

CIVIL AVIATION
SAFETY AUTHORITY
AUSTRALIA

Summary of Responses to NPRM 0112AS

Aerodrome Certification and Operation

Civil Aviation Safety Regulation (CASR) Part 139

Readers should note that this Summary of Responses outlines CASA's agreed policy and intended legislative changes and finalises the public consultation process in respect of this NPRM.

Only under extreme or unusual circumstances will CASA consider views or arguments opposing the views expressed in the Summary of Responses.

Any member of the public having views or arguments to support an appeal against the decisions documented in this Summary of Responses may petition CASA to consider such an appeal.

Issued as part of the process of public consultation
by CASA's Standards Administration and Support Branch

Document SOR 0112AS – March 2003

Foreword

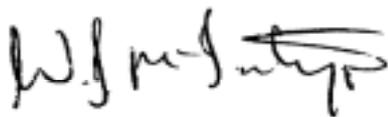
On 21 September 2001 the Civil Aviation Safety Authority (CASA) released for public comment, Notice of Proposed Rule Making - *NPRM 0112AS* entitled *Aerodrome Certification and Operation – Proposed CASR Part 139*. This NPRM proposed to provide, as far as possible, a set of rules which taken in their entirety, promote the safety of aircraft operations at aerodromes, minimise the costs to the industry and CASA, meet the International Civil Aviation Organization (ICAO) requirements and are consistent with those of other leading aviation States. The majority of those States rely, as does Australia, on the ICAO Annex 14 Standards and Recommended Practices for the technical content of the regulations.

The NPRM contained proposed legislative changes (Part 139), a draft Manual of Standards (MOS) and the consolidated results of previous consultation conducted through a Discussion Paper (DP 0004AS) on aerodrome certification and operation. The period for public comment on the proposals contained in the NPRM closed on 16 November 2001. However this period was extended to end 2001 following requests from the aviation community.

At the closing date, CASA had received thirty-five (35) responses to the NPRM. The overall responses favoured the proposed legislation, but quite a few suggestions were made to improve the legislation and requests to clarify effect on individual cases was received.

This Summary of Responses (SOR) presents CASA's evaluation of each comment received, together with the consequent disposition of the final legislative changes.

I would like to thank everyone who has taken the time to respond to the NPRM. The final legislative changes when made will, to the greatest extent possible, reflect the content of comments received.



Bill McIntyre
Executive Manager
Aviation Safety Standards

28 March 2003

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Analysis of Comments

1. Background

1.1 In September 2001, Notice of Proposed Rule Making NPRM 0112AS, which formally invited public comment on the proposed CASR Part 139 – Aerodromes. This NPRM proposed to provide, as far as possible, a set of rules which taken in their entirety, promote the safety of aircraft operations at aerodromes, minimise the costs to the industry and CASA, meet the International Civil Aviation Organisation (ICAO) requirements and be consistent with those of other leading aviation States. The majority of those States rely, as does Australia, on the ICAO Annex 14 Standards and Recommended Practices for the technical content of the regulation.

1.2 The proposed CASR Part 139 sought to prescribe the requirements for the certification and operation of aerodromes used in air transport operations. CASR Part 139 is supported by a Manual of Standards (MOS), which sets out the aerodrome technical standards. A series of Advisory Circulars are planned to provide guidance information to facilitate compliance with the regulation and MOS.

1.3 As part of the consultation process, a team of specialists from CASA's Airspace, Air Traffic and Aerodrome Standards Branch initiated and attended a number of public forums around the country to explain in person the new aerodrome regulatory system and significant changes. Venues visited include Sydney, Melbourne, Brisbane, Adelaide, Perth, Darwin, Hobart, Launceston, Townsville and Latrobe Valley. In general, these forums were well received and provided participants with a better understanding of what CASA is intending to do and allowed CASA to get a good feedback of industry concerns and aspirations.

2. Purpose

2.1 The purpose of this Summary of Responses (SOR) is to provide a consolidation of comments on the NPRM, to provide CASA's responses to those comments, and to advise the revisions to the proposals resulting from the NPRM process.

3. Analysis

3.1 Thirty-five written responses were received. Of these, the majority indicated outright support of the proposed changes or conditional support subject to addressing a number of concerns. A number of respondents asked for clarification. There were also a number of voluminous comments covering many topics and providing some good advice and suggestions.

3.2 This SOR discusses the comments received and provides a disposition of those comments. Due to the volume of comments, comments of an editorial or minor nature where adopted are not included in this SOR. The rationale for not agreeing to certain comments is also provided.

4. Disposition

4.1 A summary of disposition of comments for each proposed rule and for the standards in the Manual of Standards (MOS – Part 139) appears below the CASA response to those comments in the paragraphs that follow. The resulting draft rule CASR Part 139 and the MOS – Part 139 resulting from the NPRM process are included in this SOR at Annex A. Provision of both a summary of disposition of comments and the resulting revised draft rule CASR Part 139 and MOS – Part 139 is considered to be the most thorough way of illustrating how the comments received have been taken into account and how the proposed material has been further developed.

4.2 The disposition of individual comments was as follows and the percentage disposition is shown in Figure 1 below:

Disposition of Comments	No. of Comments
Acceptable without change	5 = 14%
Acceptable with change	15 = 43%
Not Acceptable	0 = 0%
Not acceptable unless changed	7 = 20%
Not stated	8 = 23%
	Total = 35

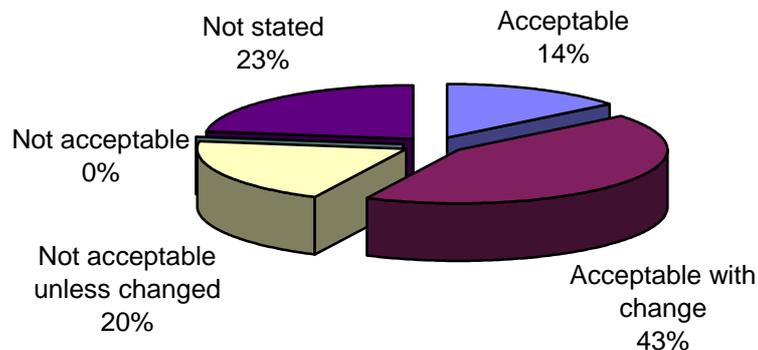


Figure 1

Disposition of Comments

4.3 The salient points of the responses were:

- No opposition to the new aerodrome certification program or the new MOS 139;
- No opposition to the aerodrome registration system;

- A number of Charter operators and mining companies sought clarification on the proposed CASR Part 139. Clarification was given and no report of concern; and
- Requested for consideration of individual cases from two aerodrome operators on RESA implementation. This will be addressed when the aerodrome operator develop their implementation strategies. It should be noted that CASR Part 139 contains a provision for exemption of regulations and standards, where justified.

4.4 The distribution of those comments, grouped against a comment topic, is shown in Figure 2 below.

COMMENT TOPIC		
Proposed Part 139 - rules	Number of comments 44	See following pages 11-25
Draft MOS – Part 139 - General	Number of comments 6	See following pages 27-28
Draft MOS – Part 139 - Specific	Number of comments 282	See following pages 29-122

Figure 2
Distribution of Comments

5. Conclusion

5.1 All of the comments received have been evaluated by CASA. The comments were wide-ranging and several have been accepted by CASA, in particular some of those proposed in the draft Manual of Standards Part 139.

5.2 The finally proposed version of CASR Part 139 is at Annex A.

5.3 The final version of the MOS – Part 139 is at Annex B to this SOR.

5.4 Existing legislative requirements about aerodromes are set out in Part 9 of the *Civil Aviation Regulations 1988*. Under these provisions, aerodromes that are used in regular public transport operations by aircraft certified to carry more than 30 passengers or which have a payload of more than 3,400 kg, are required to be licensed. Under CASR Part 139, this same requirement will be extended to aerodromes that are used in any air transport operations, i.e. for both regular public transport operations and charter operations. Examples are aerodromes serving mining companies currently used by aircraft conducting charter operations.

5.5 Under CASR Part 139 existing, aerodrome “licences” will be replaced by aerodrome “certificates”. This is in line with the practice of the International Civil Aviation Organization (ICAO) under which individuals are licensed whereas facilities and organisations are certified.

5.6 Although the existing legislative scheme allows other aerodromes to be licensed, the burden of complying with all the licensing requirements does not make it a practical option for smaller aerodromes. CASR Part 139 will provide an alternative registration regime whereby aerodromes that are not required to be certified can become registered when they meet certain specified standards and quality assurance criteria.

The creation of this category of aerodromes is intended to provide pilots with some assurance of their safety status. Canada has a similar two-tier aerodrome certification and registration system.

5.7 The aerodrome registration system will not be mandatory. Operators of aerodromes used in air transport operations, which are not required to be certified, can remain outside the aerodrome regulatory system. The existing regulatory regime puts the onus on air operators to ensure that those aerodromes meet specified standards and are safe for their intended operations. However, to ensure that those aerodromes used with some regularity in air transport operations attain a reasonable standard, the Regulations will require operators of specified aerodromes to comply with several safety measures in relation to checking, and notification to aircraft operators, of aerodrome conditions. Such operators will also be required to submit an aerodrome safety inspection report to the CASA on an annual or periodic basis.

5.8 CASR Part 139 will require operators of certified aerodromes to implement a Safety Management System (SMS) at their aerodromes. To facilitate a smooth introduction, the SMS requirement will only apply to aerodromes used in international operations in the first instance and will apply from 1 November 2005. For aerodromes used in domestic operations, the SMS will only apply from 1 January 2007. This is in line with the International Civil Aviation Organization (ICAO) requirements.

5.9 CASR Part 139 contains a number of provisions in relation to aerodrome requirements, which have been implemented in the form of standards. To comply with the principle that requirements are to be prescribed in regulations, Part 139 will include the following provisions:

- appointment and training of aerodrome reporting officers;
- appointment and training of works safety officers;
- provision of visual approach slope indicator (VASI) system;
- flight and specialist checking of aerodrome lighting systems, including VASI systems;
- aerodrome emergency planning;
- aerodrome serviceability and technical inspections; and
- planning and execution of aerodrome works.

5.10 CASR Part 139 will also introduce an approval scheme for persons who wish to conduct safety inspections of aerodromes and prepare aerodrome safety inspection reports for aerodromes which are required to submit such reports. This will allow private sector aerodrome specialists, who meet specified qualification criteria, to carry out the inspection function subject to CASA oversight.

5.11 CASR Part 139 calls up a Manual of Standards (MOS) which contains the technical specifications and standards required of individual aerodrome facilities and procedures.

5.12 A number of offences in CASR Part 139 are strict liability offences. Those offences carry a penalty of no more than 50 penalty units and the physical elements of those offences do not have any express fault elements.

5.13 In conclusion, the introduction of *CASR Part 139 – Aerodromes*, is expected to achieve the following:

- Extends Aerodrome licensing requirements to cover all aerodromes used in air transport operations by aircraft exceeding 30 passenger seats or 3400kg payload;
- Now includes aerodromes owned by mining companies used in closed charter operations in the regulatory framework;
- Introduces a new aerodrome category called Registered Aerodromes enabling current unlicensed aerodromes to have their operational data published in Aviation Information Publication (AIP) Enroute Supplement Australia (ERSA) and changes put on Notice to Airman (NOTAM);
- Introduces an accreditation system to approve persons providing specialist services to registered aerodromes. Report of annual safety inspection of registered and other aerodromes by an approved person to be submitted to CASA;
- Replaces existing Rules and Practices for Aerodromes by a new Manual of Standards – Part 139;
- Introduces MOS – 139 to specify the standards for aerodromes handling aircraft of 9 or less seats operating under Part 121B;
- Introduces ICAO standards on runway end safety area (RESA) and runway surface friction measurement at aerodromes used in international operations;
- Licensed aerodromes to be known as Certified Aerodromes in accordance with ICAO convention, which will be required to adopt a safety management system; and
- Standards to be prescribed for aerodromes required to provide a ground based communications system, including Aerodrome Frequency Response Unit, Unicom, and Certified Air Ground Operator Services.

5.14 The benefits flowing from CASR Part 139 are expected to:

- Enhance safety, initially at international aerodromes but later all certified aerodromes, with the introduction of a safety management system and for wet weather operations with the upgrade of the RESA and runway friction measurement standards;
- Allow currently unlicensed aerodromes to achieve a consistent level of standard if they choose to be registered;
- Enhance aerodrome professionals, as they will be formally approved by CASA to provide aerodrome inspection services; and
- Enhance the safety of air travellers to regional aerodromes particularly those engaged in mining operations.



6. Implementation and review

6.1 CASR Part 139 will be submitted to the Minister for Transport and Regional Services for approval and is expected that the Governor-General, in council, will make the Regulation in April 2003 with a planned commencement date of 2 May 2003.

6.2 An implementation/transition plan for CASR Part 139 will begin on rule making. The implementation/transition phase provides for Australia wide education and training programs, the development and approval of necessary (operational) manuals, the adjustment of delegations/authorisations, changes to regulatory services fees/charges, development and approval of procedures and the application of new rules.

6.3 The monitoring and review of the new regulations will be conducted on an ongoing basis during the implementation/transition phase. Thereafter, following the commencement of the regulations, monitoring and review will be conducted on an as required basis and (within 5 years) as required by the Government.

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Comments relating to the Proposed Rule Change Civil Aviation Safety Regulation (CASR Part 139)

Introduction

The format of the summary is firstly, comment received, secondly, the CASA response and, thirdly, a summary of disposition of that comment. Where substantial comment was received on a particular subject only samples typical of such comment are shown to keep the document to a manageable size; however, all comments received have been read and evaluated. Italic text in Annex A identifies changes to the original draft rule and MOS – Part 139 resulting from the NPRM process.

Comment 1 – NPRM ref. 139.005, Applicability of this Part

In sub-paragraph (c) there is reference to the obligations of aerodrome operators in relation to rescue and fire-fighting services. There is no further direct reference to rescue and fire fighting services but only to the role of such a service as part of the emergency committee and response. The reference should be deleted.

CASA Response

The requirements for rescue and fire fighting services are covered under CASR Subpart 139H – Aerodrome Rescue and Fire Fighting Services. CASR 139H was developed in an earlier and separate NPRM, but when duly promulgated, the contents will be included in CASR Part 139.

Disposition

No change.

Comment 2 – NPRM ref. 139.020, Access to aerodromes

There should be a definition of an “authorised person” including identification requirements for that person. Also, in the event of multiple visits to a facility there needs to be a relief mechanism to ensure that the number of visits is reasonable.

CASA Response

The definition of an “authorised person” appears at the general definition section of the Civil Aviation Regulations. The comment of need for identification is agreed and will be incorporated in the regulation. The comment on need for relief mechanism to ensure that the number of visits of authorised persons be reasonable is not agreed. In the administration of the CAR, CASA has an obligation to do so in a reasonable manner. Any aggrieved person can appeal to the Administrative Appeals Tribunal or other Commonwealth legal jurisdiction if the action of the authorised person is deemed unreasonable.

Disposition

The access to aerodrome provision will include the identification of authorised person requirements.

Comment 3 – NPRM ref. 139.025, Aerodromes with non-precision approach runways to be certified or registered

The regulation should provide a definition for non-precision approach (NPA) runways. Aerodrome operators have little control over who may develop or provide a NPA procedures. What happens if a NPA procedure is forced on an aerodrome that does not meet registered aerodrome standards?

CASA Response

Agreed with the provision of a definition for NPA runways. The requirement for an aerodrome used in air transport operations to be certified or registered to have a NPA procedure is based on safety considerations. If the operator of an aerodrome is not prepared to be certified or registered, then air transport operations to that aerodrome will be denied NPA procedures. The standards and procedures for the provision of NPA procedures and how pilots made use of such procedures are addressed in other CASR Parts.

