Australian Government
Civil Aviation Safety Authority

ADVISORY CIRCULAR
AC 139.A-03 v1.1

Application of aerodrome standards

Date	August 2023
File ref	D23/309422

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
- consultants engaged to act on behalf of the aerodrome owner/operator
- the Civil Aviation Safety Authority (CASA).

Purpose

This AC provides supplementary guidance to all aerodrome operators on the:

- application of aerodrome certification under Part 139 of the *Civil Aviation Safety Regulations* 1998 (CASR) and the subsidiary Part 139 MOS
- timeframes and requirements for transitioning to the revised Part 139 MOS
- scalable certification standards based on the complexity of aerodrome operations
- determination and nomination of key aerodrome facilities
- 'grandfathering', upgrade and replacement of aerodrome facilities
- election to 'opt-in' to revised standards
- identification and management of non-compliant facilities
- identification and management of non-preferred elements in the Part 139 MOS

For further information

For additional information, contact CASA's Personnel Licensing, Aerodromes and Air Navigation Standards (telephone 131 757).

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 Branch Manager, Flight Standards.

Note: Changes made in the current version are annotated with change bars.

Version	Date	Details
v1.1	July 2023	The transitional provisions under *Civil Aviation Legislation Amendment (Part 139 Aerodromes—Transitional Provisions and Consequential Amendments) Regulations 2020* and *Part 139 (Aerodromes) Manual of Standards Amendment Instrument 2020* have expired. Several new Advisory Circulars have been published.
v1.0	June 2020	Initial release of this AC.

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

Contents

1 Reference material

1.1 Acronyms

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

Acronym	Description
AC	advisory circular
AIS	aeronautical information service
AIP	aeronautical information publication
ARC	aerodrome reference code
ATS provider	air traffic service provider
CASA	Civil Aviation Safety Authority
CASR	*Civil Aviation Safety Regulations 1998*
DPS	data product specification
ICAO Annex 14	International Civil Aviation Organisation Annex 14
IFR	instrument flight rules
IMC	Instrument meteorological conditions
MOS	*Part 139 (Aerodromes) Manual of Standards 2019*
OLS	obstacle limitation surface
OMGWS	outer main gear wheel span
RESA	runway end safety area
RVR	runway visual range
TIFP	terminal instrument flight procedure
VFR	visual flight rules
VMC	visual meteorological conditions

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.

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

Term	Definition
	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 k. 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.
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: a. the aeroplane's aircraft flight manual approved by the national aviation authority which issued the initial type certificate for the aeroplane; or b. equivalent data from the aeroplane manufacturer.
aircraft movement	One of the following: a. the landing of an aircraft at an aerodrome b. the take-off of an aircraft from an aerodrome c. a touch-and-go manoeuvre of an aircraft at an aerodrome.
aircraft movements	When referred to numerically for an aerodrome, for a financial year, this means the numbers of aircraft movements at the aerodrome during the financial year, as compiled by the aerodrome operator or the ATS provider.
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.
	d.
Department	The Department of State of the Commonwealth that is administered by the Minister who, from time to time, administers CASR. At the date of making, this is the Department of Infrastructure, Regional Development and Cities but may change from time to time in accordance with Administrative Arrangements Orders made by the Governor-General.
existing aerodrome	An aerodrome that was in service as a certified aerodrome, or a registered aerodrome under the document called 'Manual of Standards (MOS) - Part 139 Aerodromes' as in force immediately before the commencement of this

Term	Definition
	MOS.
existing aerodrome facility	A facility that would have fallen within the definition of an aerodrome facility immediately before the commencement of this MOS had the definition of aerodrome facility then been in force.
grandfathered facility	An existing aerodrome facility (the facility) and the obstacle limitation surfaces associated with an existing runway that is part of the existing aerodrome facility (the OLS) that, on and after the commencement of this MOS, do not comply with the standards in this MOS, provided that: a. the facility and the OLS complies, and continues to comply, with the standards which applied to the facility and the OLS immediately before the commencement of this MOS; and b. the aerodrome operator's aerodrome manual: i identifies the facility and the OLS; and ii sets out in detail how the facility and the OLS do not comply with this MOS.
grandfathering provision	A clause or policy in which a previous rule or standard continues to apply to some existing situations. Those that continue to comply with the previous regulation or standard are said to have grandfathered status or acquired rights, or to have been grandfathered.
obstacle limitation surfaces	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: a. the outer horizontal surface b. the conical surface c. the inner horizontal surface d. the approach surface e. the inner approach surface f. the transitional surface g. the inner transitional surface h. the baulked landing surface i. the take-off climb surface.
opted-in	Means that: a. an aerodrome operator voluntarily tells CASA in writing that, from a specified date after the commencement of this MOS, a specified grandfathered facility will comply with the requirements of this MOS for the facility; and b. the aerodrome operator's aerodrome manual specifies the date and the facility; and c. CASA acknowledges, in writing, that the operator has opted in.
replacement	For an existing aerodrome facility, means completion of any activity in relation to the facility which, not being merely maintenance, results in the substitution of a new aerodrome facility for the existing aerodrome facility.
scheduled international air transport operation	An international air transport operation conducted in accordance with a published schedule.
specialised helicopter	A helicopter operation that involves the carriage of persons or cargo:

