.4.1 Inspections may be undertaken in segments to account for the size and complexity of the operation. The serviceability inspection should check:

- surfaces, including aircraft parking positions for surface breakup and FOD
- all painted ground surface markings, any repainting requirements noted
- service roads and equipment storage areas for general serviceability, condition, cleanliness, and parking discipline.

4.3.5 Markings, markers, and signs

4.3.5.1 Markings, markers, and signs provide direction and guidance to pilots during take-off, landing, and taxiing. They also provide direction for the drivers of vehicles to ensure vehicle movements do not create hazards for aircraft operations, other vehicles and pedestrians.

4.3.5.2 Markers, markings and signs need to be consistent with the current operations particularly when works are occurring (e.g. runway distance MAGS when there is a displaced threshold, unserviceability markings and markers etc.).

4.3.5.3 Signage may be affected by jet blast and should be inspected to ensure:

- the correct inscription, orientation, and colour
- they are frangibly mounted (if within the strip areas), secure, easy to read, and in good condition
- they are free from vegetation growth that would impede visibility
- no signs are missing.

4.3.5.4 Signs and lighting associated with visual docking guidance systems should be checked for correct functionality and conspicuity.

4.3.5.5 Painted markings should be checked for:

- correct colour
- blistering
- chipping
- fading/discolouration/contrast with the surrounding surface
- obscurity due to rubber build up.

- 4.3.6 Markers should be checked to ensure they are:
- correctly positioned and the correct colour
 - free from dirt or vegetation growth and can be easily seen
 - in serviceable condition.

4.3.7 Lighting

- 4.3.7.1 At night and during periods of low visibility, lighting is important for safe aerodrome operations. Lights come in different shapes, sizes, colours, and configurations and can be flush mounted or elevated.
- 4.3.7.2 Serviceability inspections should confirm that lighting systems continue to provide the required visual guidance, remain serviceable and are operating in accordance with the aerodrome operational requirements.
- 4.3.7.3 As a minimum the serviceability inspection should check:
- that all lights are working and are not obscured by vegetation or dirt
 - that the illumination appears to be at consistent levels for lights within the same system
 - runway, taxiway, and runway threshold lights are the correct colour and are oriented correctly
 - lighting on-off and intensity controls are working correctly (remotely operated, manual, or automatic system for controlling the lighting)
 - where provided, standby power equipment to ensure that it is ready to operate if required
 - inspection frequencies for aerodrome ground lighting should be established in accordance with the MOS and the aerodrome serviceability inspection program. Any deficiencies should be remedied as soon as possible, and the identified lights should again be inspected before use after the remedial action is taken.
- 4.3.7.4 Approach lighting systems should be inspected at adequate, defined frequencies, and cover all elements of the approach lighting system.

4.3.8 Visual aids to navigation

- 4.3.8.1 Visual aids to navigation include the wind direction indicator, ground signals, aerodrome beacon, specialised lighting systems such as visual approach slope indicator (VASI) systems.
- 4.3.8.2 Wind direction indicators should be inspected to ensure:
- there is no damage to the sleeve fabric or loss of conspicuous colour
 - there is no damage to the assembly or mounting
 - the sleeve can move freely through 360 degrees around the pole
 - where provided, the circle on the ground is blackened and the diameter of the circle is appropriately marked
 - if lit, the lights are correctly aligned and illuminated.
- 4.3.8.3 Where provided, the aerodrome beacon should be checked to ensure that it is visible and working properly.
- 4.3.8.4 Where provided, visual approach slope indicator lights should be checked to ensure:
- they are working
 - they are not obscured to an approaching aircraft

- their mounts have not been damaged or disturbed
- the VASI is displaying at the correct angle.

4.3.9 Aerodrome fencing and signage

4.3.9.1 To safeguard the movement area, the serviceability inspection should check:

- the integrity of fences, gates, and signs that provide a barrier to prevent inadvertent entry of animals, vehicles and persons onto the movement area and other aerodrome operational areas that are restricted
- gates and doors with controlled access to ensure they are operating correctly
- gates used exclusively by emergency response vehicles such as crash gates to ensure they are working as intended and are not restricted.

4.3.10 Obstacles infringing the take-off, approach, transitional and PANS-OPS surfaces

4.3.10.1 Objects that penetrate, or may penetrate, protected airspace surfaces can adversely affect aircraft operations and may require immediate operational assessment, notification or mitigation.