Disposition

A definition of non-precision approach runway has been incorporated in the CASR Part 139.

Comment 4 – NPRM ref. 139.026, No effect on operation of Airports (Protection of Airspace) Regulations 1996 or Airports (Building Control) Regulations 1996

There is a need for correlation between CASR Part 139 and the Airports (Protection of Airspace) Regulations. In particular the aerodrome operator could be given some statutory power to control or prevent bird hazard. Also, the Airports (Control of ON-Airport Activities) Regulations should be included.

CASA Response

Advice from legal drafter (AGD) is that regulations do not co-relate with other regulations. Where an aerodrome is subject to another regulations, e.g. the Airports (Protection of Airspace) Regulations, the aerodrome operator has to also comply with those regulations. The CASRs cannot be used to override other legal jurisdictions. In implementing procedures to minimise bird hazard, aerodrome operators need to take into account relevant legislations, which may impinge on their procedures, e.g., environmental or protection of wide life legislations. The suggestion that the Airports (Control of On-Airport Activities) Regulations be included is agreed.

Disposition

Include in the list Airports (Control of On-Airport Activities) Regulations but no correlation between regulations.

Comment 5 – NPRM ref: 139.072, Suspension and cancellation by CASA

In the event that this clause is invoked, what is the appeal process to a CASA decision?

CASA Response

The appeal process is through the Administrative Appeals Tribunal.

Disposition

No change.

Comment 6 – NPRM ref: 139.090, Form of aerodrome manual

The requirement to include in the manual non-applicable items that have been checked and agreed by CASA inspectors appears to be a waste of time and effort. This is just stating the obvious.

CASA Response

Disagreed. As specified in the regulation, the items for the aerodrome manual has necessarily to be all inclusive even though some of these may not be applicable to certain aerodromes. However, unless it is clearly recorded in the manual, there is no way of ascertaining whether each item has been properly assessed. A formal record of why a particular item is assessed as not applicable is useful should the need for justification arises.

Disposition

No change.

Comment 7 – NPRM ref: 139.110, Aerodrome manual controller

The name of the aerodrome manual controller should be included within the manual. It is suggested that this be included in the Particulars of the aerodrome administration.

Another comment is that whilst the manual may be distributed via a central coordinator, the contents of the manual must fundamentally remain with those persons that are qualified and in position to certify that the information is true and correct.

CASA Response

Agreed with the suggestion to include aerodrome manual controller details in the manual. In the case of the second comment, the aerodrome manual controller is not intended to be responsible for all the contents of the manual, but only to ensure its accurate status and where copies of the manual or parts thereof are made and distributed, the role of the controller is to ensure that all users of the manual are provided with up-to-date version of the manual.

Disposition

The requirement for details of the aerodrome manual controller has been included in Appendix 1 to paragraph 139.095(1)(b).

Comment 8 – NPRM ref: 139.120 and 139.125, Reporting officer and Works safety officer

Will the recommended competency training standards for those officers, developed by AAA/CASA be referenced in the MOS?

CASA Response

Yes. In fact the reference appears in the draft MOS 10.1.3.

Disposition

No change.

Comment 9 – NPRM ref: 139.125, Works safety officer

There is a need to make a distinction between construction works and time-limited works.

CASA Response

Agreed. This clause requires re-wording to distinguish construction type of aerodrome works and maintenance type of time-limited works.

Disposition

This clause, to distinguish construction aerodrome works and time-limited works, has been re-worded.

Comment 10 – NPRM ref: 139.140, Notice of deviation

The 30 days period for notification is too long and may jeopardise CASA's ability to provide quick response if changes are deemed inappropriate.

CASA Response

Disagreed. The 30 days appears a reasonable period taking into account the time required to process changes and prepare notification.

Disposition

No change.

Comment 11 – NPRM ref: 139.145, Notice of changes in physical condition etc of aerodrome

It is often not practicable for the aerodrome operator to give written notice immediately to NOF and ATC as the immediate notification may be given verbally.

Another comment is that the word aerodrome should be replaced by movement area or manoeuvring area as Airservices does not accept NOTAMs for matters arising on aprons or taxiways.

CASA Response

Agreed with the first comment. The regulation needs to recognise that immediate notification may be given verbally. Disagreed with the second comment. Details of what should be NOTAMed are contained in the MOS. The NOTAM procedures are developed jointly with Airservices – the principle is to provide pilots with timely advice of changes which may affect their operations, but not to overload the system to the extent whereby non-essential information is allowed to crowd out the more critical information.

Disposition

The clause to allow verbal notification ahead of the written one has been re-worded.

Comment 12 – NPRM ref: 139.155, Physical characteristics of movement area

The standards proposed for transverse slopes and, during works, longitudinal ramps on runways and taxiways are too prescriptive. Suggest a tolerance range of percentage be considered to minimise contravention of regulation and subsequent penalty.

CASA Response

The relevant standards set out in MOS are in accordance with ICAO Annex 14 and are meant to provide a safe runway for aircraft operations. In relation to transverse slopes at intersections, it is acknowledged that a particular intersection design may require a local variation.

Disposition

A note has been included in the MOS paragraph 6.2.8.1 to state that the traverse slope standard need not apply at intersections.

Comment 13 – NPRM ref: 139.160, Aerodrome markings

What about markings intended for others such as drivers of vehicles and ground staff?

CASA Response

Agreed. The standard requirement is that the markings be clearly visible to those that the markings are intended.

Disposition

This regulation (139.160) has been re-worded to make the intent clearer.

Comment 14 – NPRM ref: 139.175, Visual approach slope indicator system

There is no reference to the requirement for periodic flight inspections for revalidating a T-VASIS system.

Another comment is that there is no definition of the term regularly.

CASA Response

Aerodrome operators are required, under technical inspections, to periodically check the T-VASIS, but not by flight check. A flight check is only required if the T-VASIS undergoes substantial change and needs to be commissioned again. The dictionary meaning for regularly would be recurring, uniformly and not casually. In practice it would be applicable if there is a scheduled service or a high level of recurring chartered services.

Disposition

No change.

Comment 15 – NPRM ref: 139.185, Approval of lighting system

There are a number of comments on this topic. One is that CASA should not specify any technical specifications related to lighting standards but should refer the matter to the Standards Association. There is a comment on concern with the number of approved pilots to conduct flight checks. Another comment is on the qualification of persons to carry out surveys.

CASA Response

The lighting standards are essentially outcome and performance based to meet flight safety requirements. This is a core function of CASA, as the safety regulator. In regard to number of approved pilots to conduct flight checks, CASA will facilitate pilots who wish to get approval, but the number is really based on market demand and personnel interest and is not a matter that CASA can regulate. The qualification of the person who may conduct survey will be made clearer.

Disposition

This regulation has been substantially re-worded, and re-titled as “Checking of lighting system”. The qualification requirement of the surveyor has been made clearer in the regulation.

Comment 16 – NPRM ref: 139.190 and 139.191, Aerodrome emergency committee and Aerodrome emergency plan

In many regional centres, members of the aerodrome emergency committee are the same members as the local emergency management committee and as such would the latter committee satisfy the regulatory requirement. Another comment is that will there be recognition of the National Aerodrome Emergency Planning Committee and its national AEP framework. There is also a comment that the requirement for a review of the AEP after every emergency appears to be too onerous.

CASA Response

Agreed with the use of the local emergency management committee as the aerodrome emergency committee subject to the condition that the aerodrome operator be the co-ordinator for aerodrome emergency matters. The role of the National Aerodrome Emergency Committee and its published national AEP framework has been referred to in MOS 10.8. CASA disagrees with the comment that the requirement for a review of the AEP after each emergency is too onerous – it is important that lessons are learnt after each emergency, but the depth of the review can of course be commensurate with the actual emergency situation.

Disposition

No change.

Comment 17 – NPRM ref: 139.195, Aerodrome serviceability inspection

The requirement for a daily empirical assessment of the bearing strength of runway strips is impracticable, as runway strips are not intended for the surface movement of aircraft, except in emergencies.

Another comment is that there is no indication of how long aerodrome serviceability inspection records need to be held by aerodrome operators.

CASA Response

Agreed with first comment. The requirement will only extend to aerodromes where the runway is not marked and the whole of the runway strip may be used for normal aircraft operations. For the second comment, the serviceability inspection is intended to generate immediate remedial work, the number of cases will vary between aerodromes. It is up to the aerodrome operator to decide on record keeping based on the nature of the remedial works. However, the relevant logbooks should be kept at least for the period between CASA audits.

Disposition

Sub-regulation (2)(f) has been re-worded to limit its applicability.

Comment 18 – NPRM ref: 139.196, When aerodrome serviceability inspections must be conducted

Sub-regulation (3)(b) should include a reference that the inspection is required if there has been the potential for an impact on aircraft safety rather than after each occurrence. Another comment is to include other weather conditions that may merit this inspection. Another respondent from a remote region commented that because of the distances to the remote aerodromes, it is not possible to even conduct inspections twice a week.

CASA Response

Disagreed with first comment. How can the effect of severe wind or storm be ascertained without an actual inspection? Agreed with second comment. In respect of the third comment, CASA's view is that the serviceability inspection is one of the most important operating procedure for the aerodrome and the standard should not be lowered. If the local circumstances cannot support the minimum inspection frequency, then this matter has to be processed under the exemption provision, applicable only to the particular aerodrome operator.

Disposition

The criteria will now include gale and other severe weather conditions.

Comment 19 – NPRM ref: 139.200, Aerodrome technical inspections

The reference to handling of hazardous material should be applicable to areas on or around aircraft, aircraft parking positions and where aviation fuel is stored. At large airports, there are services such as service station and mechanical workshops that handle hazardous material and may be located on airport land but are outside the movement area of the aerodrome. These facilities are regulated by State legislations and should not be covered by CASR Part 139.

CASA Response

This regulation is only applicable to aerodrome facilities that are actually used by aircraft. A definition of "aerodrome facilities and equipment" is included in Dictionary Part 1.

Disposition

No change.

Comment 20 – NPRM ref: 139.202, Other requirement about technical inspections

The reference to technical experience in sub-regulation (3)(a) should be strengthened. The reference in sub-regulation (3)(c) should also be strengthened to match the requirements of person using survey instruments referred to in 139.185 and the person approved to conduct aerodrome safety inspections in 139.351.

CASA Response

Agreed. The intention is to leave it to aerodrome operators to choose the person to conduct the technical inspection, subject to the person meeting the qualification requirement.

Disposition

Sub-regulation (2) and sub-regulation (3) amended to clearly set out the formal qualifications and where no formal qualification, the experience and competency requirements for a person to be appointed to conduct technical inspections.

Comment 21 – NPRM ref: 139.210, Safety management system

There are no standards set out in the MOS for a safety management system.

CASA Response

The introduction of a formal safety management system for aerodromes is a new initiative which will take some time for both aerodrome operators and CASA to establish. As such CASA is not ready at this time to prescribe standards. CASA is supportive of the initiative of the Australian Airports Association in developing SMS guidelines for their members.

Disposition

No change at this time. Further work required.

Comment 22 – NPRM ref: Subpart 139.C, Registered aerodromes

Suggest a new section similar in tone to 139.050 and titled ‘When an aerodrome has to be registered’. With words to the effect that if an aerodrome is not certified but wishes to have aerodrome information in ERSA or to have non-precision approaches, then the aerodrome must be registered.

CASA Response

The registration is an option and not a mandatory requirement. It is therefore not appropriate to make it as a regulation.

Disposition

A new subsection will be provided to define what is a registered aerodrome with a cross-referencing note to the regulation that requires aerodromes with non-precision runways to be either certified or registered.

Comment 23 – NPRM ref: 139.305, Grant of registration

Suggest additional clause (d); ‘direct AIS to publish details of runway approach procedures in AIP-DAP, if such procedures are established’.

CASA Response

Disagreed. CASR Part 139 does not regulate the design and publication of runway approach procedures.

Disposition

No change.

Comment 24 – NPRM ref: 139.335, Applicable standards for registered aerodromes

Suggest replacing the list of applicable standards at paragraph (a) with the general standards applicable to certified aerodromes.

CASA Response

Disagreed. This may cause confusion because general standards also include operating standards, which are not applicable to registered aerodromes.

Disposition

No change.

Comment 25 – NPRM ref: 139.336, Reporting Officer

The NOTAM office should keep a list of names of Reporting Officers.

CASA Response

CASR Part 139 is not intended to regulate the NOTAM Office. The NOTAM Office has a duty of care to check the source of their information including names of reporting officers.

Disposition

No change.

Comment 26 – NPRM ref: Subpart 139.D, Reporting officer and safety inspection requirements for certain other aerodromes

Not sure why this classification has been proposed and suggests there is a problem in enforcing such requirements, especially at aerodromes that historically had little problem in maintaining their aerodrome to the ALA standard. “Mail run” services delivering mail, freight and passengers to aerodromes, which are predominantly cattle stations and communities, should be allowed to operate from ALAs. It may be simpler to increase the required frequency from once a week to two or three times per week so the mail service is exempted.

CASA Response

This intention of this regulation is to ensure that aerodromes used in air transport operations by aircraft above 9 passenger seats and in some regularity are in a reasonable state for safe operations. The physical standards as specified in the MOS are not much different to the ALA standard. The emphasis is in having a reporting officer and a periodic safety inspection. Existing ALAs used in aerial work, private aviation by aircraft with not more than 9 passenger seats or ad-hoc charter are not affected by this regulation.

Disposition

No change.

Comment 27 – NPRM ref: 139.356, Safety inspections

The safety inspection report for certain other aerodromes should be held by the aerodrome operator and checked by CASA as part of a sample audit or during the audit of the Airline. By submitting a report the aerodrome owner is seen to be passing their responsibility and ownership of problems to CASA.

CASA Response

Disagreed. The safety inspection report has to include the aerodrome operator's plan for any identified remedial action. The requirement for the submission of the report to CASA is a way to ensure that the regulatory requirement of a safety inspection has been complied with.

Disposition

No change.

Comment 28 – NPRM ref: 139.357, Monitoring of airspace

The need to monitor gaseous efflux is impracticable at large airports where there is a lot of industry in the surrounding areas. The definition should also state from man-made structures and exclude domestic applications.

CASA Response

The aerodrome operator is required to monitor the potential hazard posed by gaseous efflux where such efflux can be a hazard to aircraft operations. The 4.3 metres per second efflux velocity is intended to capture major industrial power generating plants. It is unlikely that domestic applications will be involved.

Disposition

No change.

Comment 29 – NPRM ref: 139.365, Structures 110 metres or more above ground level

As was the case with CAR 89 in respect of structures, we question the way in which ‘a person’ who is not familiar with CASR Part 139 might be expected to know that he/she is obliged to inform CASA of such structures. This particular section is useful only to holders of CASR Part 139 and therefore this sub-regulation can only be effective if it is made known to a much wider audience.

CASA Response

CASA has consulted with major planning authorities and organisations likely to erect tall structures. CASA recognised the need for continued public education and will endeavour to publicise this requirement from time to time.

Disposition

No change.

Comment 30 – NPRM ref: 139.370, Hazardous objects

While CASA may determine a hazardous object exists, it appears there is no mechanism for ensuring it is marked and or lit. To merely advise someone that an object is dangerous serves no purpose.

CASA Response

If CASA assesses an object as requiring marking or lighting that advice will be communicated to the appropriate approving authority for that development. CASA expects the approving authority to take CASA’s advice as a condition in the granting of a building development approval. If an owner fails to provide the necessary marking or lighting, CASA will issue a hazard notification declaring that object as a hazard to aircraft safety. The implication of the hazard notification is that the person has been warned and will be accountable.

Disposition

No change.

Comment 31 – NPRM ref: 139.400, Aerodrome operators to collect statistics if directed

There is no requirement or direction for the rest of industry to provide statistics. There should be legislative or regulatory direction to other industry members requiring them to provide data when requested under these and associated regulations.