Term	Definition
operation	a. between the coast of Australia and an off-shore installation; or b. between off-shore installations; or c. to or from the helipad of: i a hospital; or ii a State or Territory service (however described) established to provide assistance in emergencies..
upgrade	For an existing aerodrome facility, means any change to the facility which, for the first time after commencement of this MOS, enables any of the following changes to aircraft operations using the facility, namely, a change: a. from day VFR operations, to night VFR operations b. from non-instrument approaches, to non-precision instrument approaches c. from non-precision instrument approaches, to precision instrument approaches d. from precision CAT I approaches to precision CAT II, or CAT III approaches e. which enables aircraft take-offs and aerodrome surface movements in runway visibility, or RVR conditions of less than 550 m f. which enables the aerodrome to accommodate aircraft of a higher category specified in the ARC under section 4.01 of this MOS than was the case before the change g. which enables the aerodrome to accommodate aircraft on scheduled international operations.
visual meteorological conditions (VMC)	Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than specified minima.

1.3 References

Legislation

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

Document	Title
Part 139 of CASR	Aerodromes
Consequential, Application, Transitional and Savings (CATS) regulations	Civil Aviation Legislation Amendment (Part 139 Aerodromes—Transitional Provisions and Consequential Amendments) Regulations 2020
Part 139 (Aerodromes) Manual of Standards	Part 139 (Aerodromes) Manual of Standards Amendment Instrument 2020 (No. 1)
Part 175 of CASR	Aeronautical information management
Part 121 of CASR	Australian air transport operations (larger aeroplanes)
Part 173 of CASR	Instrument flight procedure design

International Civil Aviation Organization documents

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

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)

Advisory material

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

Document	Title
AC 139.B-01	Applying for aerodrome certification
AC 139.A-02	Aerodrome and aircraft compatibility
AC 139.A-04	Applying for aerodrome authorisations, exemptions and approvals
AC 139.C-04	Aerodrome technical inspections and aerodrome manual validation
AC 139.C-09	Visual aids, markings, signals and signs
AC 139.C-10	Aerodrome lighting - under development
AC 139.C-26	Safety management systems for aerodromes - under development
AC 139.C-27	Risk management plans for aerodromes
AC 139.C-16	Wildlife hazard management

2 Introduction

2.1 Background

2.1.1 In line with Annex 14 to the Convention on International Civil Aviation - Aerodromes Volume I and the International Civil Aviation Organisation (ICAO) Procedures for Air Navigation Services Aerodromes (PANS Aerodromes), *the Civil Aviation Safety Regulations 1998* (CASR) sets the regulatory requirements for the certification, maintenance, and operation of an aerodrome.

2.1.2 Part 139 of the CASRs and the Manual of Standards (MOS) Part 139 - Aerodromes are the legislative instruments that set out the standards for certified aerodromes.

2.1.3 In August 2020, the Civil Aviation Safety Amendment (Part 139) Regulations 2019 and the Part 139 (Aerodromes) Manual of Standards 2019, came into effect.

2.1.4 The revised Part 139 of the CASRs and Part 139 MOS:

- establish a single certification framework for regulated aerodromes (certified)
- mandate when an aerodrome must be certified
- sets out the standards for the design, construction, maintenance and operation of certified aerodromes
- define the requirements for aerodrome radiocommunication services at all aerodromes
- require the identification and reporting of hazards on aerodromes, and within the prescribed airspace around an aerodrome.

2.1.5 Grandfathering provisions continue to allow an existing aerodrome facility and the obstacle limitation surfaces (OLS) associated with the runway, at an existing certified, or previously registered aerodrome, to remain compliant with the standards that proceeded the revised Part 139 MOS, until the facility is replaced or upgraded, or the aerodrome operator elects to "opt-in" to the new standards.

3 Aerodrome Certification - Part 139 MOS

3.1 Under the new rules, when is an aerodrome required to be certified?

3.1.1 An aerodrome cannot have a terminal instrument flight procedure (TIFP), unless the aerodrome is certified. The only exception is for a TIFP that is provided only for use in specialised helicopter operations,

3.2 What constitutes a TIFP with regards to the requirement for certification?

3.2.1 A terminal instrument flight procedure means an instrument approach procedure or instrument departure procedure as defined in the CASR dictionary.

3.2.2 A TIFP is considered to apply if it is published in the AIP-Departure and Approach Procedures (DAP) and features the aerodrome name in the title.