4.3.10.2 A visual inspection of the areas surrounding the aerodrome is necessary to verify that no new objects appear to infringe the protected surfaces, particularly the approach and departure surfaces of all runways.

4.3.10.3 Any unauthorised obstacles that are detected are to be immediately reported and procedures initiated to remove the object.

4.3.10.4 If obstacle lights have been determined in writing by CASA as essential for aviation safety, they will require monitoring whenever the aerodrome, or any specific runway where the obstacle lights are essential, is available for operations.

4.3.10.5 Inspection frequency for obstacle lights depends on the type of aircraft operations. Obstacle lights are to be observed at least once in every:

- 24-hour period at aerodromes with scheduled international air transport operations occurring at night
- 48-hour period at aerodromes with scheduled domestic air transport operations occurring at night
- 7-day period at all other aerodromes, including obstacles with daytime lighting.

4.3.10.6 A risk assessment should determine if a higher frequency inspection should be applied.

4.3.11 Wildlife hazard management

4.3.11.1 Wildlife activity can change rapidly due to seasonal conditions, weather events and off-aerodrome attractants. Serviceability inspections should assess whether wildlife or wildlife attractants are present at a level that could adversely affect aircraft operations and whether existing wildlife hazard controls remain effective.

4.3.11.2 Serviceability inspections should check and ensure:

- all inspection items identified in a wildlife management plan that has been implemented for the aerodrome (if applicable)
- the condition of aerodrome fencing
- the presence of:

- birds or animals on or adjacent to operational areas that could present a hazard to aircraft
- unusual activity or change in numbers of birds.
- activity on or adjacent to the aerodrome that could attract birds to create a hazard
- for water in drainage or ponding areas
- shelter provided by aerodrome infrastructure (such as buildings, equipment, and gable markers)
- off-aerodrome attraction sources (such as animal sale centres, picnic areas, aeration facilities, waste disposal and landfill areas etc.)
- the availability and operating condition of any wildlife hazard mitigating equipment.

4.3.12 Temporary works and construction areas

- 4.3.12.1 Temporary works and construction activities have the potential to introduce hazards, create obstacles, affect aircraft movement areas and alter published operational information.
- 4.3.12.2 Serviceability inspections should verify that works safety measures remain effective and that construction activities continue to comply with approved arrangements.
- 4.3.12.3 Inspection personnel should verify that:
- barricades remain correctly positioned
 - works area markings remain compliant
 - temporary lighting remains operational
 - plant and equipment remain within approved work zones
 - excavations remain protected
 - temporary obstacles remain accurately reported.

4.3.13 Aerodrome frequency response unit

- 4.3.13.1 Where provided, the serviceability inspection is to check that the aerodrome frequency response unit is functioning correctly.

4.3.14 Currency of NOTAMs and published information

- 4.3.14.1 Published aeronautical information and NOTAMs provide pilots, aircraft operators, air traffic services and other aerodrome users with information necessary for flight planning and the safe conduct of aircraft operations. Inaccurate, incomplete or outdated information may result in aircraft operating using incorrect assumptions about the availability, condition or limitations of aerodrome facilities.
- 4.3.14.2 Serviceability inspections should include verification that published information and active NOTAMs accurately reflect the current physical condition, operational status and availability of aerodrome facilities and services. Attention should be given to changes arising from defects, temporary works, operational restrictions, weather events, maintenance activities and unserviceable facilities.
- 4.3.14.3 Inspection should verify consistency between actual conditions and:
- ERSA information
 - information in the aerodrome manual
 - published declared distances
 - obstacle information

- temporary obstacles
- aerodrome lighting availability
- runway availability.

4.3.15 Verification of temporary operational restrictions

4.3.15.1 Inspectors should confirm:

- temporary closures remain valid
- restricted areas remain marked
- temporary procedures remain effective
- NOTAMs reflect actual conditions.