CASA Response

Statistics are only required when the movement rate is suspected to be close to the criteria for the provision of a radio communications service. There is no penalty for the quality of data. If there is a need to regulate the industry on this matter, CASA will look into it.

Disposition

No change.

Comment 32 – NPRM ref: 139.426, When CA/GRS must be operating

In sub-regulation (4)(a) the rationale for the 7 days is not explained and it seems excessive.

CASA Response

The allowance of up to 7 days for non-operation of a CA/GRS recognises that inevitably there will be occurrences of operator illness, or equipment unserviceability, which render the service inoperative. If this allowance is not provided, aerodrome operators would have to arrange for on-call replacement operators and would have to duplicate all the CA/GRS equipment.

While such back-up requirements are appropriate for an ATS service, there are significant cost implications to an aerodrome operator if a similar standard is required for CA/GRS. The difference between a CA/GRS and an ATS is that the CA/GRS is classed as a safety enhancement service, not an essential aviation safety service. The period of 7 days to replace a CA/GRS operator or repair equipment is not excessive when it is considered that the aerodromes where a CA/GRS is provided may be quite remotely located, e.g, at Ayers Rock and Broome.

Disposition

No change.

Comment 33 – NPRM ref: 139.435, Certified air/ground radio operator

Shouldn't the person who provides certified air/ground services be 'licenced'?

CASA Response

Disagreed. There is no intention, at this stage, to create a licensing system for this category of aerodrome personnel.

Disposition

No change.

Comment 34 – NPRM ref: 139.440, Offences

In sub-regulation (2)(a) provision should be made for maximum duty times and minimum rest periods.

CASA Response

At this time, those CA/GRS services in operation at aerodromes are provided to cover the busy period of the day during the operation of scheduled commercial passenger services. These periods extend for up to 6.5 hours at a time. It is unlikely that a CA/GRS service will need to be provided for longer periods in the foreseeable future. At this stage in the development of CA/GRS, CASA does not see any necessity or safety imperative to regulate for maximum duty times of operators.

Disposition

No change.

Comment 35 – NPRM ref: Schedule 139.1, Part 2, Particulars of the aerodrome administration and operating procedure

Any call out list which includes names and role of responsible persons and their telephone numbers should be referred to in an Annex to the Aerodrome Manual, as the control of documents becomes quite a costly and time consuming exercise if a significant re-print is required when a person or their telephone number changes.

CASA Response

Regulation 139.095(3) allows the manual to consist of more than one document. In other words, cross-reference to other dedicated documents, e.g., AEP or Vehicle Control Handbook is acceptable.

Disposition

No change.

Comment 36 – NPRM ref: Schedule 139.1, Part 2, Particulars of the aerodrome administration and operating procedure

The section on *Aerodrome Works Safety* should reflect the fact that the majority of aerodrome works are carried out without a method-of-working plan.

CASA Response

The MOS sets out when works should be treated as either ‘time limited works’ or works to be carried out under a ‘method of works plan MOWP’. The intention of the MOWP is to ensure all stakeholders are properly advise so that operations can be planned around works in a safe manner.

Disposition

No change.

Comment 37 – NPRM ref: Schedule 139.1, Part 2, Particulars of the aerodrome administration and operating procedure

In regards to airside vehicle control delegated authority should be provided to airport operators to enable enforceability of the regulation.

CASA Response

At the ex-federal airports, vehicle control enforceability is provided under legislation administered by the Department of Transport and Regional Services (DOTRS). At aerodromes administered by local councils, local by-laws should be enacted to enforce vehicle control. If other regulations apply, such as speeding and driving under the influence of alcohol or drugs, the aerodrome operator must comply with those regulations.

Disposition

No change.

Comment 38 – NPRM ref: Schedule 139.1, Part 2, Particulars of the aerodrome administration and operating procedure

In paragraph 2.12(c) there is a requirement to monitor the areas nominated by the instrument procedure designers. The area to be monitored should be of the same general requirement as for the OLS.

CASA Response

The other areas are those covered by the PANS-OPS surfaces, associated with the instrument procedure design. These surfaces are generally larger than the obstacle limitation surfaces. The instrument designer should identify specific locations or controlling tall objects to ease the monitoring task.

Disposition

No change.

Comment 39 – NPRM ref: Schedule 139.1, Part 2, Particulars of the aerodrome administration and operating procedure

The section on *Handling of hazardous materials* should be renamed *Handling and storage of dangerous goods*. This is because Hazardous materials are classified on the basis of health effects, whereas Dangerous goods are classified on the basis of immediate physical or chemical effects such as fire, explosion, etc.

CASA response

Disagreed. The intention of this regulation is to regulate any hazardous material, which may be brought into the aerodrome. Dangerous goods are matters, which must not be brought onto an aircraft and are regulated under a separate regulation.

Disposition

No change.

Comment 40 – NPRM ref: Schedule 139.1, Part 2, Particulars of the aerodrome administration and operating procedure

The section on *Handling of hazardous materials* needs to capture the areas on an airport that are likely to be hazardous, such as fuel farms, maintenance organisations, etc. This could be achieved in several ways; referring to the term substantial quantities of dangerous goods in the opening paragraph, production of a CAAP describing the extent of the regulation or introducing a system of notification as used in Victoria which requires a company to document information covering the requirements of Schedule 139.1 and the quantities of dangerous goods needed to trigger it.

CASA Response

CASA agrees this is a good idea.

Disposition

When resources and time permit, CASA intends to look into this topic and may produce, if appropriate, an advisory circular on the handling of hazardous material at an aerodrome.



Comment 41 – NPRM ref: Schedule 139.1, Part 2, Particulars of the aerodrome administration and operating procedure

In the section on *Handling of hazardous materials*, it would be prudent to mention ‘bio’ hazards.

CASA Response

Not enough information is available on the threat of ‘bio hazard’ to the safety of aircraft operation to include it in the regulation. The intention is to address only known material, which can post immediate hazard to the operation of an aircraft.

Disposition

No change.

Comment 42 – NPRM ref: Schedule 139.1, Part 3, Particulars of the aerodrome to be notified in AIP-ERSA

The inclusions in sub-regulations 3.4(c) and 3.4(d) should only be required after an appropriate risk assessment and consultation has been affected, otherwise the result could be a wish list of issues detracting from operational matters.

CASA Response

The type of information relevant to these paragraphs will be provided in Advisory Circulars. For example, see current CAAP 89(O) – 1(2). CASA only provides Airservices with guidelines on aircraft operational information that may be published in AIP-ERSA.

Disposition

No change.

Comment 43 – NPRM ref: Schedule 139.3, Matters to be dealt with in safety inspections

The regulations are not the document where the checklist type of schedule should reside. It is strongly urged that matters dealt with in the safety inspection checklist be removed from the regulations and placed in the Manual of Standards – Part 139.

CASA Response

The regulations set out requirements for the inspections, by means of the checklist. The MOS sets out the standards on how these requirements are to be carried out.

Disposition

No change.

Comment 44 – NPRM ref: Schedule 139.3

In paragraph 4(e) a statement to say that two-way communication is mandatory on the movement area would be more practical as this will allow hand held radios to be used.

CASA Response

Agreed.

Disposition

The regulation is amended to allow the use of hand held radios.

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Comments relating to the Draft Manual of Standards (MOS – Part 139)

Comments of a general nature

Comment 45 – General

A formal review process of the MOS, say on an annual basis, should be established by CASA.

CASA Response

There will be regular reviews of the MOS standards, driven generally by industry feedback, CASA experiences, technological changes, ICAO changes or ATSB recommendations. The review and subsequent changes are normally governed by the circumstances at the time. Whether the review process should be based on a fixed time-table has yet to be determined.

Disposition

Examine the review process in due course with a view of establishing an updating cycle for the MOS.

Comment 46 – General

Some respondents found this MOS both comprehensive and comprehensible. In an overall context, the proposed changes mooted in the shift to CASR Part 139 are positive and will be beneficial to increasing the levels of safety at aerodromes in Australian jurisdictions.

CASA Response

CASA is appreciative of industry support.

Disposition

Re-double effort to ensure that industry confidence on the MOS – Part 139 is not misplaced.

Comment 47 – General

Do the new standards apply to military airfields where there are significant civil RPT movements?

CASA Response

Although CASA does not regulate military matters, aerodromes used for civil RPT operations will need to comply with CASA standards. Where military airfields do not meet CASA standards, this may affect civil operations.

Disposition

No change.

Comment 48 – General

Concern was raised that a large number of remote aboriginal communities and cattle stations will be affected by CASR Part 139, and as a whole, are totally unskilled, uneducated and unfunded in the requirements of operating and maintaining an airstrip to the required standards. The attendant logistical and communication difficulties should not be underestimated or glossed over as irrelevant by CASA. A targeted and individually designed extensive education and communication strategy will be needed for CASR Part 139. The mining industry, also largely affected by CASR Part 139 should have the abilities required to implement CASR Part 139 without too many problems.

CASA Response

CASA is aware that remote aerodromes need assistance and a number of Commonwealth and State government departments and agencies, including CASA, are involved in this process. Ensuring safe aviation at remote areas have to be joint effort of all the stake holders. The setting of a minimum and realistic aerodrome requirement should assist in the process.

Disposition

Need to examine the provision of better communication and educational services in the implementation process of CASR Part 139.

Comment 49 – General

In the transfer of standards from the RPAs to the MOS – Part 139 we lose a lot of the rationale for the standards. Perhaps what is omitted can be kept as reference in an Advisory Circular. Also, some standards are only applicable ‘where provided...’. What are the reasons for providing the facility?

CASA Response

CASA will produce Advisory Circulars as time and resources permit, to assist in the implementation of standards. This will also involve reviewing the existing CAAPs and reissuing the information therein, where appropriate, in the form of Advisory Circulars. In response to the last part of the comment that is to cover the situation where it is not for CASA to mandate a facility, e.g. an additional taxiway, but if it is provided, then it must be in accordance with the standard.

Disposition

Review and prepare Advisory Circulars to assist in the implementation of the MOS standards.

Comment 50 – General

Diagrams are too small and many are very badly drawn. As well, colour in diagrams would be of benefit to the reader.

CASA Response

CASA acknowledges this. Due to the fact that this is a draft document, it was decided not to commit too many resources on its quality, particularly the diagrams.

Disposition

Improve the diagrams for the final MOS document.

Chapter 1 – Introduction

Comment 51 – NPRM ref: Section 1.1, General, Paragraph 1.1.5.3(c)

Does this include airport administrators?

CASA Response

It certainly does. The phrase is meant to be all inclusive.

Disposition

Paragraph changed to read ‘(c) other aviation industry service providers, such as aerodrome operators and airlines.’

Comment 52 – NPRM ref: Section 1.1, General, Paragraph 1.1.6.1

ICAO Annex 14: Volume 2, Heliports, should be included in the related documents.

CASA Response

Disagreed. CASA has currently not set out general standards for heliports. Applications for heliports will be dealt with on a case-by-case basis.

Disposition

No change.

Comment 53 – NPRM ref: Section 1.2, Definitions

There is no definition for ‘airport’, ‘low visibility’, ‘object’ or ‘obstruction’.

CASA Response

Throughout the MOS the generic term ‘aerodrome’ is used instead of ‘airport’. The Australian practice for ‘low visibility’ is set out in MOS 10.17.1.1, which clearly states when low visibility operations will be initiated. For ‘object’ or ‘obstruction’ use dictionary meanings. The word ‘obstacle’ is defined in MOS 7.1.1.2.

Disposition

No change.

Comment 54 – NPRM ref: Section 1.2, Definitions

Definition of Precision Approach Category 1 runway to reflect ‘a runway served by ILS, MLS or GBAS’.

CASA Response

Disagreed. GBAS is not in operation yet.

Disposition

No change.

Chapter 2 – Application of Standards to Aerodromes

Comment 55 – NPRM ref: Section 2.1, General, Sub-section 2.1.2

The requirement that aerodrome operators, that do not meet relevant standards in MOS – Part 139, will be required to provide a schedule by when the facility will be brought up to standard is not binding in terms of meeting standards. CASA should set down specific lead times for compliance for each new requirement, which aerodrome operators should be obliged to meet.

The older aerodromes may be unable to meet some new standards due to land constraints and/or urban development. On that basis, certain facilities may never be modified.

CASA Response

CASA appreciates that it is not practicable to dictate when existing facilities need to be brought up to standard – unless there is a critical safety concern with that particular facility. The objective is for aerodrome operator to be mindful of existing facilities that do not comply with standards and to plan for their eventual compliance. The planned program for each facility will still need to be looked at on a case-by-case basis.

Disposition

No change.

Comment 56 – NPRM ref: Section 2.1, General, Paragraph 2.1.2.1

The definition of ‘improved’ in this section requires further explanation as improved could be an incremental improvement or a significant improvement. It would be preferred if some guidance could be given like that in RPA.

CASA Response

Agreed. The intention is when the facility is upgraded to accommodate a more demanding aircraft.

Disposition

Replace the word ‘improved’ with ‘upgraded to accommodate a more demanding aircraft’.

Comment 57 – NPRM ref: Section 2.1, General, Paragraph 2.1.2.3

The wording is contrary to that in paragraph 2.1.2.2 where existing facilities must continue to comply with the standard applicable at the time. This paragraph proposes that facilities will all be brought into compliance at some point that may not be the case for the whole of the life of that facility. Setting timeframes for compliance in these circumstances is unrealistic. Depending on the level of detail required in identification of non-compliances there could be a significant additional workload for operators. Documentation against the standards at the time of construction will be required which may require extensive research and consultation between CASA and the airport operator.



Budget limitations may prevent upgrades for several years; does the new CASR allow CASA to say that a timeframe for change is too long? If it does, what is the method to resolve these situations?

CASA Response

In general, CASA does not intend to specify timeframes for bringing non-standard facilities up to standard. The intention is to leave this to the aerodrome operators, to come up with a plan which will allow them to comply with standards within a reasonable timeframe and within their budgetary constraints. When a facility cannot, for practicable reasons, be brought up to the new standard, CASA may provide a concession for the non-standard case. It should be noted that in this case CASA is sharing with the aerodrome operator the risk of providing a sub-standard facility. Such a commitment cannot be open-ended and hence there is a need for a reasonable program to be put in place to bring the sub-standard facilities up to standard.

Disposition

No change.

Comment 58 – NPRM ref: Section 2.1, General, Sub-section 2.1.5

It would be appropriate to include a listing of Aerodrome Facility Reference Codes and Aeroplane Characteristics as included in Chapter 7 of the RPA.

The ICAO code letter is unknown to aircrew and airline operators. It would be useful to provide an additional column which provides a comparative aircraft code. For example, Aerodrome Reference Code letter E, corresponds to a B747, which is a Code D aircraft – based on weight/wake turbulence

CASA Response

Agreed. Concerns raised in the second comment will be resolved by having the table mentioned above incorporated in a new section.

Disposition

A new Section will be added to the MOS which will incorporate the table from RPA Chapter 7.

Comment 59 – NPRM ref: Section 2.1, General, Sub-section 2.1.7

Why have the Rules and Practices for Aerodromes discussions on instrument and non-instrument runways not been adopted?

CASA Response

It is not appropriate to include discussions in the MOS as the purpose of the MOS is for setting out technical specifications and standards. Should there be a requirement, an Advisory Circular may be prepared to provide background information and guidelines on instrument runways.

Disposition

No change.

Chapter 3 – Applying for an Aerodrome Certificate

Comment 60 – NPRM ref: Section 3.1, General, Paragraph 3.1.2.1

CASA should not charge a fee for such assistance to industry.

CASA Response

Receipt of a certificate is a privilege. It is not appropriate that such a privilege be funded by the taxpayers.

Disposition

No change.