3.2.3 A TIFP also includes a procedure that is not runway aligned. An aerodrome with a circling approach has a TIFP.

3.2.4 Whilst a TIFP dictates whether the aerodrome is required to be certified or not, a TIFP in itself does not dictate whether the runway that it is published for is an instrument runway or not i.e. a runway with an instrument approach to a circling minima only is a non-instrument runway and a runway with an instrument approach to a Minimum Descent Altitude (MDA) or Decision Altitude (DA) is an instrument runway.

3.3 Other factors that may influence an aerodrome operator to apply for certification

3.3.1 In the absence of a TIFP, an aerodrome operator may seek to certify their aerodrome should they choose to operate to the same safety standards as a regulated aerodrome in accordance with CASR Subpart 139.B.

3.3.2 An aircraft operator conducting air transport operations under CASR Part 121 may be subject to operational requirements that may also necessitate an aerodrome to become certified. This is a commercial decision between the aircraft operator and the aerodrome operator.

3.3.3 For guidance on the process to apply for an aerodrome certificate, refer to AC 139.B-01 'Applying for aerodrome certification'.

4 Scalable Certification Structure - Part 139 MOS

4.1 Certification standards are not the same for all aerodromes

4.1.1 CASA has introduced a scalable certification structure linked to the complexity of the aerodrome operating environment.

4.1.2 The trigger criteria that supports the scalable certification structure is based on:

- the number of air transport passengers per annum (financial year)
- the aircraft movement numbers per annum (financial year)
- scheduled international air transport operations at the aerodrome.

4.1.3 The management system provisions that are subject to these trigger criteria are:

- aerodrome technical inspections or validations (refer to AC 139.C-04 Aerodrome technical inspections)
- safety management systems (refer to AC139.C-26 Safety management systems for aerodromes)
- risk management plans (refer to AC 139.C-27 Risk management plans for aerodromes)
- aerodrome emergency plans / aerodrome emergency exercises (refer to AC 139.C-18 Aerodrome emergency planning)
- wildlife hazard management plans (refer to AC 139.C-16 Wildlife hazard management at aerodromes).

4.1.4 A table summarising the threshold criterion is provided in Appendix A to this advisory circular.

4.2 Data to support trigger criteria

4.2.1 The Part 139 regulations empower CASA to obtain available data on the number of aircraft movements from the aerodrome operator or Airservices Australia.

4.2.2 The aerodrome operator should implement a method to record aircraft movement numbers in order to ensure the aerodrome is being operated in accordance with the legislative requirements. It is expected each aerodrome operator would have an awareness of the movement rates at their aerodrome so that they can monitor their own activities against their compliance obligations.

4.2.3 Typically, an aerodrome will be clearly above or below the applicable threshold criterion.

4.2.4 The Bureau of Infrastructure, Transport and Regional Economics (BITRE) collects and publishes aviation statistics which include air transport passenger movement numbers for international, domestic and some general aviation activity. This information is available via the Department of Infrastructure, Transport, Regional Development and Communications website.

5 Aerodrome Facility Nominations & Operational Considerations

5.1 Introduction

5.1.1 Aircraft types and their intended operations will influence the design and operating standards of an aerodrome. It is therefore imperative when designing an aerodrome facility, the aerodrome operator considers the intended, or future aircraft types, and their operations to avoid:

- the intended aircraft operation being restricted or unable to operate safely
- the inability of the aerodrome to support upgrades, or the replacement of key facilities
- the inability of the aerodrome to support future innovations in aircraft performance and technologies
- an adverse effect on aviation safety.

5.1.2 Other characteristics, such as aircraft length, wingspan and tail height, may also impact on the design of the aerodrome. Therefore, the aerodrome operator should consider all relationships between the aircraft characteristics and the aerodromes infrastructure during the planning and design phase.

5.1.3 There may also be instances in which operations at the aerodrome need to be managed or limited to ensure safety. This may involve ensuring that hazards are suitably identified and mitigated; refer to AC 139.C-09 'Visual aids, markings, signals and signs' for guidance on hazard marking criteria, and to AC 139.C-10 'Aerodrome lighting' for obstacle lighting criteria.

5.1.4 It is also recognised that not all areas of the aerodrome will strictly align with the operational requirements of the critical aircraft type; refer to AC139.A-02 Aerodrome compatibility, for more information.

5.1.5 To best ensure the aerodrome infrastructure can support the desired aircraft operations, key aerodrome facility nominations and operational considerations are explained below.

5.2 Aerodrome reference code (ARC)

5.2.1 An aerodrome reference code (ARC) links the aerodrome design criteria to the operational and physical characteristics of an aircraft type. The aerodrome operator is required to nominate the design criteria for each facility so that aircraft operators can make informed decisions about the use of the facility.

5.2.2 The ARC in Australia consists of three elements:

- code number
- code letter
- outer main gear wheel span (OMGWS).

5.2.3 Each element is to be determined for each applicable aerodrome facility and may be applied independently or concurrently.

5.2.4 The code number ranges from 1 through to 4 and indicates the reference field length of the aircraft that the runway is intended to support. The code number is not intended to influence the actual runway length, or pavement strength requirements of the runway; it is intended to group aircraft of similar performance requirements into a coded system.