5 Reporting

5.1 Identification of an unsafe condition

- 5.1.1 During the serviceability inspection, if the reporting officer identifies a change to the condition of an aerodrome facility which may impact the safe operation of an aircraft, immediate actions are to be taken to ensure the continuing safety of aircraft operations and of other personnel at the aerodrome. The aerodrome operator should promptly assess the risk, implement appropriate controls and communicate relevant information to affected stakeholders.
- 5.1.2 Markers and lighting that comply with the standards set out in the Part 139 MOS are to be used to identify areas of the movement area that are unserviceable. Notify ATC (where present) and the NOTAM office as soon as possible after identifying the condition or hazard. Refer to [AC 139.C-05 - Aeronautical information reporting and monitoring](#), for further guidance.¹
- 5.1.3 The unsafe condition should be reported as soon as possible for timely rectification. Depending on the nature and severity of the defect, the aerodrome operator may determine that a technical inspection is required. Guidance on technical inspections is provided in AC 139.C-04 - Applying for aerodrome authorisations, exemptions and approvals.
- 5.1.4 When arranging the technical inspection, the following matters are to be complied with:
- the person performing the technical inspection is to have the required technical qualifications and experience specified in section 12.10 of the Part 139 MOS
 - a copy of the person's qualifications and relevant experience is to be included in the resulting technical inspection report or maintained as part of the aerodrome manual
 - a copy of the resulting technical inspection report is to be provided to CASA within 30 days of receiving the report
 - a corrective action plan is to be prepared which is to include:
 - documented support for, or rejection of, recommendations
 - a timeframe for completion
 - technical inspection reports are to be retained for a period of 3 years.
- 5.1.5 Where a technical inspection is undertaken, operators should refer to [AC 139.C-04 v1.1 - Aerodrome technical inspections and aerodrome manual validations](#) and the applicable MOS provisions regarding inspector qualifications, reporting requirements, report retention and corrective action processes.

5.2 A significant object is found

- 5.2.1 During the serviceability inspection, a reporting officer may find a significant object that could reasonably be expected to have an adverse effect on the safety of aircraft, e.g. an aircraft part that may have fallen from an aircraft etc.
- 5.2.2 At a controlled aerodrome, the reporting officer is to immediately advise ATC if a significant object is found in the course of a serviceability inspection.
- 5.2.3 At an uncontrolled aerodrome, matters that may adversely affect aviation safety for aircraft enroute to the aerodrome or aircraft that have recently departed and are of an urgent nature should be reported to Brisbane or Melbourne ATC Centre, or the aircraft operator.

¹ Airservices Australia also has their own document on reporting <<http://www.airservicesaustralia.com/wp-content/uploads/NOTAM-Data-Quality-Requirements-for-Aerodrome-Operators.pdf>>

- 5.2.4 Occurrences meeting the reporting criteria established under applicable occurrence reporting legislation should be reported to the ATSB.

5.3 Adverse weather event runway condition reporting

- 5.3.1 After heavy rain, an inspection should be made to assess the runway surface for contamination by water, snow or frost, as a contaminated runway can have an adverse effect on an aircraft's take-off and landing performance and operational safety.
- 5.3.2 Runway surface contamination and issues with any movement areas should be notified immediately to:
- ATC (where present)
 - arriving and departing aircraft
 - AIS for the issue of a NOTAM for prolonged matters.
- 5.3.3 When a runway condition report is requested or is necessary, the following terminology should be used:
- dry runway:
 - a runway is considered dry if its surface is free of visible moisture and not contaminated within the area intended to be used
 - this descriptor is normally only used for a runway that was previously reported as wet, slippery wet, or contaminated
 - wet runway:
 - the runway surface is covered by any visible dampness or water up to, and including 3 mm deep, within the intended area of use
 - slippery wet runway:
 - a wet runway where the surface friction characteristics of a significant portion of the runway have been determined to be degraded
 - contaminated runway:
 - contamination of a runway (or a change to this runway condition) is safety critical information and should be reported without delay to ATC, arriving and departing aircraft, and the AIS
 - a runway is contaminated when a significant portion² of the runway surface area (whether in isolated areas or not) within the length and width being used is covered by:
 - » snow (dry or wet)
 - » frost (frost consists of ice crystals formed from airborne moisture on a surface whose temperature is below freezing. Frost differs from ice in that the frost crystals grow independently and therefore have a more granular texture)
 - » standing water (water of depth greater than 3 mm)
- 5.3.4 Wherever possible:
- runway reports should identify the runway surface condition for each runway 'third' (subdividing the runway into thirds along its length)

² Significant portion typically means an area of 25% or more in any third of a runway (with the runway subdivided into thirds along its length).