Comment 61 – NPRM ref: Section 3.1, General, Paragraph 3.1.4.4

The wording ‘principle place of business’ should be omitted because the Aerodrome Manual is intended to be a working document for airport staff and should be held at the airport.

CASA Response

The intention for this requirement is to provide flexibility on where the aerodrome manual can be held, as some aerodromes do not have full time attendance. The important point is that persons that need access to the aerodrome manual can gain access to it. This sub-section will be re-worded to make the intent clearer.

Disposition

A new sub-section titled ‘Maintenance and control of aerodrome manual’ to address the issue of multiple recipients of whole or part of the manual and the role of the aerodrome manual controller has been created.

Comment 62 – NPRM ref: Section 3.1, General, Paragraph 3.1.5.1

Will CASA be promulgating NOTAMS for all existing licenced aerodromes to announce that they are certified?

CASA Response

Yes, if a new licence/certificate is being issued. No, if the licence is simply being transferred to a certificate.

Disposition

No change.

Chapter 5 – Aerodrome Information for AIP

Comment 63 – NPRM ref: Section 5.1, General, Sub-section 5.1.2

The aerodrome elements listed in this section follow the current ERSA listing, but with the change to ICAO format, these elements are required to accord with those shown in ICAO Doc 8126 Appendix H, pages H-30 to H-44.

CASA Response

To facilitate direct input to ERSA, aerodrome operators will be asked to provide input using the ERSA format. When the ERSA format is changed, the MOS format will change accordingly. It is important that aerodrome operators provide the full range of information necessary for aircraft operations. One facility that was omitted in the draft MOS is the location of aircraft parking positions used by international aircraft.

Disposition

Include a new sub-paragraph to require provision of co-ordinates and elevation at international aircraft parking positions.

Comment 64 – NPRM ref: Section 5.1, General, Sub-section 5.1.2

An ever increasing problem appears to be the plethora of airport layout drawings that contain:

- (a) no coordinate grid;
- (b) coordinate grids not referenced to any datum; and
- (c) coordinate grids referenced to ‘in-house’ datum.

Layout drawings of airports (particularly runways and taxiways) should contain grid coordinates referenced to the WGS84 UTM grid or its Australian equivalent, MGA94.

CASA Response

Para 5.1.3.5 requires co-ordinates of ARP be based on WGS-84. Aerodrome operators should be reminded of this requirement.

Disposition

No change.

Comment 65 – NPRM ref: Section 5.1, General, Paragraph 5.1.2.1

Helipads, buildings and lit obstacles should be included in the aerodrome diagram.

CASA Response

Agreed.

Disposition

Paragraph 5.1.2.1 has been amended to include: (h) location of terminal building and (i) helipads.

**Comment 66 – NPRM ref: Section 5.1, General, Paragraph
5.1.2.2**

At airports which do not have 24hr staff coverage it is neither appropriate nor reasonable for after hours numbers to be widely distributed as it may result in non-essential or nuisance calls.

CASA Response

Disagreed. As the airport may be used after hours, especially by emergency agencies, after hour contact numbers are necessary.

Disposition

No change.

**Comment 67 – NPRM ref: Section 5.1, General, Paragraph
5.1.2.9**

Are the ‘special procedures’ needed in the case of a controlled aerodrome?

CASA Response

Special operational procedures are normally directed by CASA or ATC. Aerodrome operators have only to provide details of special procedures that they are responsible for.

Disposition

No change.

**Comment 68 – NPRM ref: Section 5.1, General, Paragraph
5.1.2.10**

This point needs to be clarified, particularly in the case of a controlled aerodrome. Special notices can be numerous and often used merely to alleviate or share responsibility.

CASA Response

Agreed.

Disposition

Paragraph changed to emphasis that this only relates to important cautionary or administrative information of a general nature relating to the use of the aerodrome.

**Comment 69 – NPRM ref: Section 5.1, General, Paragraph
5.1.3.2**

The statement should read ‘The azimuth of the runway’ rather than ‘The true bearing of the runway’.

CASA Response

The word ‘true’ can be confusing as the bearing is magnetic.

Disposition

Delete the word “true” before bearing.

Comment 70 – NPRM ref: Section 5.1, General, Paragraph 5.1.3.5

Guidance should be provided on how to determine the centroid of the aerodrome.

CASA Response

The dictionary defines the centroid as near the centre. It is not critical if the chosen ARP is not at the exact centre of the aerodrome, as this can change with a change in the runway system, such as provision of new runways or extension of existing runways. Once established, the ARP should not be changed otherwise this will affect all the published charts. For convenience of survey purposes, CASA does not see a need to specify a prescriptive standard.

Disposition

No change.

Comment 71 – NPRM ref: Section 5.1, General, Paragraph 5.1.3.11

The slope should be determined along segments of the runway as this can vary along different parts of the runway.

CASA Response

Agreed.

Disposition

A paragraph has been added along the line that ‘Where there are significant multiple slope changes along the runway, slopes over individual segments must be provided over the length of the runway’.

Comment 72 – NPRM ref: Section 5.1, General, Paragraph 5.1.3.16

The profile of the runway should be used when calculating the supplementary take-off distances.

CASA Response

Agreed.

Disposition

A statement has been added to require the slope of the runway to be taken into account.

Comment 73 – NPRM ref: Section 5.1, General, Paragraph 5.1.3.16

The term STODA is only used in the Australian domestic industry. Consideration should be given to using the Supplementary TODA as per international standards. See NOTAM usage.

CASA Response

Disagree. When using abbreviations for an entity, the term STODA appears clear enough and use up less space. To use a combination of word and abbreviation for an entity does not appear to add much value but will require a lot more space.

Disposition

No change.

**Comment 74 – NPRM ref: Section 5.1, General, Paragraph
5.1.3.17**

This requires the threshold elevation to be based on Australian Height Datum (AHD). The elevation has always been in AMSL and the ERSA requires it to be based on AMSL. Why change now?

CASA Response

Advice from the national Mapping Division of Geoscience Australia is that AMSL has been discarded and reference now is Australian Height Datum (AHD).

Disposition

No change.

**Comment 75 – NPRM ref: Section 5.1, General, Paragraph
5.1.3.20**

Should an abbreviation be included for the single sided PAPI vs double sided?

CASA Response

To avoid confusion, it is preferable to use words rather than abbreviations.

Disposition

No change.

**Comment 76 – NPRM ref: Section 5.1, General, Paragraph
5.1.3.21**

Reference should be made to providing the co-ordinates for navigational aids in degrees, minutes and tenths of a minute.

CASA Response

Agreed.

Disposition

A new sentence added: ‘The location co-ordinates must be notified in degrees, minutes and tenths of a minute; based on the World Geodetic System – 1984 (WGS-84).’

Chapter 6 – Physical Characteristics

Comment 77 – NPRM ref: Section 6.1, General

Pertinent aerodrome design information i.e. aerodrome siting and planning, the critical aeroplane, instrument and non-instrument runways, aircraft reference codes and Table of aircraft characteristics etc, have been omitted from this section. Will this information be published in Aeronautical Circulars?

CASA Response

The MOS is a standards document rather than a planning or educational document so RPA material of planning nature has not been included.

Disposition

Advisory Circulars will be produced in due course when time permits to assist the aerodrome operator in complying with the standards.

Comment 78 – NPRM ref: Section 6.2, Runways, Sub-section 6.2.1

Further information and guidance, similar to what exists in RPA, should be included on how to locate the threshold. It is our understanding that all Code 2, 3 and 4 runways use 3.3% as the common gradient to locate the threshold but this is not indicated in the proposed standard.

CASA Response

Agreed, an inadvertent omission. The threshold location may be affected by obstacles and there is a need to provide an obstacle free approach surface terminated at the specified distance prior to the threshold.

Disposition

A Note has been added to this paragraph setting out the requirements for the obstacle free approach surfaces similar to that currently in the RPA.

Comment 79 – NPRM ref: Section 6.2, Runways, Paragraph 6.2.3.1

The instruction issued under regulation 235A of the CARs is not easily accessible and can have a significant financial impact when designing an aerodrome. Why not transcribe into the MOS the list of circumstances per RPA that allows certain aircraft to use narrower runways.

CASA Response

Agreed. Readers should be advised where to look for that statement.

Disposition

The AIP reference ‘AIP ENR 1.1-87’ has been added.

Comment 80 – NPRM ref: Section 6.2, Runways, Sub-section 6.2.8

The need for aerodrome operators to ensure certain aerodrome standards are met is accepted for specific characteristics such as runway width, runway strip width (in fact this requirement should clearly apply to most of the physical characteristics addressed in the MOS); however there are several characteristics which are more of the nature of design standards. Transverse slopes on runways and taxiways are examples. Transverse slopes at the intersection of runways will be less than the minimum specified in Table 6.2-4. It is not possible to achieve the standards on longitudinal slopes and changes of grade while retaining a minimum transverse slope.

CASA Response

Standards set out in MOS are in accordance with ICAO and are not meant to cover all possible slope combinations at an intersection. If the aerodrome operator has difficulty in meeting MOS standards, an exemption may be sought as set out in MOS 2.1.3. In relation to transverse slopes at intersections, it is agreed that local configuration may exceed the MOS standards.

Disposition

A note has been added to the Table 6.2.1 to say that the standards may not apply at intersections.

Comment 81 – NPRM ref: Section 6.2, Runways, Sub-section 6.2.8

While a runway may have been designed and constructed with, say maximum transverse slope of 2%, minor deformation could result in transverse slopes marginally greater than 2% thereby putting the operator in breach of the regulation and subject to penalties. A similar situation exists where longitudinal ramps during pavement overlay works are specified for overlays up to 5 cm and those greater than 5 cm. It would seem the demarcation point of 5 cm thick overlay is purely arbitrary and we are not aware of any basis for this.

CASA Response

The concern about transverse slopes due to runway deformation should be addressed by a proper maintenance program rather than changing standards. The 5cm thickness of overlay is used for defining the longitudinal slope of the ramp to be provided at the end of the works period. This is needed for aircraft safety, particularly for the controllability of aircraft operations. The ICAO standard for the demarcation of thickness of overlay is also 5cm.

Disposition

No change.

Comment 82 – NPRM ref: Section 6.2, Runways, Sub-section 6.2.8

Advice should be provided on transitional slopes at intersections, crowns and one-way cross-falls.

CASA Response

That sort of detail should be an integral part of the runway design, taking into account all relevant standards.

Disposition

No change.

**Comment 83 – NPRM ref: Section 6.2, Runways,
Paragraph 6.2.12.1**

In sub-paragraph (e) there is a requirement for there to be no step-down from the runway surface except during runway overlay works. The ability to have a 25mm step from the runway surface to the shoulder allows a runway surface to be overlaid in an economical fashion without overlaying the shoulders. Without this provision, there is additional design complexity and the runway overlay will need to be keyed in at the runway edge at significant additional cost.

CASA Response

Disagree. The step down is not intended as a permanent standard. The 25mm step-down will only be permitted during runway overlay works.

Disposition

No change.

**Comment 84 – NPRM ref: Section 6.2, Runways,
Paragraph 6.2.13.1**

RPA allowed code 1 and code 2 runways to have shoulders up to 4% transverse slope.

CASA Response

Shoulders are not a mandatory requirement for Code 1 and 2 runways. There is a requirement under the runway strip that the first 3m from the runway must be downward (negative) and may be as great as 5%.

Disposition

No change.

**Comment 85 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.18**

There is no definition of fly-over area provided. The recommendations of RPA Chapter 7.17.8 have been removed.

CASA Response

Diagrams will be provided in paragraph 6.2.16.1, which will define a graded runway strip and the overall runway strip. A note will also be provided containing a diagram defining the graded runway strip for a precision approach runway.

Disposition

Diagrams to illustrate fly-over areas have been added.

**Comment 86 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.18**

The new standard does not include the variation in the graded runway strip for precision approach runways to the increased width of 105m for the central portion, as documented in RPAs and Annex 14.

CASA Response

Agreed. An inadvertent omission.

Disposition

A note to provide additional runway strip width over the central portion of a precision approach runway, have been included.

**Comment 87 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.18**

The runway strip width standard allows a narrower width where it is not practicable to provide the full width. How is this to be achieved?

CASA Response

Reduction of runway strip width will require an exemption to the relevant standard. Aerodrome operator will need to provide a safety case to justify why such exemption should be granted.

Disposition

A new paragraph has been included to set out the procedure for seeking exemption to the runway strip width standard.

**Comment 88 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.21**

There is no guidance given on graded area longitudinal slopes.

CASA Response

Agreed.

Disposition

A new sub-section has been included to specify the standards for the longitudinal slope and longitudinal slope changes on the graded area of a runway strip.

**Comment 89 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.23/6.2.24**

We should not change the Australian RESA standard.

CASA Response

As intimated in the question, the current RESA standard is an unique Australian standard which is not in accord with ICAO. Prior to July 1999, ICAO only recommends that RESA be provided. By the expedient usage of the definition that the RESA originates from the runway end, instead of the runway strip end as specified by ICAO, physical dimension requirement of RESA was largely rescinded. As stated in the NPRM for CASR Part 139, after a number of runway-overrun accidents involving heavy jets, ICAO has reviewed the adequacy of RESA.

This has resulted in an amendment to Annex 14 in July 1999 to upgrade the RESA to a standard and in addition a recommendation that, as far as practicable, the length of RESA extend to 240m from the end of the runway strip. In reviewing the RESA situation, CASA cannot see a cogent safety reason for Australia to ignore the important safety initiative adopted by ICAO, and to register a difference to this standard. CASA is conscious that some existing runway ends may have difficulty with this standard change, and will work with aerodrome operators to find the best solution to address local constraints.

To allow plenty of time for planning and execution, the new RESA standard will only apply initially to international aerodromes used by large jets and the standards will only be applicable 5 years from the date of the regulations. The new standard will require areas of RESA abutting the runway to be prepared against aircraft undershoot and the areas beyond to be prepared to provide assistance with aircraft deceleration.

Disposition

Adopt the ICAO RESA standard as an Australian standard.

**Comment 90 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.23/6.2.24**

Would the 240 metres RESA be required for an airport, which received infrequent international flights?

CASA Response

This is a recommendation only but as long a RESA should be provided as possible.

Disposition

Adopt the ICAO RESA standard as an Australian standard.

**Comment 91 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.23/6.2.24**

In some cases a clearway and stopway are provided at the end of the runway. Does this affect the end of the runway strip (i.e. the beginning of the RESA) when the clearway or stopway is greater than 60m?

CASA Response

The runway strip will always be 60m from the end of the runway or stopway, if provided, except for code 1 runways. It is not affected by the provision of a clearway.

Disposition

Adopt the ICAO RESA standard as an Australian standard.

**Comment 92 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.23/6.2.24**

Where the proposed new standards for the length of RESA cannot be met this will require thresholds to be displaced, resulting in a reduction in the runway distances available for aircraft to land and take-off. This would have the deleterious effect of severely reducing the payload capacity of aircraft and rendering the service unviable.

CASA Response

An operational assessment will need to be carried out of what is more critical.

Disposition

Adopt the ICAO RESA standard as an Australian standard.

**Comment 93 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.23/6.2.24**

Whilst the application of engineered materials arresting systems (EMAS) does appear to offer hope in providing RESA, there is as yet further information required on the technology in terms of the distance required by EMAS to reach a level that will be acceptable to CASA against the 90 x 90 metre area required within 5 years for RESA. The FAA has a policy that permits aerodromes with substandard RESA to remain as it is indefinitely, as long as there is no significant runway works undertaken. Under FAR Part 139.309 when there is no significant runway works undertaken, the requirement is for the RESA to be upgraded to the dimensions acceptable to the FAA administrator, but only to the extent practicable.

CASA Response

CASA will look at each situation on a case-by-case basis. This may result in looking at three areas: extending the RESA, using an EMAS or reducing the operational length of runway available, or a combination of all three. The aerodrome operator will need to carefully study all options.