5.2.5 The code letter ranges from A through to F and relates specifically to the wingspan that the facility is intended to support. The code letter is applied to ensure adequate separation distances from the widest dimension of similar aircraft types to other aircraft or hazardous objects or obstacles.

5.2.6 The OMGWS may limit the ground-based manoeuvring capability of the aircraft and therefore it applies to the movement area pavements, including runways, taxiways and aprons.

5.2.7 The aerodrome operator is required to nominate and record in their aerodrome manual the applicable ARC for each runway including the associated OLS, taxiway and taxilane; refer to AC 139.C-01 'Aerodrome manual' for guidance on the details that are required to be recorded.

5.2.8 The aerodrome operator is also required to provide to the Aeronautical Information Service (AIS), the aerodrome reference code number and the OLS established for the runway, and the aerodrome reference code letter for each taxiway; refer to AC 139.C-05 'Aerodrome reporting and validation' for further guidance on the manner of reporting.

5.3 Runway instrument capability

5.3.1 For pilots operating under a terminal instrument flight procedure, the runway capability will be determined by the aerodrome operator based on the facilities at the aerodrome and the intended aircraft operations.

5.3.2 This determination has an impact on the physical characteristics and visual aid requirements which apply to the planning, design and operation of the movement area facilities, and the corresponding OLS, as the inner edge widths change depending on the capability of the approach.

5.3.3 Aerodrome facilities and procedures, including grandfathered provisions may limit the ability for a terminal instrument flight procedure to be published for that runway or may impact on the operating minima.

5.4 Runway visibility including runway visual range (RVR)

5.4.1 In an operational context, runway visibility (RV) or runway visual range (RVR) refers to the distance over which a pilot of an aircraft on the centreline of the runway is able see the runway surface markings that delineate the runway or identify the centreline. RV is determined via optical assessment and RVR is provided by calibrated approved meteorological equipment.

5.4.2 RV/RVR is an operational consideration to enable low visibility operations (arrivals and departures). The approach minima is determined by the procedure designer and the facilitation of low visibility operations is the responsibility of the aerodrome operator. From an aerodrome design context, the nominated RV or RVR will influence the applicable standards for aerodrome facilities including visual aids.

5.5 International operations

5.5.1 An international aerodrome is an airport designated by the Minister for Infrastructure and Transport in accordance with section 9 of the *Air Navigation Act 1920*.

5.5.2 A list of designated international airports in Australia, and applicable external territories, can be found on the Department of Infrastructure, Regional Development and Communications website.

5.5.3 Only international aerodromes with 'scheduled flights' are required to adhere to the trigger criteria for international aerodromes. Therefore, international aerodromes that are designated as an 'alternate', 'restricted use' and 'non-scheduled' are not intended to be covered under this nomination.

5.6 Aerodrome operational capability

5.6.1 There are two sets of rules for flying aircraft:

- visual flight rules (VFR)
- instrument flight rules (IFR)

5.6.2 IFR permits an aircraft to operate in instrument meteorological conditions (IMC), which enables the aircraft to operate safely in weather conditions less than visual meteorological conditions (VMC).

5.6.3 VFR allows pilots to fly in visual meteorological conditions. Night VFR allows pilots with a specific endorsement to operate aircraft in visual meteorological conditions at night, subject to certain conditions and mandatory procedures.

5.6.4 If the aerodrome is available for night operations and has a lighting system that complies with Chapter 9 of the Part 139 MOS, it will support night VFR operations.

5.6.5 If an aerodrome is intended to support IFR operations, then the applicable standards for instrument runways apply, unless the runway is served by an instrument approach with a circling minima only in which case the standards for non-instrument runways apply.

6 Grandfathering provision

6.1 What is grandfathering?

6.1.1 Grandfathering allows the operator of an existing certified, or an existing registered aerodrome, to maintain their aerodrome facility and the OLS of an existing runway, to the standard that applied:

- at the time the facility was constructed

  or
- if the facility had been replaced or upgraded since it was constructed, to the standard that applied to the facility at the time it was replaced or upgraded.

6.1.2 Grandfathering may be applied to any previous aerodrome standard such as:

- previous revisions of the Manual of Standards Part 139 - Aerodromes (Part 139 MOS)
- Rules and Practices for Aerodromes (RPA)
- Airways Engineering Instructions (AEI)
- Airport Instructions (API)
- Airport Engineering Instructions (APEI)

6.1.3 A grandfathered facility is an existing aerodrome facility (and for a runway, its associated obstacle limitation surfaces) that complies with the aerodrome standards that were in force immediately before commencement of the MOS, as long as the aerodrome manual documents how the facility does not comply with the MOS.

6.1.4 For these physical aerodrome facilities, including existing runways and their associated obstacle limitation surfaces, the standards in the revised Part 139 MOS only apply if the grandfathered facility is replaced, or upgraded, or not maintained in accordance with the requirements under the MOS for the same kind of facility. Until then, the standards that previously applied to the aerodrome facility continue to apply. However, for processes that are not physical aerodrome facilities, the standards in the revised Part 139 MOS apply to the operators of all existing aerodromes from the commencement date of the MOS.