- a contaminated runway report should include the estimated or measured depth of contaminant.

For example: 'Runway 30: Standing water on first third, depth 6mm, wet for the remaining runway'.

5.4 Safety management system integration

- 5.4.1 Serviceability inspections form part of the aerodrome's safety assurance activities and provide important information for hazard identification, risk management and continual improvement. Inspection findings should be reviewed to identify recurring issues, emerging trends and changes in risk, and should be managed in accordance with the aerodrome's safety management system.
- 5.4.2 Aerodrome operators should confirm that significant findings are assessed, communicated and monitored through established SMS processes.
- 5.4.3 Serviceability inspection results should be reviewed to identify:
- recurring defects
 - emerging deterioration trends
 - wildlife hazard trends
 - repeated lighting failures
 - drainage issues
 - infrastructure requiring preventative maintenance.
- 5.4.4 Operators should confirm significant findings are incorporated into their hazard reporting and corrective action processes.
- 5.4.5 Appendix A - AC cross reference matrix provides detail on the system function, the Part 139 MOS reference and the role the system function has in this AC.

5.5 Monitoring of safety-critical asset deterioration trends

- 5.5.1 Serviceability inspections should not only identify current defects and hazards but also support the monitoring of deterioration trends affecting safety-critical aerodrome assets. Serviceability inspection findings should be reviewed over time to identify recurring defects, progressive deterioration and emerging risks that may affect the ongoing serviceability of aerodrome facilities.
- 5.5.2 Aerodrome operators should verify that significant trends are assessed and managed through maintenance, inspection and safety management processes.
- 5.5.3 Serviceability inspection personnel should consider whether:
- there are recurring defects
 - trend monitoring is being used
 - repeat failures are being identified
 - predictive maintenance is effective.

6 Serviceability inspection records

6.1 Checklist for recording the results of serviceability inspections

- 6.1.1 All planned and unscheduled serviceability inspections should be performed using established checklists which:
- identify the various inspection areas
 - provide a record of the items to be inspected/checked
 - allow the recording of:
 - the type of inspection being carried out
 - who completed the inspection
 - the status or condition of each item inspected/checked (pass or fail)
 - basic meteorological conditions, e.g. light rain, fog etc.
 - comments where necessary.
- 6.1.2 While the format of checklists can vary, it is important to develop a checklist that is relevant to the aerodrome and its operations, and identifies all items required to be inspected in accordance with the Part 139 MOS.
- 6.1.3 At the completion of the inspection the reporting officer is to record the following in accordance with the aerodrome manual procedures:
- the date and time the inspection was completed
 - the results of the inspection
 - a description of any action taken.
- 6.1.4 Operators may consider categorising identified deficiencies by risk level to support corrective action prioritisation. Categories may include:
- immediate safety hazard
 - high-priority maintenance issue
 - routine maintenance item
 - observation requiring monitoring.
- 6.1.5 Deficiencies found during a serviceability inspection should be recorded with sufficient detail to ensure appropriate remedial action can be taken. Photographs may be used to support and clarify the nature of the deficiency.
- 6.1.6 A sketch of the aerodrome may assist in marking the location of detected problems.
- 6.1.7 If a checklist is used to record serviceability inspection outcomes, the completed checklist should be signed to confirm it has been carried out in accordance with the procedures. Alternatively, outcomes of serviceability inspections should be recorded in the logbook. The use of electronic databases or checklists with the results and any identified deficiencies stored in accordance with the aerodrome manual is acceptable.
- 6.1.8 An effective aerodrome serviceability inspection program requires a procedure for the reporting of deficiencies so they can be corrected.

- 6.1.9 Each serviceability inspection should include a follow-up mechanism to ensure that appropriate action has been taken including verification that the responsible manager is aware of adverse outcomes or serviceability issues reported by the inspection process.
- 6.1.10 A log of all remedial actions following an inspection should be recorded and verification of their completion should be undertaken.

6.2 Maintaining serviceability inspection records

- 6.2.1 Records should be retained for the period required by the MOS and the aerodrome operator's documented procedures.

Appendix A

AC cross reference matrix

The AC cross reference matrix intends to provide readers with detail on the system function, the Part 139 MOS reference and the role the system function has in this AC. The matrix identifies which AC the reader should refer to, and the output or the evidence expected out of cross referencing.