Disposition

Adopt the ICAO RESA standard as an Australian standard.

**Comment 94 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.23/6.2.24**

The environment surrounding an aerodrome may be such that it is highly impractical, if not impossible, to provide standard RESA beyond the existing RWS ends. Our aerodrome has a substantial flood levy almost immediately beyond the existing RESA and whilst relocation of the levy would be a costly project at the northern RWY end, it is virtually impossible at the southern end due to the proximity of a creek (a substantial tidal waterway). Further impediments to extending the RESA beyond the RWS end include the relocation of localiser aerials and perimeter roads. We wish to ensure that CASA is aware of the massive impact the new standard is sure to have economically, if the standard is to be enforced rigorously.

CASA Response

CASA will take a co-operative approach and work with aerodrome operators in devising a credible solution to meet this international standard. CASA is aware of the likely economic impact on the aerodrome operator and will take that factor into account.

Disposition

Adopt the ICAO RESA standard as an Australian standard.

**Comment 95 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.23/6.2.24**

Further research and discussion is required with regard engineering solutions. It may not be plausible to expect compliance within 5 years.

CASA Response

Rather than debating whether the 5 years is the correct time-frame, CASA believes that efforts should be focussed to come up with a reasonable implementation strategy.

Disposition

Adopt the ICAO RESA standard as an Australian standard.

**Comment 96 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.23/6.2.24**

The additional length requirement of RESA recommended by ICAO should become the standard, with appropriate lead times, for aerodromes supporting either international or domestic air transport jet operations.

CASA Response

Whilst this is obviously desirable and CASA would recommend that the additional length of RESA be provided, wherever practicable. However, to avoid the need to examine all RESAs, CASA believes that this should remain as a recommendation at this time.

Disposition

Adopt the ICAO RESA standard as an Australian standard.

**Comment 97 – NPRM ref: Section 6.2, Runways,
Sub-section 6.2.23/6.2.24**

Where it is not practical to provide the full length of RESA it would be appropriate to provide policy guidance on the kinds of engineering solutions envisaged, to achieve the objective of RESA.

CASA Response

Guidance material will be provided in an appropriate Advisory Circular on this topic in due course.

Disposition

Adopt the ICAO RESA standard as an Australian standard.

**Comment 98 – NPRM ref: Section 6.3, Taxiways,
Paragraph 6.3.5.1**

Reword paragraph as transverse slopes will be less than 1% at intersections and camber changes, etc.

CASA Response
Agreed.

Disposition

A note has been added to state that the standards may not apply at intersections.

**Comment 99 – NPRM ref: Section 6.3, Taxiways,
Paragraph 6.3.9.1**

The new standard increases the shoulders of taxiways for code c (b737) aircraft from 3.5m to 5m. There does not seem to be any basis for the change and this will have significant cost implications. Also, the relaxations for less than 18m wheelbase for code c and outer main gear wheel span less than 9 m for code d need to apply.

CASA Response
Agree that the sub-section can be misleading.

Disposition

Sub-section 6.3.9 replaced with the standard for the width of taxiway shoulders.

**Comment 100 – NPRM ref: Section 6.3, Taxiways,
Paragraph 6.3.15.2**

The standard needs to apply only to the design aircraft using the taxiway. For non-design aircraft that may use the airport infrequently, special procedures may be needed.

CASA Response
Agreed. Effect on aircraft safety needs to be carefully examined when an aerodrome facility is required to accommodate an aircraft that was not catered (designed) for. The matter should be referred to the relevant CASA office.

Disposition

No change.

**Comment 101 – NPRM ref: Section 6.3, Taxiways,
Paragraph 6.3.17.1, Table 6.3-5**

The figures in the Table in the non-precision approach runway centre line part are based on a 150m runways strip for code 4C, 4D, 4E and 4F. The conservative figure would be based on a 300m strip width and noting the available relaxation.

CASA Response
Well done. An inadvertent error has been spotted.

Disposition

Table 6.3-5 amended and a note inserted to advise readers that the separation distances between runway and taxiway centrelines are based on the runway strip width for that runway.

Comment 102 – NPRM ref: Section 6.4, Holding Bays, Runway-Holding Positions, Intermediate Holding Positions and Road-Holding Positions

Section 6.4.3.1(a) says that a holding position must not be placed where an aircraft or vehicle using it infringes an OLS of a runway. However in Table 6.4-1, for a non-precision approach runway with a runway strip width of 180m, the minimum distance from a holding position to the associated runway centreline is 75m. This would result in the holding point being 15m inside the runway strip, which must infringe the OLS.

CASA Response

The OLS here refers to the inner transitional surface. The text needs to be made clearer.

Disposition

Replaced the OLS with the inner transitional surface of a precision approach runway or, in other cases, the graded area of the runway strip.

Comment 103 – NPRM ref: Section 6.5, Aprons

Why have apron shoulders not been included in this section?

CASA Response

Apron edge shoulder is not a standard requirement. However if areas outside the apron near parking positions are subject to jet blast, then they need to be appropriately treated.

Disposition

No change.

Comment 104 – NPRM ref: Section 6.5, Aprons, Paragraph 6.5.2.1

The wing tip clearances for smaller aeroplanes have increased in comparison with standards set out in an earlier version of the RPA. The increase in the wing tip clearances for smaller aeroplanes has a significant impact on smaller aerodromes and suggest the old standards be retained.

CASA Response

The standards are in accord with the new ICAO criteria for determining separation distances developed in response to accident and incident statistics, to provide a better margin of safety.

Disposition

No change.

**Comment 105 – NPRM ref: Section 6.6, Jet Blast,
Paragraph 6.6.1.1**

There should be an alternative to the aircraft manufacturers data, as the jet blast data from the manufacturer is not always available.

CASA Response

CASA would like to be advised of such an alternative. CASA believes that it is appropriate to use the information from engine manufacturers. The aerodrome operator could also learn from the experiences of other aerodromes where similar aircraft types have been or are operating.

Disposition

No change.

**Comment 106 – NPRM ref: Section 6.6, Jet Blast,
Paragraph 6.6.1.1**

Should this include blast from all sources, for example, propellers and helicopters? There have been incidents where helicopters have created greater danger than jet engines.

CASA Response

The standards set out in the MOS address jet blast from fixed wing aircraft. Where appropriate, all sources of possible blast (prop, jet or helicopter) should be determined and catered for in the design of an aerodrome facility.

Disposition

No change.

**Comment 107 – NPRM ref: Section 6.6, Jet Blast,
Paragraph 6.6.2.1 (d)**

It is odd that the standards allow airport personnel to be subjected to the same amount of blast as apron equipment. Airport personnel and the general public face the same risk factors and should therefore be protected to the same degree.

CASA Response

CASA has reconsidered this section and believes the limits of jet blast velocities should be treated as guidelines for planning purposes only. An apron designer would need to also take into account other factors such as prevailing wind and apron slope. In respect of the blast limit differences between airport personnel and the general public, the rationale is that airport personnel, by virtue of their work, are more aware of their surroundings and are unlikely to be surprised to the same extent as the unsuspecting general public.

Disposition

No change.



Comment 108 – NPRM ref: Section 6.7, Glider Facilities

There is no prescribed standard for glider winch launching and operations. Winches can be very dangerous to powered aircraft and an area open to abuse. Apart from the possible in-air operation there is the problem of the cable on the ground and the possible interference it can cause to taxiing aircraft.

CASA Response

Safety of the glider launch is the aerodrome operator's responsibility. The standard only requires that a runway strip be available for the launch operation. The standards are not meant to cover glider operations.

Disposition

No change.

Chapter 7 – Obstacle Restriction and Limitation

Comment 109 – NPRM ref: Section 7.1, General, Section 7.1.1

The section should be referenced to the relevant lighting and marking standards.

CASA Response

The MOS chapters are necessarily inter-related. A cross reference will only be inserted where necessary. In general, instead of inserting references everywhere, readers should look up the Contents page for a subject matter.

Disposition

No change.

Comment 110 – NPRM ref: Section 7.1, General, Paragraph 7.1.3.2

The list does not contain reference to the outer horizontal surface yet Table 7.1-1 does for code 4 non-precision approach runways.

CASA Response

Well done. An inadvertent error has been spotted.

Disposition

The code 4 instrument, non-precision approach runway entry has been deleted from Table 7.1-1.

Comment 111 – NPRM ref: Section 7.1, General, Paragraph 7.1.4.1

The OLS comprises a 15km radius around the airport. The surveillance of such a large area within a CBD is impractical. The section should require surveillance of the OLS that is visible from the airport.

CASA Response

The surveillance asked for is not just visual, but should include arrangements with local authorities and organizations likely to erect tall structures within the OLS of the aerodrome.

Disposition

No change.

Comment 112 – NPRM ref: Section 7.1, General, Paragraph 7.1.4.3(b)

It is not clear if the distance is from the physical end of the runway or the start of take-off ‘end of runway’.

CASA Response

Agreed that the description should be clearer.

Disposition

This paragraph amended to read: ‘distance and bearing of the obstacle from the start of the take-off end of the runway, if the obstacle is within the take-off area, or the ARP’.

Comment 113 – NPRM ref: Section 7.1, General, Paragraph 7.1.5.1

The context of the Note is not clear.

CASA Response

Agreed that the note should be made clearer.

Disposition

The Note has been amended to: ‘For instrument runways, obstacle monitoring includes the PANS-OPS surface which extends beyond the OLS of the aerodrome.’

Comment 114 – NPRM ref: Section 7.1, General, Paragraph 7.1.6.3

This section should reiterate the responsibilities for installation and maintenance of the lights and markings.

CASA Response

As stated in 7.1.6.3, where directed by CASA, obstacles must be marked and or lit in accordance with the standards of chapter 8 or 9, which include maintenance requirements.

Disposition

No change.

Comment 115 – NPRM ref: Section 7.1, General, Paragraph 7.1.7.1

Above the minimum decision height of 500ft the runway reverts to a non-instrument runway, and, if so, this should be stated in this section.

CASA Response

That section has been deleted. Note that the definition of instrument non-precision approach runway does not include a reference of 500ft minimum descent height.

Disposition

Contents of paragraph 7.1.7.1 have been deleted.

Comment 116 – Section 7.1, General, Paragraph 7.1.7.3

To date the instrument procedure have all been provided by Airservices Australia and it will be up to them to provide the detail. At this time we believe that Airservices do not release that information.

CASA Response

CASA is working closely with Airservices in their implementation of the NPA program. If aerodrome operators have a problem in getting co-operation from Airservices, they should refer the matter to the relevant CASA office.

Disposition

No change.

Comment 117 – NPRM ref: Section 7.1, General, Paragraph 7.1.7.4

The procedure designs should be stored with a secure, central authority for long-term safekeeping.

CASA Response

Airservices Australia is currently the organization responsible for airspace in Australia and they are the custodians of the procedure designs. Until this is changed, Airservices is the custodian.

Disposition

No change.

Comment 118 – NPRM ref: Section 7.2, Aerodrome Obstacle Charts

There is no mention of Precision Approach Terrain Charts.

CASA Response

There is no mandatory requirement to provide this chart. ICAO Annex 4 requires the chart to be provided only for Category II and Category III runways. Such categories of runway operations are not in use in Australia.

Disposition

No change.

Comment 119 – NPRM ref: Section 7.3, Obstacle Limitation Surfaces, Paragraph 7.3.2.6

Transitional surface – The note indicates it is OK to draw the lower edge of the transitional surface as a straight line between corresponding ends of approach surfaces. This may risk inferring that changes in vertical profile of runway centre line, do not need to be taken into account when determining actual transitional surface heights, at particular points adjacent to the edge of a runway strip.

CASA Response

The Note is intended to provide guidelines on the drawing of a transitional surface. It is not intended to replace the standard. Agreed that this needs to be made clear.

Disposition

A new sentence added: ‘However when assessing whether an object may penetrate the transitional surface, the standard of the transitional surface applies.’

Comment 120 – NPRM ref: Section 7.4, Principles of Shielding, Paragraph 7.4.2.2

Should mention be made of the possibility of a critical obstruction for a supplementary distance being shielded by the end of strip critical obstruction?

CASA Response

This is adequately covered in MOS 5.1.3.16 and MOS 5.3.1.3.

Disposition

No change.

Comment 121 – NPRM ref: Section 7.4, Principles of Shielding, Paragraph 7.4.2.4

The shielding principle needs to be clarified further to prevent shielded objects becoming obstacles.

CASA Response

CASA will determine whether shielding is effective, taking into account the permanency of the obstacle providing the shielding and the manner of aircraft operation around the obstacle.

Disposition

No change.

Chapter 8 – Visual Aids Provided by Aerodrome Markings, Markers, Signals and Signs

Comment 122 – NPRM ref: Section 8.1, General, Paragraph 8.1.3.1

The colour red ‘R13’ as stated has been found to be too dark. The Australian standard as stated is inappropriate. Consideration should be given to allow aerodrome operators, the opportunity to experiment with colour tones, given local environmental conditions. While it is appropriate for CASA to determine the colour – the tones or hues of such colours can be different depending on the manufacture of the paint.

CASA Response

The colour is an Australian standard colour. Using the same colour at all Australian aerodromes ensures that the pilot is always provided with the same visual cues.

Disposition

No change.

Comment 123 – Section 8.1, General, Paragraph 8.1.4.1

There is a new requirement for contrasting white paint surrounds on black backgrounds. This is a potentially costly requirement. The need for contrast is subjective, and should only be required if experience indicated difficulty with pilots recognising markings on asphalt or sealed surfaces.

CASA Response

This is not a new requirement. The standard only applies in circumstances ‘where required’.

Disposition

No change.

Comment 124 – Section 8.2, Markers, Paragraph 8.2.1.2

It has been found that the use of blue edge markers for helicopter apron edge markers is difficult for pilots to see both in the dark and wet conditions. Pilots have indicated they prefer to use standard yellow markings. It is not unusual to have a mix of both fixed and rotary wing aircraft parking in the same area of an airport. Having a different colour for helicopter apron edges provides no additional safety to an aerodrome. It is recommended this type of marking be removed from the Table.

CASA Response

Disagree. Blue is used for dedicated helicopter operations only, and it has been found to be suitable. If a facility is to be used by both fixed wing and rotary aircraft, then the colour used should be yellow.

The blue edge markers have to be retro reflective, so it is difficult to understand why they cannot be seen.

Disposition

No change.

**Comment 125 – NPRM ref: Section 8.2, Markers,
Paragraph 8.2.2.2**

It is noted that Dimension A is given as the minimum distance. Should the maximum distance also be given, to avoid possible confusion?

CASA Response

The intent of this standard is to ensure that there is a gap to highlight the centreline of the runway that may not be sealed. The gap provides the pilot with a definite visual cue of the location of the runway centreline. The corners defining the end and edges of the runway strip need to be adequately marked but it is not deemed necessary to specify a maximum distance standard.

Disposition

No change.

**Comment 126 – NPRM ref: Section 8.2, Markers,
Paragraph 8.2.2.4**

Bi-coloured strip markers are generally used where the displaced threshold is not clearly delineated (eg gravel runways). On displaced thresholds with pre threshold arrows that are clearly delineated (eg asphalt runway) white gable markers are used. The new standard infers that for all displaced thresholds bi-coloured gable markers are required, which is against current practice and interpretation of the standards.

CASA Response

Agreed that the current text can lead to misinterpretation.

Disposition

Section amended to make clearer the use of markers on runway strips, unsealed runways and unsealed taxiways.

**Comment 127 – NPRM ref: Section 8.3, Runway Markings,
Paragraph 8.3.1.2**

At a runway taxiway intersection the runway side stripe marking is interrupted for the taxiway.

CASA Response

The intent of this standard is give runway markings precedence over taxiway markings, but the comment regarding runway side stripe marking is valid.