6.1.5 Provided the grandfathering provision has been correctly applied and the required information is documented in the aerodrome manual, CASA will continue to recognise the standard that was in place at the time the facility was first built, or the standard which otherwise applied at the time it was last replaced or upgraded.

6.1.6 Grandfathered facilities will continue to have grandfathered status until they are next upgraded or replaced by the aerodrome operator.

6.2 Applying the grandfathering provision

6.2.1 To apply the grandfathering provision an aerodrome operator should be able to demonstrate that at the time the facility was constructed, or last replaced or upgraded, the facility complied with, and continues to comply with, the standards that were in effect at that time.

6.2.2 A facility that has been replaced or upgraded after it was originally built, cannot be retrospectively grandfathered to the initial standard that applied when the facility was first built.

6.2.3 For a facility to be recognised as being grandfathered, the operator's aerodrome manual is required to:

- identify the facility/OLS
- detail how the facility/OLS does not comply.

6.2.4 In addition to, and for evidentiary purposes, it is recommended that the aerodrome operator maintain a record of the following information:

- the date the facility was constructed, last replaced or upgraded
- the previous standard to which the facility complied with and continues to comply with.

6.2.5 For a facility to be grandfathered the rules require a record of that facility to be maintained in the operator's aerodrome manual. Facilities that are not documented in accordance with the legislative requirements may not be covered under the grandfathering provision.

6.2.6 Subject to appropriate recording in the aerodrome manual, grandfathering does not require a safety case.

6.2.7 A flow chart summarising the grandfathering provision is provided in Appendix B to this AC.

6.3 Circumstances in which grandfathering does not apply

6.3.1 Subject to transitional provisions, grandfathering provisions will not apply to new aerodromes.

6.3.2 The grandfathering provision can only be applied to actual physical facilities and the OLS applicable to an existing runway, and therefore does not extend to include:

- systems and processes
- matters of non-compliance.

6.3.3 While maintaining ground markings is considered maintenance, the grandfathering provision will no longer apply from the nominated date in which a marking (i.e. runway holding position markings) is required to be updated. As the enhancement of these markings provides a superior safety outcome, CASA recommends that the aerodrome operator establishes a program to ensure existing markings are bought into compliance with the revised standard as soon as practicable.

6.3.4 If an existing regulated aerodrome does not transition upon commencement of the new rules, or if the aerodrome ceases to be certified at any point after the commencement of the new rules, they will be considered a new aerodrome and grandfathering provisions will not apply if they seek certification at a later date.

6.3.5 Facilities that don't comply with the revised Part 139 MOS, and are not able to be grandfathered, are non-compliant against the Part 139 MOS.

7 Upgrading or replacing an existing aerodrome facility

7.1 Introduction

7.1.1 Where an aerodrome operator decides to change a facility, or alter the operating capability of the aerodrome, the aerodrome operator is required to bring those specific elements of the facility that are impacted by the change into full compliance with the revised Part 139 MOS. All other elements of the facility that are not being changed, or are not impacted by the change, can remain grandfathered until they themselves are either replaced or upgraded provided that the operation and maintenance of the existing grandfathered facility does not negatively impact the safe operation of an aircraft.

7.1.2 CASA may direct an aerodrome operator to upgrade their facility to comply with the standards in the revised Part 139 MOS.

7.2 Case examples

7.2.1 Example 1: An aerodrome operator decides to introduce scheduled international air transport operations

7.2.1.1 In this situation the aerodrome facility is required be upgraded so that all elements of the revised Part 139 MOS that are applicable to aerodromes with scheduled international operations are bought into compliance, these include:

- provision of a 150m graded runway strip width
- provision of a 240m runway end safety area (RESA) at each runway end
- runway surface friction levels are to be continuously achieved (use of an ICAO accepted continuous friction measuring device is mandatory)
- if the threshold is temporarily displaced, provision of runway threshold identification lights (RTILs) are required
- provision of applicable movement area guidance signs (MAGS)
- if an aerodrome beacon is provided it must give 2 alternating flashes, 1 white and the other coloured green
- provision of a T-VASIS or a double sided PAPI
- distribution of apron floodlighting across a 3-phase power supply system.

7.2.1.2 Although not mandatory, CASA recommends an operator intending to introduce scheduled international operations also considers:

- if the threshold is permanently displaced, identifying the threshold location with runway threshold identification lights (RTIL)
- providing A-VDGS on all parking positions equipped with a passenger loading bridge.

7.2.1.3 Other grandfathered elements of that same facility that are not directly applicable to scheduled international operations can remain grandfathered to the applicable standard.