The purpose of the cross reference matrix is to reduce content in this AC and provide advice on other guidance material that contains the same or similar information.

Table 7: AC cross reference matrix

System function	MOS reference	Role of AC 139.C-03	Supporting CASA guidance	Output / evidence
Serviceability inspection program	MOS Ch 12	Provides guidance on planned and unplanned serviceability inspections	AC 139.C-02, AC 139.C-04	Inspection program, inspection schedule, completed inspection records
Verification of published aerodrome information	MOS Ch 11	Guidance for confirming published information remains accurate	AC 139.C-05	Inspection checklist, discrepancy report
Currency of NOTAMs	MOS Ch 11	Guidance on checking active NOTAM accuracy and validity	AC 139.C-05	NOTAM review record
Runway serviceability	MOS Ch 6 and MOS Ch 11	Guidance on inspection of runway condition and hazards	AC 139.C-05	Runway inspection record
Taxiway serviceability	MOS Ch 6 and MOS Ch 11	Guidance on inspection of taxiway condition and hazards	AC 139.C-05	Taxiway inspection record
Runway strip and RESA condition	MOS Ch 6 and MOS Ch 11	Guidance on identification of strip and RESA hazards	AC 139.C-04	Inspection report, corrective action
Pavement condition monitoring	MOS Ch 6 and MOS Ch 18	Guidance on defect identification and deterioration monitoring	AC 139.C-04	Pavement defect report
Runway condition assessment following adverse weather	MOS Ch 6 and MOS Ch 12	Guidance on contamination identification and reporting	AC 139.C-05	Runway condition report, NOTAM
Aerodrome ground lighting inspection	MOS Ch 8	Guidance on routine serviceability checks of lighting systems	AC 139.C-04 and AC 139.C-05	Lighting inspection report

System function	MOS reference	Role of AC 139.C-03	Supporting CASA guidance	Output / evidence
Standby power systems	MOS Ch 8	Guidance on readiness checks during inspections	AC 139.C-04	Inspection checklist
Visual approach slope indicators (PAPI/VASI)	MOS Ch 8	Guidance on operational verification of visual aids	AC 139.C-04 and AC 139.C-05	Inspection record, NOTAM if applicable
Wind direction indicators	MOS Ch 8	Guidance on serviceability inspection requirements	AC 139.C-05	Inspection checklist
Aerodrome beacon	MOS Ch 8	Guidance on operational functionality checks	AC 139.C-05	Inspection record
Markings, markers and signs	MOS Ch 9	Guidance on inspection of markings and signage	AC 139.C-05	Defect report, maintenance action
Obstacle monitoring	MOS Ch 11	Guidance on identifying new obstacles affecting operations	AC 139.C-05 and AC 139.C-04	Obstacle report, NOTAM
Obstacle lighting	MOS Ch 11	Guidance on inspection frequency and outage identification	AC 139.C-05	Inspection record, NOTAM
Wildlife hazard monitoring	MOS Ch 11	Guidance on wildlife observations during inspections	AC 139.C-05	Wildlife report, risk assessment
Aerodrome fencing and security barriers	MOS Ch 11	Guidance on inspection of barriers preventing incursions	AC 139.C-05	Inspection report
Temporary works and works safety	MOS Ch 11	Guidance on inspection of temporary operational changes	AC 139.C-05	Works inspection report, NOTAM
Disabled aircraft affecting serviceability	MOS Ch 11	Guidance on identifying impacts on movement area availability	AC 139.C-20	NOTAM, incident report
Airside vehicle hazards identified during inspections	MOS Ch 14	Guidance on identifying vehicle-related hazards	AC 139.C-14	Hazard report
Unserviceable aerodrome facilities	MOS Ch 12	Guidance on immediate action and notification requirements	AC 139.C-05	Hazard report, NOTAM
Technical inspection escalation	MOS Ch 12	Guidance on circumstances where findings may warrant technical inspection	AC 139.C-04	Technical inspection request

System function	MOS reference	Role of AC 139.C-03	Supporting CASA guidance	Output / evidence
Record keeping	MOS Ch 10	Guidance on recording and retaining inspection results	AC 139.C-04	Inspection records, corrective action register
Safety assurance and trend monitoring	MOS Ch 25	Guidance on integrating inspection outcomes into assurance processes	AC 139.C-04 and AC 139.C-05	Hazard register, trend analysis