Disposition

Included an exception that runway side strip markings may be interrupted.

**Comment 128 – NPRM ref: Section 8.3, Runway Markings,
Paragraph 8.3.4.5 (also applicable to paragraphs 8.4.7.2, 8.5.23.1
and 8.6.3.2)**

Can the font be nominated?

CASA Response

The characters shown in Fig 8.3-4 are specific and does not follow a particular font.

Disposition

No change.

Comment 129 – NPRM ref: Section 8.3, Runway Markings, Paragraph 8.3.5.1

The MOS states that runway end markings are mandatory, even with displaced thresholds. This is contradictory with Fig 8.3-12 of the MOS, Figure 11-14 of the RPA and Fig 5-4 of Annex 14.

CASA Response

Australia uses the runway end marking irrespective of whether the threshold is displaced. The runway end marking line is used in the calculation of declared distances.

Disposition

No change.

Comment 130 – NPRM ref: Section 8.3, Runway Markings, Paragraph 8.3.8.4

Location of threshold stripes does not agree with ICAO Chapter 5 – 5.2.4.4 and Fig 5.2.

CASA Response

The difference is that Australia uses a 1.2m wide white transverse line.

Disposition

Paragraph 8.3.8.1 has been amended to refer to: ‘white transverse line’. In addition the discussion box at Fig 8.3-8 has been deleted and the diagram improved.

Comment 131 – NPRM ref: Section 8.3, Runway Markings, Paragraph 8.3.9.6 - 8.3.9.7

This standard requires the runways markings to be obscured during times when the permanent threshold is displaced by more than 450 metres and replaced by a temporary marking. This is totally impracticable and imposes a huge financial impost on the aerodrome operator. This standard needs to be changed to remove the 450 metres and only retain the time frames.

CASA Response

Disagree. If the threshold is displaced by more than 450m, the approaching pilot will not be able to have simultaneously in his field of view the old threshold and the new threshold. If the old threshold is not obscured, there is a risk the pilot might land short of the new threshold. The standard only requires the old threshold to be temporarily obscured, not removed, and this is not considered to be an impractical or costly proposition.

Disposition

No change.

Comment 132 – NPRM ref: Section 8.4, Taxiway Markings, Paragraph 8.4.3.2

For Pattern A you appear to be using 1m for the stripes and spaces vs. ICAO who uses 0.9m. Unless there is an advantageous difference, we should standardise with ICAO.



CASA Response

It has been a long held practice in Australia to use 1m widths for the stripes and spaces. The dimension came about as a result of converting to the metric system. Australia rounded up to 1m while ICAO selected the 0.9m dimension. CASA does not see a need to change just for the sake of changing.

Disposition

No change.

Comment 133 – NPRM ref: Section 8.4, Taxiway Markings, Paragraph 8.4.3.6

It is not clear under what circumstances the larger size marking (of Figure 8.4-3) would be required.

CASA Response

This provision is intended to address runway holding positions where additional conspicuousness is necessary and will need to be assessed on an individual case basis. This could likely be triggered by pilot or ATC incident reports. Examples could be humps on taxiways, or areas of taxiway pavement surface with contrasting surface types.

Disposition

No change.

Comment 134 – NPRM ref: Section 8.4, Taxiway Markings, Paragraph 8.4.5.2

Reference should be made to the ICAO standard, as the current wording would allow a number of different interpretations.

CASA Response

Agreed. A note on transverse or herringbone stripes has been provided to supplement MOS 8.4.5.2.

Disposition

A note is provided as stated above.

Comment 135 – NPRM ref: Section 8.5, Apron Markings, Paragraph 8.5.4.1

Parking clearance line is limited to ‘light aircraft’. There has been a requirement for this line to show extent of taxilane/extent of servicing areas around aircraft.

CASA Response

CASA has reviewed the parking clearance line and extended its use as an aircraft parking position safety line.

Disposition

The use of the parking clearance line as a safety line to depict the area around an aircraft parking position that must be kept clear of personnel and equipment during aircraft arrival or departure has been incorporated.

Comment 136 – NPRM ref: Section 8.5, Apron Markings, Sub-sections 8.5.7/8

Equipment areas should be WHITE with RED only used to show extent of aircraft stand (See IATA/ACI Apron Safety Manual) RED should only be used to show DANGER not the extent of equipment areas.

CASA Response

Australia uses RED to signify the importance of keeping the equipment within the marked area. If there is good reason to review this standard, CASA will do so. However, until there is a review, the status quo will remain.

Disposition

No change.

Comment 137 – NPRM ref: Section 8.5, Apron Markings, Sub-section 8.5.8

Road markings should be white to agree with Australian standard and standards by overseas aviation authorities. There are also other suggestions relating to making the road markings more conspicuous.

CASA Response

Agreed.

Disposition

The apron road marking standard has been included in a new separate section, and white markings will be specified.

Comment 138 – Section 8.5, Apron Markings, Paragraph 8.5.11.2

In Figure 8.5-6 it is suggested that an offset distance of 5 metres be provided for the 6A designation from the main centreline, so that it is clear what is required.

CASA Response

Fig. 8.5-6 is intended to illustrate the branching out of lead-in lines and is not intended to specify a standard on the location of the designators. The 15m designator location distance shown on the drawing is not part of the standard.

Disposition

The drawings have been amended to remove any possible confusion.

Comment 139 – NPRM ref: Section 8.5, Apron Markings, Paragraph 8.5.14.1

Marshaller Stop Line on one side of alignment line is limiting when; several aircraft use the same stop line and stop lines are close together.

CASA Response

Multiple aircraft types may use the same stop line. If the stop lines result in being close together then aircraft must be of similar size and one designator should be used to group these aircraft types.

Disposition

No change.

Comment 140 – NPRM ref: Section 8.5, Apron Markings, Paragraph 8.5.15.1

The standard infers that pilot stop lines are not needed for code letter A and B aircraft. If this is the case it should be clarified in the standard.

CASA Response

Pilots of code A and B aircraft should be able to manoeuvre their aircraft to a parking position without the need for pilot stop line. By not including these code letters in the table, it should be clear that there is no set standard for parking positions serving those aircraft.

Disposition

No change.

Comment 141 – NPRM ref: Section 8.5, Apron Markings, Paragraph 8.5.17.1

The requirement to paint the markings yellow unless they overlap the primary position is different to the wording in Figure 8.5-12.

CASA Response

Agreed.

Disposition

Note changed to state: ‘use white paint if likely to overlap the primary position marking’. The same change made to Note 3 to Fig 8.5-13.

Comment 142 – NPRM ref: Section 8.5, Apron Markings, Paragraph 8.5.21.1

Although best efforts are made to accommodate sequential numbering with no omissions, it is almost impossible with the changing aircraft types and the current company changes. Major infrastructure changes would be required should such a requirement be enforced.

CASA Response

Disagreed. The intention of the sequential numbering is to allow pilots to easily locate the parking position. It is not understood why there will be major infrastructure changes as all that is required is repainting.

Disposition

No change.

Comment 143 – NPRM ref: Section 8.5, Apron Markings, Sub-section 8.5.22

Aircraft Parking Designation is not required on aerobridge position due to; bay identification number and location can end up under fixed link/terminal building.

CASA Response

Agreed.

Disposition

Sub-section 8.5.22 has been reworded to clarify where the aircraft parking position designation is to be located.

Comment 144 – NPRM ref: Section 8.5, Apron Markings, Paragraph 8.5.30.1

The passenger path marking should be a standard zebra crossing type marking because this is what everybody the world over recognises as a pedestrian walkway.

CASA Response
Agreed.

Disposition

MOS 8.5.30.1 has been amended to call up the relevant State pedestrian crossing marking standards. However, existing passenger path markings need not be replaced until they are due for repainting. Also, include a phrase “where required” to denote that this marking is not intended for everywhere.

Comment 145 – NPRM ref: Section 8.6, Movement Area Guidance Signs (MAGS)

The MAGS section should also include the requirements for Distance to Run Markers (DTRM). Whilst predominantly military usage these are used at joint use aerodromes and could also be used at other non-military airfields. Even if only provided so that the civil users gain a greater understanding of the signs, it would be beneficial.

CASA Response
Disagreed. The MOS should contain only civil standards. The inclusion of military standards is inappropriate and can be a source of confusion.

Disposition

No change.

Comment 146 – NPRM ref: Section 8.6.1, Introduction

The ICAO sign colour specifications should be adopted.

CASA Response
Agreed that for consistency purposes, the ICAO sign colour specifications be adopted.

Disposition

A requirement has been introduced in the MOS to comply with the ICAO Annex 14 sign colour specification.

Comment 147 – NPRM ref: Section 8.6, Movement Area Guidance Signs (MAGS), Table 8.6-1

The last column in this Table should show the distance from the runway centreline rather than distance from the pavement edge. This is because a sign installed at 15m from a 60m runway is less susceptible to blast than a sign installed 15m from a 45m wide runway – yet both runways are used by B747 aircraft and both signs are clearly visible to the pilot. Experience has shown that signs installed 15m from the runway edge are regularly blown over by jet blast and the most important issue is to have the sign in place.



CASA Response

The standard provides a convenient location for the sign at some distance from the edge of the runway pavement. The location range is in accordance with ICAO to give pilots a reasonable chance of visual acquisition. A sign can be blown over due to its construction or installation and not due to the location standard. However, if there is a particular runway/taxiway configuration that subjects a sign to a particularly severe jet blast, it should be addressed as an individual case.

Disposition

No change.

Comment 148 – NPRM ref: Section 8.6, Movement Area Guidance Signs (MAGS), Sub-section 8.6.4

The structural integrity of the sign should be constructed to withstand at least 250km/h wind velocity. Note FAA use 322km/h. Additionally, the kPa requirement is normally specified with a minimum withstand without breakage (e.g. 6.21 kPa with out breakage and must break before 8.96 kPa).

CASA Response

We have reviewed the wind velocity standard and decided to adopt the British standard, which is 60 m/s as they have done a lot of work on aerodrome signs. The FAA standard has to take into account their more common cyclones. We don't see a need to change the frangibility requirement.

Disposition

The wind velocity has been changed to 60 m/s.

Comment 149 – NPRM ref: Section 8.6, Movement Area Guidance Signs (MAGS), Sub-section 8.6.5

The requirements for the lighting standards for MAGS should be referenced here but contained in Chapter 9.

CASA Response

It can be argued either way whether the illumination standard for MAGS be placed in chapter 8 or chapter 9, but agreed that a cross referencing is necessary.

Disposition

A paragraph has been inserted in Chapter 9 to advise readers that illumination of MAGS are specified in Chapter 8.

Comment 150 – NPRM ref: Section 8.6, Movement Area Guidance Signs (MAGS), Paragraph 8.6.5.4

The method of measurement of the illuminance over the sign is not in accordance with ICAO. This section should refer to the ICAO requirements.

CASA Response

Agreed.

Disposition

The requirement to comply with ICAO illumination standard for MAGS has been included in the MOS.

Comment 151 – NPRM ref: Section 8.6, Movement Area Guidance Signs (MAGS), Paragraph 8.6.7.1

Define ‘near that end of the runway’ to avoid confusion.

CASA Response

CASA does not consider it is necessary to specify a standard for this.

Disposition

No change.

Comment 152 – NPRM ref: Section 8.6, Movement Area Guidance Signs (MAGS), Paragraph 8.6.13.1

Distance to go signs should be mandatory signs. As distance to run signs are generally white inscription with black background and it is strongly recommended that a mandatory sign arrangement be used to avoid confusion.

CASA Response

Distance to go signs are only used on runways with LAHSO operations, and only if there is a need for them. However, the relationship of this sign to LAHSO can be made clearer.

Disposition

Changed to read ‘LAHSO distance to go signs’.

Comment 153 – NPRM ref: Section 8.6, Movement Area Guidance Signs (MAGS), Paragraph 8.6.17.1

There is a different requirement in sub-paragraph (b) for inclusion of an arrow on signs that are not close to the start of the runway. We have used the RPA standard in its recently completed package, where the runway designator is used throughout.

CASA Response

The MOS standards address departure points from any part of the runway.

Disposition

No change.

Comment 154 – NPRM ref: Section 8.6, Movement Area Guidance Signs (MAGS), Paragraph 8.6.18.3

ICAO refers to code element 1 (1 to 4) for this aspect, whereas the proposed rule uses code element 2 (A to F). Please clarify.

CASA Response

Taxiways are designed to cater for the physical characteristics (wing span, undercarriage configuration) of the design aircraft. So it is more appropriate to use the code letters as the criteria. In Australia some aerodromes have to serve a large range of aircraft types, and depending on taxiway configuration design, can result in providing different taxiway widths for different aircraft types.

Disposition

No change.

Comment 155 – NPRM ref: Section 8.7, Wind Directions Indicators, Sub-section 8.7.1

Reference to CAO 92.2 should be noted because this has precedence over the MOS and contains the standard in full.

CASA Response

It is intended that in due course CAO 92.2 will be repealed.

Disposition

No change.

Comment 156 – NPRM ref: Section 8.7, Wind Directions Indicators, Sub-section 8.7.1

The lighting requirements for wind direction indicators should be cross-referenced.

CASA Response

Agreed.

Disposition

A cross reference to Chapter 9 regarding illumination of wind direction indicators is provided.

Comment 157 – NPRM ref: Section 8.9, Marking of Unserviceable and Work Areas, Sub-section 8.9.1

We believe that the section should be rewritten into runway unserviceability, taxiway unserviceability and other unserviceability. Cross-reference should also be made to unserviceability lighting requirements.

CASA Response

Agreed.

Disposition

This sub-section has been totally re-written, to provide better clarity.

Comment 158 – NPRM ref: Section 8.9, Marking of Unserviceable and Work Areas, Paragraph 8.9.3.2

In relation to other types of markers – is there an approval required from CASA?

CASA Response

No special approval is required.

Disposition

This paragraph changed to: ‘Other forms of work limit markers may be used for works on apron and other areas, provided they are not a hazard to aircraft and other vehicles operating in the vicinity of the works area.’

Comment 159 – NPRM ref: Section 8.10, Obstacle Markings, Section 8.10.2

Please explain the meaning of the statement ‘.....up to 400m away’.

CASA Response

The standard means a structure must be marked when more than 150m higher than the surrounding terrain. Surrounding terrain means the area within 400m of the structure.

Disposition

Text amended to make it clearer.

Comment 160 – NPRM ref: Section 8.10, Obstacle Markings, Paragraph 8.10.2.1

The concept of a fixed object needs to be clarified.

CASA Response

Refer to dictionary meaning. ‘Something that is not movable’.

Disposition

No change.

Comment 161 – NPRM ref: Section 8.10, Obstacle Markings, Paragraph 8.10.3.3

The colour of the flashing dome lights needs to be included and should be consistent with Chapter 9, Section 9.19.

CASA Response

A new sub-section setting out the requirements for the marking of vehicles used regularly on the movement area will be included following sub-section 8.10.3. This will provide better clarification of the vehicle marking requirements.

Disposition

The section re-worded to clarify vehicle marking and lighting requirements.

Comment 162 – NPRM ref: Section 8.11, Helicopter Areas on Aerodromes

Lighting requirements for helicopter operations are not included.

CASA Response

CASA does not currently set out general standards for heliports. Applications for heliports will be dealt with on a case-by-case basis. Guidance on essential heliport requirements is currently provided in CAAP 92-2(1).

Disposition

No change.

Comment 163 – NPRM ref: Section 8.11, Helicopter Areas on Aerodromes, Paragraph 8.11.6.1

It would be more appropriate to use the letter ‘P’ to designate a helicopter parking position. At heliports or aerodromes where a number of helipads exist, the parking positions need to have a unique designation – particularly for ATC communication purposes.

CASA Response

Disagreed. The letter ‘H’ is uniquely related to helicopter operations, and ATC jargon is to use the term ‘heli’s’.