7.2.1.4 As systems and processes are not subject to grandfathering, the following requirements associated with the introduction of scheduled international operations are also required to be addressed:

- for each apron with international operations, the aerodrome manual must be updated to include the following information:
  - location, elevation and designation of each aircraft parking position or stand
  - details of any parking guidance provided
  - location and coordinates of all primary and secondary parking positions.
- for each apron with international operations, the AIS must be provided with the following information for publication in the AIP:
  - location, elevation and designation of each aircraft parking position or stand
  - details of any parking guidance provided
  - location and coordinates of all primary and secondary parking positions.
- preparation and publication of a Type A chart
- obstacle lighting inspection requirements (if applicable, at least once in every 24-hour period
- establishing and implementing aircraft parking control procedures
- ensuring that airside vehicles operating airside are fitted with a dedicated rotating, or flashing vehicle hazard light, meeting the specifications prescribed in the Part 139 MOS.
- prior to the commencement of scheduled international operations:
  - establishing an aerodrome emergency committee
  - developing an aerodrome emergency plan
  - developing a safety management system that addresses all elements applicable to aerodromes with international operations.

7.2.2 Example 2: An aerodrome operator is approached by an aircraft operator to change the operating capability of the sealed runway from a Code 3 non-instrument runway to a Code 3 instrument runway (non-precision or precision)

7.2.2.1 In this situation all elements of the standards that are applicable to an instrument runway must be complied with:

- minimum separation distances between runway centreline and taxiway centreline must be increased, likewise the separation distances for parallel runways (if applicable)
- flyover area to be established and incorporated in total strip width requirement (280m overall runway strip would need to be met)
- resurvey the approach and take-off surfaces in accordance with the revised approach and take-off dimensions
- establish additional OLS surfaces required for a precision approach runway:
  - outer horizontal surface
  - inner approach surface
  - inner transitional surface
  - baulked landing surface.
- new runway centreline marking width requirements to be met

- aiming point markings to be provided based on type of instrument classification
- the provision of a wind direction indicator may be required at the threshold of an instrument runway
- upgrade runway edge lighting to meet the maximum longitudinal spacing intervals of 60m.

7.2.2.2 Although not mandatory, CASA recommends an operator intending to introduce instrument runway capability provide aiming point markings on a runway that is 30m wide, or less than 1500m.

7.2.2.3 Systems and processes are not subject to grandfathering, therefore the following elements associated with the introduction of an instrument runway classification are also required to be addressed:

- for each instrument runway, updating the aerodrome manual with the following information:
  - geographic location coordinates of the threshold
  - elevation of the midpoint of the runway threshold.
- for each instrument runway, providing the AIS provider with the following information for publication in the AIP:
  - geographic location coordinates of the threshold
  - elevation of the midpoint of the runway threshold.
- establishing procedures for the monitoring and reporting of obstacles associated with the instrument procedures, and including those procedures in the aerodrome manual
- runway lighting systems for instrument runways must be commissioned by a flight check (in addition to all runway lighting systems requiring a ground check).

7.2.3 Example 3: An aerodrome operator installs lighting on a Code 3 non-instrument runway which only has a 90m strip

7.2.3.1 The provision of lighting does not in itself change the size or performance of aircraft operations on that runway and therefore, means that the strip can remain grandfathered. The lighting system itself, however, must meet the revised standards.

7.2.3.2 This example assumes the existing 90 m strip has been grandfathered as it complied with the standard in effect at the time the aerodrome was constructed (normally a 150 m strip would be required).

7.2.4 Example 4: The operator of an existing certified aerodrome is considering upgrading their facility from a non-precision instrument code 3C to a non-precision instrument code 4C in order to accommodate larger aircraft type

7.2.4.1 In this situation all elements that relate to the code number 4 would be required to be upgraded to meet the new standards, this would include:

- adhering to the new minimum runway strip width requirements (graded and flyover)
- adhering to the longitudinal slope values as they apply to individual segments of a code 4 runway, and runway strip
- a preferred RESA length of 240 m should be provided. Unless scheduled international operations are being introduced, if a 240m RESA cannot be provided,

then a record is required to be made in the aerodrome manual, and the provision of a minimum 90 m RESA is to be adhered. A RESA must, as a minimum, be twice the width of the associated runway. If the runway is introducing scheduled international operations a 240 m RESA would be required.

7.2.4.2 The standards related to the other elements of the facility that are not applicable to code 4 can remain grandfathered to the former standard.

7.2.5 Example 5: The operator of an existing certified aerodrome is considering upgrading their facility from a code 3C to a code 3D facility

7.2.5.1 In this situation all elements that relate to the code letter D would be required to be upgraded to meet the new standards.

- runway shoulders are required to be introduced (mandatory for code D, E or F runways)
- for applicable taxiways the following dimensions must not be less than the code D specifications:
  - taxiway shoulders
  - width of taxiway strip on each side of the taxiway
  - width of graded area of taxiway strip
  - taxiway/taxilane separation distances
  - separation distances for an aircraft from an object, structure or parked aeroplane.

7.2.5.2 The standards related to the other elements of the facility that are not applicable to code D can remain grandfathered to the former standard.

7.2.6 Example 6: An aerodrome operator is conducting routine maintenance of their apron line marking. The standard for the marking in the revised Part 139 MOS has changed, does the aerodrome operator need to alter the marking to comply with the new standard?

7.2.6.1 Where the aerodrome operator is merely applying paint to an existing marking to ensure the marking remains visible, then this is considered a like for like replacement on the existing surface in the form of maintenance and does not require any change.

7.2.6.2 However, if the surface to which the marking is located is subject of an overlay or surface enrichment which would otherwise obscure the existing marking(s), then the marking(s) are considered to be a replacement even if the intent is to remark the markings in the former identical location. Whilst the pavement may not be upgraded, the application of new markings is a replacement and must follow the Part 139 MOS.

8 'Opting in' to the revised standards

8.1 Introduction

8.1.1 An aerodrome that has a facility that has grandfathering status may choose to, in the absence of an upgrade or replacement, revoke the grandfathered status and opt-in to the revised Part 139 standard if the revised standard:

- better aligns with their operational requirements
- provides a safety enhancement
- affords regulatory relief.

8.1.2 By electing to opt-in to the revised standard, the applicable facility will be bound to the revised standard and cannot be grandfathered to a previous standard.

8.2 What must I do if I want to opt-in to the revised Part 139 standard?

8.2.1 To opt-in to a standard in the revised Part 139 MOS, the aerodrome operator is required to:

- inform CASA in writing of their intention to opt in, the date of effect must also be provided
- record in the aerodrome manual the date and the facility
- remove references to the grandfathering status of that facility from the aerodrome manual.

8.2.2 The aerodrome operator should maintain a record of CASA's written acknowledgement.

9 Management of non-compliant facilities

9.1 Non-application of the standards

9.1.1 Part 11 of CASR, in conjunction with the Part 139 MOS, permits CASA to provide aerodrome operators with an approval or exemption to the standards in the Part 139 MOS that are not otherwise covered under the grandfathering provisions.

9.1.2 Enduring approvals may be more suitable than an exemption for matters that cannot be bought into compliance within a 3-year period. For guidance on the process to apply for an approval or an exemption, refer to AC139.A-04 Applying for aerodrome authorisations, exemptions and approvals.

9.1.3 CASA's consideration of such a request will depend on the supporting safety case which provides a risk-based analysis of the site-specific situation and includes reasoning as to why the applicable standard cannot be achieved.

9.1.4 Instruments of exemption or approval issued to the aerodrome operator are to be recorded in the aerodrome manual.

10 Identification and management of non-preferred elements

10.1 Introduction

10.1.1 The revised Part 139 MOS may provide multiple options for compliance in the form of a standard which is intended to provide aerodrome operators with additional flexibility.

10.1.2 Unless otherwise stated, where the preferred means is impractical, the minimum values are required to be achieved, and maximum values cannot not be exceeded.

10.2 What must I do if it is impracticable to achieve the preferred matter, thing or value?

10.2.1 Where a preferred matter, thing or value stipulated in the revised Part 139 MOS cannot be achieved, the aerodrome operator is to record the following information in their aerodrome manual:

- a statement to that effect
- the reason for non-compliance
- the alternative matter, thing or value that is complied with.

10.2.2 Where a preferred standard is not met, unless otherwise explicitly stated a safety case is not required.

Appendix A

Threshold criteria - scalable certification structure

Scalable certification structure - Air transport passenger numbers (financial year)

Note: Must be considered concurrently with aircraft movement numbers (refer bottom of table).

Requirement	0 < 10 000	10 000 < 25 000	25 000 < 50 000	50 000 < 350 000	350 000 +	International
Safety / risk management * Review concurrently with items (1) and (2)			Risk management plan	Safety management system		ICAO Annex 19 Safety management system
Technical inspections * Review concurrently with items (6), (7) and (8)	Validation only	Split technical inspection (some elements may be conducted bi-annually)		Full technical inspection		
Emergency Plan * Review concurrently with item (3)	May be covered under local emergency management arrangements			Aerodrome Emergency Plan		
Emergency committee					Aerodrome Emergency Committee	
Emergency preparedness * Review concurrently with item (4)	Emergency induction program			Emergency exercises (modular testing / full scale exercise)		
Wildlife hazard management * Review concurrently	Wildlife hazard management plan recommended where a high wildlife risk exists at the aerodrome			Wildlife hazard management plan***		

Requirement	0 < 10 000	10 000 < 25 000	25 000 < 50 000	50 000 < 350 000	350 000 +	International
with item (5)						

Aircraft movement numbers (financial year)