Disposition

No change.

Comment 164 – NPRM ref: Section 8.11.7, Helicopter Apron Edge Markings

This paragraph should be deleted. Otherwise, the blue line should be amended to standard yellow.

CASA Response

Blue markings are to be used for areas where only helicopters operations are conducted. Yellow markings are to be used for areas where fixed wing aircraft operations are conducted and such areas can also be used by helicopters.

Disposition

No change.

Chapter 9 – Visual Aids Provided by Aerodrome Lighting

Comment 165 – General

There are no references to constant current regulator specifications.

In relation to cables and cable installation:

Is YSVE 4005 an acceptable specification for primary and secondary cables?

What other cable insulation systems are acceptable?

Should one extremity of the secondary winding be earthed in accordance with the Aerodrome Design Manual, Part 5?

Should there be a general reference to Part 5 for guidance?

In relation to mains isolation transformers, what specification is required?

In relation to secondary isolation transformers, what specification is required?

In relation to control systems:

Are Series 2 systems mandatory?

Are PLC systems acceptable?

What monitoring systems are required?

In relation to Cable Termination Systems; what is the preferred method – FAA L-823 or heat shrink systems?

CASA response

Specifications for electrical equipment such as constant current regulators, mains isolation transformers, secondary isolation transformers, cable, cable termination systems, etc, are Electrical Engineering matters, which are not regulated by CASA. As such, MOS – Part 139 is silent on these subjects. CASA regulates the operational performance of the lighting systems. The aerodrome operator, in meeting and maintaining the operational performance requirements, is expected to ensure that the electrical systems that support the visual aids are appropriate and adequate to maintain the specified performance of the lighting systems. Aerodrome operators are expected to use professional electrical engineering services, industry standards, and best practices in ensuring that the lighting equipment is technically suitable for function.

Disposition

No change.

Comment 166 – General

There are no references to heliport lighting.

CASA Response

The proposed CASR Part 139 does not regulate heliports at this time. It only covers aerodromes. Where helicopters operate from aerodromes, they use the standard aerodrome lighting facilities such as runway lights, taxiway lights, apron floodlights, etc.

Disposition

No change.

Comment 167 – General

Many of the diagrams are unreadable at the size shown.

CASA Response

Several respondents made this comment. CASA acknowledges that many of the diagrams need improvement.

Disposition

Diagrams have been improved, enlarged where appropriate, and colour used at least in the electronic version (production of colour hard copies is subject to cost considerations) to enhance clarity.

Comment 168 – NPRM ref: Section 9.1, General, Sub-section 9.1.2

This section on lighting in the vicinity of an aerodrome appears to be different to Section 9.21(Guidance on planning lighting installations in the vicinity of an aerodrome). Section 9.21 is the preferred option as lights can cause problems outside the areas nominated in this paragraph (especially non-instrument runways).

CASA Response

Agreed.

Disposition

Section 9.1.2 revised.

Comment 169 – NPRM ref: Section 9.1, General, Paragraph 9.1.4.1

The ‘supply authority’ should be the ‘network provider’.

CASA Response

CASA believes that the term “electrical supply authority” is unambiguous, and recognised within the industry.

Disposition

No change.

Comment 170 – NPRM ref: Section 9.1, General, Sub-section 9.1.6

This section does not accord with ICAO. Generally instrument runways should also be included.

CASA Response

CASA has consciously not adopted the ICAO recommended practices in this instance. We believe that providing secondary power to non-instrument runways and non-precision approach runways would be an unsustainable financial burden on the vast majority of the smaller Australian aerodromes. Instead, flying operations procedures have been put in place to maintain safe operations when power failure occurs, for example the requirement to nominate “alternates”, carry fuel for alternates, allow for responsible persons to deploy portable lighting, etc.

Disposition

No change.

Comment 171 – NPRM ref: Section 9.1, General, Sub-section 9.1.7

What is the switch over time requirement for company approved departures below 800m?

CASA Response

Section 9.1.7 is a general standard. If a company has a specific procedure approved, any particular conditions relating to that procedure will be detailed in the company's approval.

Disposition

No change.

Comment 172 – NPRM ref: Section 9.1, General, Sub-section 9.1.9

What are the performance characteristics for portable lighting?

CASA Response

CASA permits the use of liquid fuel-burning flares for portable lights. As such, it is not practicable to specify photometric performance. The adequacy, or otherwise, of portable lights is determined by the pilot at the time of use. If the lights are visible prior to decision height, the pilot may continue the approach; if not visible the approach is discontinued.

Disposition

No change.

Comment 173 – NPRM ref: Section 9.1, General, Paragraph 9.1.9.3

Spacings at 60m are not considered appropriate and are considered to add significant time for deployment, which should be avoided where possible. Generally, somewhere between 100m to 300m should be used depending on the operations sought. Defence normally used around 120m to 150m.

CASA Response

Disagree. When portable lights are to replace permanent lights, the light spacing should be maintained. Indeed, with portable lights having a light output less than the permanent lights, a case could be made for spacing them closer rather than further apart. Military experience is not considered relevant in this case. Military pilots are trained to operate under adverse conditions, and closer to the edge of the operational envelope. This is not appropriate for civil pilots who may be carrying fare-paying passengers, and who will have differing levels of skill and experience.

Disposition

No change.

Comment 174 – NPRM ref: Section 9.1, General, Paragraph 9.1.11.2

Delete statement ‘besides being more economical’. This particular aspect is not a CASA issue and in some cases, taking into consideration the through life aspects, you may find inset offer cost savings, particularly where installed in vulnerable areas.

CASA Response
Agreed.

Disposition

Paragraph 9.1.11.2 changed accordingly.

Comment 175 – NPRM ref: Section 9.1, General, Paragraph 9.1.11.3

The standard does not allow lights to be omitted for precision approach runways and does not allow lights to be installed in the runway where lights are greater than 13mm. Not all manufacturers have 13mm projection fittings and therefore where it is impractical to achieve for runway/runway crossings and runway/taxiway intersections it would be considered unnecessarily limiting. The standard should allow lights to be omitted.

CASA Response
Lights provided to support precision approaches are intended for use in low visibility conditions. Omitting lights under these conditions is not considered acceptable. The fact that not all light manufacturers make fittings that comply with CASA standards is not sufficient reason to abandon the standard. There is operational justification for minimising projection above pavement in normally trafficked pavements.

Disposition

No change.

Comment 176 – NPRM ref: Section 9.1, General, Paragraph 9.1.13.1

This section should be clarified. There are a number of airfields that have PAL and also no permanent presence of ATC, yet have three stage systems. The definition should be based on the control functions provided rather than ATC services.

CASA Response
Agreed that the applicability of intensity control at non-ATS aerodromes should be clarified.

Disposition

This section has been revised to include applicability of light intensity control at aerodromes where there is no ATS presence, but where other responsible persons are available to control the lights.

Comment 177 – NPRM ref: Section 9.1, General, Paragraph 9.1.13.3

What are the recommended intensity stages for a 5-stage system?

CASA Response

CASA does not promote 5-stage systems. 6-stage systems are the present norm. If an aerodrome operator chooses to have a 5-stage system, it is the aerodrome operator's responsibility to determine appropriate intensity stages and have them flight checked.

Disposition

No change.

Comment 178 – NPRM ref: Section 9.1, General, Table 9-10

With the introduction of more efficient lamps and reflectors the currents required to meet the intensity will not be the same as shown in the Table on page 9-10. The Table should show the intensity required for each stage, stated as a percentage of the maximum. The manufacturer of the light fittings can provide the current required to generate that intensity. For example, the maximum current may not need to be 6.6 amps on stage 3 of the taxiway lighting if new generation fittings with dichroic lamps are used.

In Note 2 the currents should not be provided. Performance requirements should be set in terms of photometric requirements only. Additionally, the currents required to achieve the required intensities and intensity changes will be different for varying lamp technologies. Suggest that the current be removed from the publication.

The Table on page 9-10 has a significant number of conflicting aspects such as it would appear that at stage 3 runway lighting requirement would be 370cd whereas the standard requirement is for 200cd. 2000cd requirement for runway end whereas the standard is 2500cd and the intensity requirements for taxiway lighting has not used 100%, 33% and 11%. The Table uses the intensity steps for a single 6-stage system but has currents for separate systems (eg runway edge lights). The Table does not allow for PAPI or T-VASIS. The Table needs significant review or deletion.

For runway edge lighting, intensities are designated as a percentage. For a medium intensity runway edge light this Table indicates a requirement for 300cd minimum. In comparison paragraph 9.10.8.1(b) requires a minimum intensity of not less than 200cd. If the minimum intensity can be achieved with less than 6.6 amps, why is it necessary to stipulate a current intensity? The specification of a current does not allow for using a better light source or design enhancement with possible cost savings. The specification should relate to achieving the results of the isocandella diagram.

CASA Response

The Table is intended for guidance only, and this is clearly stated in the title of the Table.

The Table is based on the industry standard of 6.6 A for 100% intensity, except where Table Note 4 & 5 apply. We are not aware of any new technology or more efficient lamps that will change this industry standard. The likely changes are for the 6.6 A to remain the industry standard, but the power rating of lamps to be reduced.

If a system other than the 6.6 A system is used, appropriate currents for the various intensity stages will have to be derived by the aerodrome operator.

Disposition

Table 9-10 has been amended to improve the clarity of the guidance provided.

Comment 179 – NPRM ref: Section 9.1, General, Paragraph 9.1.13.5

Clarify statement - ‘For taxiway centreline lights or where taxiway edge lights exceeding 20cd...’. Taxiway edge lighting systems do not normally require intensity control.

CASA Response

Agreed that the paragraph requires clarification.

Disposition

The paragraph has been revised to include clear and separate statements on taxiway centreline lights and taxiway edge lights.

Comment 180 – NPRM ref: Section 9.1, General, Paragraph 9.1.13.6

It is an aerodrome operator issue to select the correct intensity to avoid dazzling pilots. This will depend on the lighting system which may exceed the specified performance by a large margin and other environmental considerations. The reference stage 2 should therefore be changed to a recommendation or deleted.

CASA Response

Agreed with the suggestion that the use of stage 2 intensity be a recommendation.

Disposition

The paragraph has been revised, including to make it clear that the use of stage 2 intensity is a recommendation.

Comment 181 – NPRM ref: Section 9.1, General, Paragraph 9.1.13.7

Clarify the monitoring sought. Generally lighting systems in Australia are provided with revertive monitoring (current sensing). Some faults such as lamps out are not technically monitored and rely on inspections. Other simple systems also only monitor minimum current and will not determine any out of tolerance current situation.

CASA Response

The monitoring required by this paragraph is to show the ATS operator of the lights the status of the lighting systems, as is present requirement. It is not a requirement for full technical monitoring of actual current value or specific lamp outages that may be appropriate for electrical maintenance use. Aerodrome operators are free to provide this more sophisticated monitoring, if they wish, so long as the ATS operator receives at least the basic monitoring specified in the MOS.

Disposition

No change.

Comment 182 – NPRM ref: Section 9.2, Colours for Aeronautical Ground Lights, Sub-section 9.2.2

There is no reason to incorporate the diagram in Figure 9.2-1. Refer to ICAO, similarly to the MAGS.

CASA Response

CASA has not adopted the ICAO colour standard unchanged, and it is therefore essential to include full details in the MOS. (For example, CASA has not adopted the full ICAO boundary for green because Australia permits pilots with colour defective vision.)

Disposition

No change.

Comment 183 – NPRM ref: Section 9.3, Pilot Activated Lighting Systems

Pilot activated lighting systems are a combination of telecommunication devices and an electrical switching system. It is more appropriate that the telecommunication specifications are moved to CASR Part 171 MOS. Coverage by CASR Part 171 will ensure appropriately qualified and experienced personnel will maintain the facilities.

CASA Response

Disagreed. Responsibility for the provision and ongoing availability of pilot activated lighting systems, rests with the aerodrome operator. It is the aerodrome operator's responsibility to obtain the appropriately qualified and skilled personnel to install and maintain the equipment. It is therefore appropriate for the requirement to be in MOS – Part 139.

Disposition

No change.

Comment 184 – NPRM ref: Section 9.3, Pilot Activated Lighting Systems, Paragraph 9.3.1.2

This section is too prescriptive. Most current airports use only a two stage (i.e. day and night), why is a three stage PAL specified? Additionally, it is an operator issue, if an airport wants to put other lighting systems on during the day. This section should be rewritten.

CASA Response

This standard is the same as in the current RPAs, and has been the standard for many years. It has been operationally successful. We would be surprised if “..most current airports use only two stage..”.

Disposition

No change.

Comment 185 – NPRM ref: Section 9.3, Pilot Activated Lighting Systems, Paragraph 9.3.1.5

This section states “...the PAL must cause the lights of the primary IWDI to commence to flash...” The requirement of paragraph 8.7.1.2, on wind direction indicators, identifies that for straight-in landings off an instrument approach a wind indicator is to be provided at the threshold. In this situation, both IWDI on each runway threshold should be illuminated and therefore should flash at the prescribed time. Any wind indicator on the aerodrome that is connected to the PAL and is illuminated should flash at this prescribed time.

To avoid potential confusion (i.e. which is the primary), the regulations should recommend all illuminated wind socks flash for the final 10 minutes of the PAL cycle.

CASA Response

CASA considers that it is sufficient for only one IWDI to flash the 10 minute warning, “...provided that the flashing is clearly visible to pilots on all approaches to lit runways” in accordance with paragraph 9.6.1.10. Aerodrome operators may provide the 10 minute warning flashing on more than one IWDI if there is a unique local requirement.

Disposition

No change.

Comment 186 – NPRM ref: Section 9.4, Obstacle Lighting

There remains no definition of what constitutes an obstacle other than that which CASA may determine is an obstacle. We need some clear definition to apply, so that industry can make reasonable determination of what lighting is appropriate.

CASA Response

We believe the Australian method of determining which objects pose a hazard to aviation, and thus become obstacles compares favourably with the method used in some overseas countries. Several overseas countries require ALL towers/structures over a given height to be equipped with obstacle lights, and this can result in a vast number of obstacle lights being provided, and consuming electricity, when the structures are located in areas such that they pose no hazard to aviation. We believe that if a CASA aeronautical study shows that a structure poses no hazard to aviation, based on local circumstances, it is unreasonable to insist on the owner providing obstacle lights. Only those structures assessed as posing a hazard need be appropriately marked and/or lighted.

Disposition

No change.

Comment 187 – NPRM ref: Section 9.4, Obstacle Lighting, Sub-section 9.4.1

Cross reference this section to the section on obstacles and markings.

CASA Response

The style and format of MOS – Part 139 does not include general cross-referencing. The comprehensive Table of Contents makes such cross referencing unnecessary.

Disposition

No change.

Comment 188 – NPRM ref: Section 9.4, Obstacle Lighting, Sub-section 9.4.2.3(b)

This point should state greater than 45 m.

CASA Response

Agreed.

Disposition

The paragraph has been changed in accordance with the comment.

Comment 189 – NPRM ref: Section 9.4, Obstacle Lighting, Paragraph 9.4.2.4

ICAO allows medium intensity white flashing lights to be used to light an object by day in lieu of markings. There is no apparent limitation for only temporary obstacles in ICAO as included in the proposed CASA requirements.

CASA Response

CASA has selected from the ICAO list of allowable versions of obstacle lights those that we consider best meet Australia’s requirements. We do not advocate the “flashing white medium intensity” obstacle light for general application in Australia. The pilot community is used to flashing red lights. Flashing white lights are already used for another purpose in Australia, viz. “lane of entry” or “air route” beacons. Flashing white lights are generally less acceptable to the community from an environmental aspect. Day markings are visible by day, and not dependant on a power supply, which may fail. We consider that the white medium intensity obstacle lights do have an applicability in the vicinity of an aerodrome, to highlight temporary obstacles in the area, such as cranes.