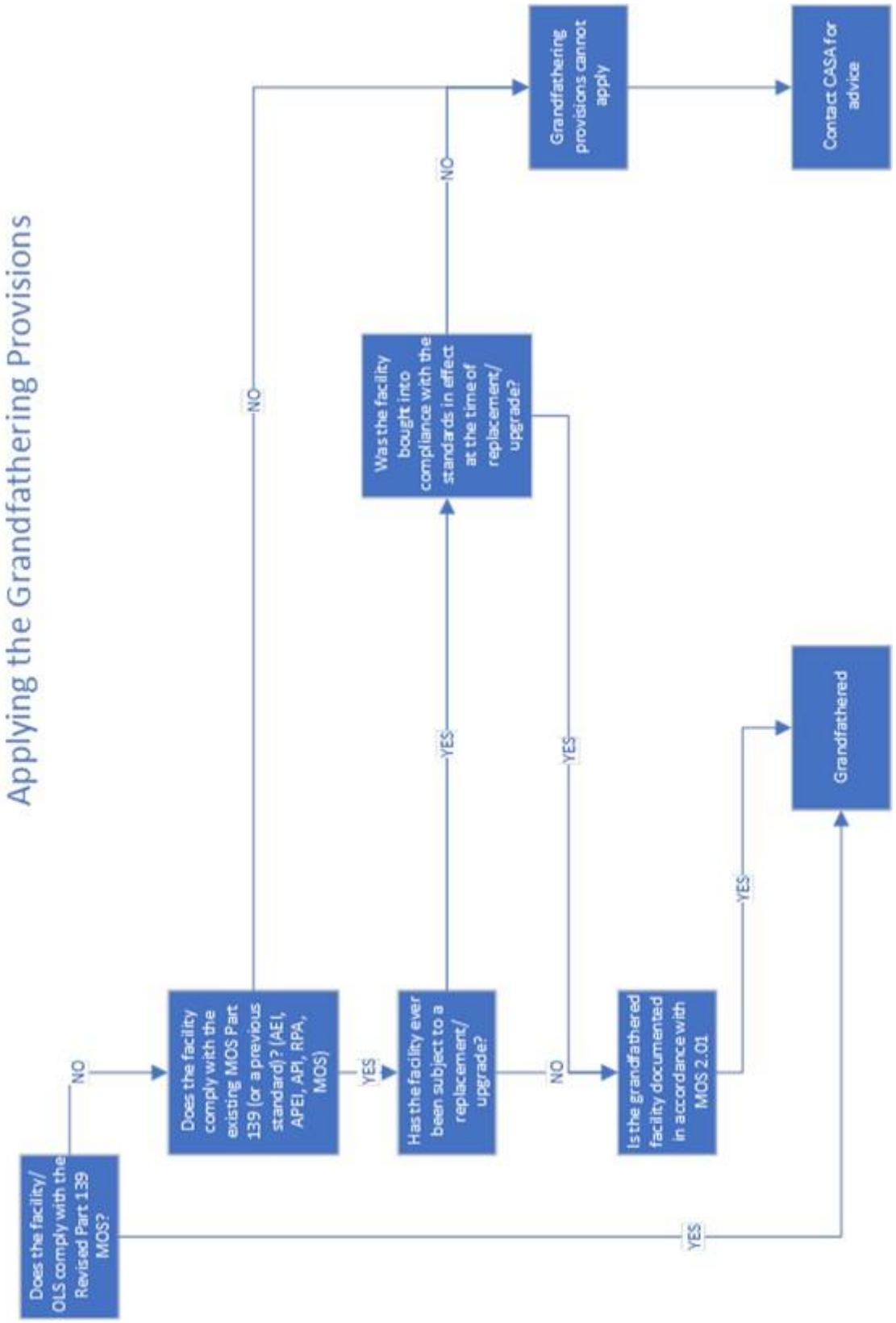
Note: Must be considered concurrently with air transport passenger numbers (refer top of table)

*** for international aerodromes - where the passenger/aircraft movement rates apply or there is a high wildlife risk

1. Risk management plans are required for more than 20 000 up to but not including 50 000 aircraft movements.
2. A safety management system is required for 100 000 or more aircraft movements.
3. An Aerodrome Emergency Plan is required for 100 000 or more aircraft movements.
4. Emergency exercises (modular testing / full scale exercise) is required for 100 000 or more aircraft movements.
5. A wildlife hazard management plan is required for 100 000 or more aircraft movements.
6. Annual validations are required for aircraft movement numbers below 20 000.
7. ‘Split’ Technical Inspections are required for 20 000 or more up to but not including 100 000 aircraft movements.
8. Technical Inspections are required for 100 000 or more aircraft movements.

Appendix B

Applying the grandfathering provisions


Applying the Grandfathering Provisions
Does the facility/ OLS comply with the Revised Part 139 MOS?
NO
YES
Does the facility comply with the existing MOS Part 139 (or a previous standard)? (AEI, APEI, API, RPA, MOS)
NO
YES
Has the facility ever been subject to a replacement/ upgrade?
NO
YES
Was the facility bought into compliance with the standards in effect at the time of replacement/ upgrade?
NO
YES
Is the grandfathered facility documented in accordance with MOS 2.01
YES
Grandfathering provisions cannot apply
Contact CASA for advice
Grandfathered