Disposition

No change.

Comment 190 – NPRM ref: Section 9.4, Obstacle Lighting, Paragraph 9.4.6.2 (Note 2)

The statement that twin body obstacle lights meet the intensity requirement is flawed. If a single light will not meet the criterion, twin will not meet this either. This is particularly so where one lens shields the other. Please review to possibly include lower performance requirements for twin body assemblies.

CASA Response

CASA remains of the belief that two light fittings provide more light than does a single fitting of the same type. The “shielding” of one light by the other only occurs in two (reciprocal) directions, and over a relatively limited horizontal arc. For most of the horizontal coverage, the second light has a beneficial effect.

Disposition

No change.

Comment 191 – NPRM ref: Section 9.4, Obstacle Lighting, Sub-section 9.4.7

The regulations do not adequately identify the applications of the different types of medium intensity obstacle lights either here or elsewhere.

CASA Response

Section 9.4.7 deals with the characteristics of medium intensity obstacle lights. Applicability is dealt with in section 9.4.2. CASA agrees with the general thrust of the comment on the desirability for greater clarity concerning applicability of the different types of medium intensity obstacle lights.

Disposition

Paragraph 9.4.2.4 changed to clarify the applicability of the different types of medium intensity obstacle lights.

Comment 192 – NPRM ref: Section 9.4, Obstacle Lighting, Sub-section 9.4.7.2

This describes the flashing effect that is the best that can be managed with 1940’s era incandescent lamps. The “Flashing” should allow incandescent lamps, strobe lamps, and LED systems.

CASA Response

CASA would welcome new technology that enhances the performance of these lights. The detailed requirement for flash characteristics requiring period of brightness being approximately double the period of darkness will be removed, and the internationally accepted flash frequency will be adopted.

Disposition

Paragraph 9.4.7.2 changed to delete the detailed specification, and endorse the internationally accepted flash frequency.

Comment 193 – NPRM ref: Section 9.4, Obstacle Lighting, Paragraph 9.4.9.3

Whilst white light is specified in the regulation, further definition of what type of white light (eg colour rendering index) will be needed to define this aspect appropriately.

CASA Response

CASA sees no need to be overly prescriptive in this standard. What is normally accepted in the lighting industry as “white” floodlights will be acceptable to CASA.

Disposition

No change.

Comment 194 – NPRM ref: Section 9.4, Obstacle Lighting, Paragraph 9.4.10.2

Definition of the technical monitoring sought is needed. Similar to the RPA Section 20 requirements, with circuit monitoring for low intensity and lamp monitoring for others.

CASA Response

CASA sees no need to be overly prescriptive in this standard. Where visual monitoring is to be replaced by a technical monitoring alarm, the technical monitoring should provide the equivalent monitoring to that provided by visual observation. It is not CASA intent to become involved in the “engineering” of the technical monitoring.

Disposition

No change.

Comment 195 – NPRM ref: Section 9.4, Obstacle Lighting, Paragraph 9.4.10.2(a) and (b)

To monitor all the obstacle lights within the OLS every 24 hours is unreasonable – a reasonable requirement would be to monitor those infringing lit obstacles visible from the airport within the period. It is the light owners responsibility to monitor and maintain the light.

It is the responsibility of the owner of the medium or high intensity light to monitor and ensure its continued operation. The airport operator should not be expected to carry out this function where at least the light is not visible from the airport.

CASA Response

CASA emphasises the importance of obstacle lights within the obstacle limitation surfaces of an aerodrome. They are an integral facility in providing a safe environment for operations into and out of the aerodrome. Failure of critical obstacle lights could require a change of operating procedure at an aerodrome, such as rendering the approach to a particular runway unavailable. NOTAM action may be required. As such, CASA considers the monitoring of operation of these obstacle lights to be an aerodrome operator responsibility.

The owner of the obstacle lights of course also has a duty of care to ensure the lights are effective at all relevant times, but the owner of the lights is not in a position to arrange NOTAMs, advise pilots, or instigate specific aerodrome operating procedures.

Disposition

No change.

Comment 196 – NPRM ref: Section 9.5, Aerodrome Beacons, Paragraph 9.5.1.6

ICAO requires 20 to 30 flashes a minute. 12 to 30 would appear to be an error.

CASA Response

CASA consciously allowed this difference from the ICAO standard, to accommodate some old existing beacons, while still preferring the ICAO 20 to 30 flashes per minute.

Disposition

The wording of the MOS has been revised to clarify CASA's intent.

Comment 197 – NPRM ref: Section 9.6, Illuminated wind direction indicator, Paragraph 9.6.1.4 (Note)

Vertical illuminance is more important for a wind sock.

CASA Response

Pilots in flight, as well as pilots on the ground use wind direction indicators. Both horizontal and vertical component of illumination are important. Horizontal illumination is considered to be easier to measure and check, and because of the relationship between light sources and the curved surface of the wind cone, CASA believes that if horizontal illuminance is satisfied, then the vertical component will also be satisfactory.

Disposition

No change.

Comment 198 – NPRM ref: Section 9.6, Illuminated wind direction indicator, Paragraph 9.6.1.6

The control of the IWDI as stated in this paragraph needs to be modified. Generally the cabling and control arrangement may not allow IWDI for a particular runway to be energised with the runway alone.

CASA Response

It is an operational requirement that the wind direction indicator associated with a given runway be illuminated when that runway is being used at night (ie when the runway lights are on). The engineering of the cabling and control must be such that the operational requirement is satisfied.

Disposition

No change.

Comment 199 – NPRM ref: Section 9.7, Approach Lighting Systems, Sub-section 9.7.1

Simple approach lighting systems whilst not providing any benefit in operational minima's are gaining wider acceptance and usage. Suggest that this element be referred to ICAO. Additionally, the standard should also state that high intensity SAL systems should not be used in conjunction with low or medium intensity runway lighting systems (i.e. there should be a uniformity requirement similar to that in ICAO or 1.5 to 2 when compared to the runway edge lighting).

CASA Response

CASA considers it important for pilot recognition and interpretation of aerodrome lighting systems, that standard configurations be maintained, and therefore does not support the proliferation of different approach lighting systems. CASA does not endorse the Simple Approach Light System. No operational credit is given for it. CASA would prefer aerodromes to spend their money on lighting systems that provide more benefit to aircraft operations, such as visual approach slope guidance, or perhaps a RTIL system.

Disposition

No change.

Comment 200 – NPRM ref: Section 9.7, Approach Lighting Systems, Sub-sections 9.7.2 and 9.7.3

These paragraphs repeat a significant amount of information from ICAO but do not include sufficient information to be used alone (i.e. they miss information from ICAO which then requires reference to ICAO). Aspects such as the installation tolerances, requirement for capacitor discharge lights for CAT II/III and frangibility requirements are not provided. These paragraphs need to be reviewed by either referring to ICAO (preferable) and including the Australian specific requirements or by including all relevant information.

CASA Response

CASA places a high priority on having standard configurations for airport lighting systems in the critical approach phase in a precision approach, where the transition from instrument to visual flight occurs. CASA has standardised on a single approach light system, namely the Calvert crossbar system with distance coded centre line (as depicted in Annex 14, Figure A-6 view A.) CASA has chosen not to endorse the various other approach lighting systems such as the Barrette Centre Line system, with or without sequenced flashing lights on the centre line.

Installation tolerances are included in the text and on the figures; when the figures are made larger the dimensions will be more obvious. Capacitor discharge lights are not required in any Australian standard approach light system. Frangibility requirements for approach light supporting structures are given in paragraphs 9.1.10.2 and 9.1.10.3

Disposition

No change.

Comment 201 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.1.6

Refer to paragraph 9.1.3.3.

CASA Response

The wording will be improved to maintain harmony between the two paragraphs.

Disposition

Slight revision of the wording of the two paragraphs has been made to ensure they are in harmony.

Comment 202 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.1.7

The standard states that an AT-VASIS system can only be used for domestic operations. In the past, AT-VASIS has been used in places where, due to physical constraints, it was not possible to install a double-sided system.

AT-VASIS should be approved for international operations if it is not possible to install a complete system. Does this mean the AT-VASIS system at Melbourne RWY 16 could not be used for international aircraft? AT-VASIS should be approved for international operations if it is not possible to install a complete system.

CASA Response

The comment is accepted. It is true that AT-VASIS are already installed at a number of locations where it was not practicable to install a T-VASIS, eg Sydney 16L and 34R, Melbourne 16.

Disposition

MOS changed to reflect this reality.

Comment 203 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.1.7

Guidance is required to show when roll guidance is required. This would also assist in determining where a double-sided PAPI is required.

CASA Response

It is not possible to give a definitive statement as to when roll guidance is required. An operational assessment is the only way to determine if it is necessary. The operational assessment will take into consideration how the approach will be flown, if the approach is over water or featureless terrain, presence or absence of a visible horizon, etc.

Disposition

No change.

Comment 204 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Sub-sections 9.9.2

The obstacle assessment surface does not comply with ICAO. It would appear that the T-VASIS information is being used for both aids.

CASA Response

CASA has determined that the ICAO requirements for different lengths of inner edge and distances from threshold for various runway types and code number are overly complex. We have adopted a single value that satisfies all runways. The ICAO length of 15,000 m is considered to be excessive, taking into account visual ranges of the aids, and the single value of 9 km has been adopted, following experience gained over years of operation. For a standard PAPI, Angle “A” is 2.5 degrees, therefore “A – 0.57” equals 1.93 degrees. Noting that the T-VASIS angle was 1.9 degrees, CASA considered that using 1.9 degrees was satisfactory for both T-VASIS and PAPI standard installations.

Disposition

No change.

Comment 205 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Sub-sections 9.9.3

This section is an over simplification of the T-VASIS requirements and contains a number of significant concerns and would not appropriately ensure performance.

CASA Response

CASA agrees that the sub-section 9.9.3 dealing with T-VASIS should be improved. This sub-section has been significantly revised since the Notice of Proposed Rule Making was issued.

Disposition

Significant revision of sub-section 9.9.3 has been made.

Comment 206 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.3.5

The photometric performance sought for azimuth is not in accordance with the photometric requirements of ICAO (30° for night should be 15°). This section should refer to the photometric requirements of ICAO.

CASA Response

Past Australian practice has been to have the night azimuth of 30°, but ICAO adopted a standard requiring only 15°.

Disposition

The paragraph will be re-worded to make it clear that 15° night azimuth is an acceptable standard, and a Note about past Australian practice will be added.

Comment 207 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, paragraph 9.9.3.6

Paragraph is not in accordance with ICAO. Missing the specified distance.

CASA Response

Agreed.

Disposition

The omitted distance has been added to the text.

Comment 208 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.3.10

My understanding is that there are no downwind and upwind legs associated with T-VASIS. I believe this should be fly-down and fly-up.

CASA Response

Agreed. Fly-down and fly-up are the appropriate phrases.

Disposition

The expressions “fly-down” and “fly-up” have been used where appropriate.

Comment 209 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.3.11

The specified recognition angle for changing to white of 2°20' would appear to conflict with the requirement for a 15' transition. This aspect (2°20') does not appear in ICAO.

CASA Response

The original draft contained some errors regarding some of the T-VASIS characteristics.

Disposition

The relevant paragraphs have been revised.

Comment 210 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.3.14

This paragraph needs to be clarified. To achieve compatibility is very difficult as different aircraft types have different eye path to ILS beam characteristics. The most onerous is the B747, which has around a 20 feet difference whereas most other aircraft are less than 10 feet. Therefore for B747 to achieve compatibility, the eye height over the ILS beam would need to be around 20 feet, which will not be compatible for smaller aircraft.

CASA Response

Disagreed. The eye height 1m higher than the ILS glide path has been found to suit most aircraft. The case of the B747 is special, because the eye height of the B747 is so much higher than other aircraft. If a B747 flies the T-VASIS “one-light-fly-down” the visual and ILS approach slopes will be harmonised. AIP-Australia AD1.1 – 30 provides pilots advice on increased eye-height over threshold by flying the approach with one or more “fly-down” lights visible. In ICAO Annex 14, the Note following 5.3.5.9 also has guidance on flying the T-VASIS when greater than standard pilot eye height over the threshold is required.

Disposition

No change.

Comment 211 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.3.17, Table 9.9-2

Levelling of the units requires a specifically manufactured level with very precise accuracy. Reference engineers level is appropriate.

CASA Response

The “precision engineers level” referred to is the one supplied with the T-VASIS equipment. By end-for-ending the level, any inaccuracy in the instrument can be identified and corrected.

Disposition

No change.

Comment 212 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.3.19, Table 9.9-3, Table 9.9-4, and the Notes following each Table

The Matman numbering system is no longer used.

The V1/418 no longer exists. There are some copies available and these do not meet the photometric requirements, nor did the original V1/418 lamps (Airport Lighting Equipment Handbooks state performance at 45 000cd). Generally, the light output is achieving the visibility requirements but they cannot meet the 80,000cd. This aspect of the regulations needs further consideration and development. The maximum light output shown in the tables is more than is actually achieved with T-VASIS systems. The nominated day lamp, V1/418, have not been available for years.

CASA Response

The two tables are included for guidance only.

Both Matman numbering (eg 021027.8) and Vocab numbering (eg V1/418) systems were products of the old Department of Civil Aviation, and are no longer in official use, but we have noted that many in the industry still refer to one or other of these forms of nomenclature, and so we have included them in these tables for ease of reference.

We acknowledge that the T-VASIS equipment is now old, and the maximum light output may not in fact meet the published values. However, flight checks of T-VASIS have shown that the visual range at which the T-VASIS can be seen and interpreted are operationally satisfactory both by day and by night. Indeed, the usable visual range of the T-VASIS by day, even with the allowable reduced light output, is significantly greater than PAPI.

When more up to date values of light output become available to CASA, we will review the published values. In the mean time, we believe the guidance given in relation to current settings to be of interest and use to aerodrome operators.

Disposition

No change.

Comment 213 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Sub-sections 9.9.4

Generally a significant number of aspects associated with PAPI installations are not adequately covered due to the partial repeat of the ICAO requirements. The section requires substantial review or preferably should reference ICAO.

CASA Response

This section has been significantly revised since the Notice of Proposed Rule Making was issued.

Disposition

Significant revision of sub-section 9.9.3 has been made.

Comment 214 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.4.1

Why is there a requirement for the PAPI to have third party certification for photometric performance and not the T-VASIS? Why has this not also been requested for other lighting systems. NATA or equivalent testing should be required for all light fittings.

CASA Response

This requirement was a legacy from the RPAs when PAPI was first introduced into Australia. It will be removed, and PAPI will be treated the same as all other visual aids equipment.

Disposition

The specific mention of third party certification has been removed.

Comment 215 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.4.3

The requirements for either a single sided or double sided PAPI system needs to be further defined. Who takes this decision?

CASA Response

Agreed. This has been clarified by changes made in Section 9.9.1.

Disposition

Changes to Section 9.9.1 will clarify the requirement.

Comment 216 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.4.11, Table 9.9-5

This Table only partly reproduces information from ICAO and is missing vital information required for PAPI installations such as the minimum wheel clearance.

CASA Response

This is a legacy from the RPAs when PAPI was first introduced into Australia, with limited use only permitted. CASA has now reviewed and expanded this table.

Disposition

Table 9.9-5 revised and expanded to give it broader applicability.

Comment 217 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.4.14

This information is not only associated with down sloping runways. This aspect is the normal process for ensuring minimum wheel clearance is attained.

CASA Response

Agreed. This section has been significantly revised since the Notice of Proposed Rule Making was issued.

Disposition

Procedure for establishing the distance of the PAPI wing bar from the runway threshold fully revised.

Comment 218 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.5.2

This paragraph needs to be reviewed. Paragraph 9.9.4.9 does not specify the minimum wheel clearance. Furthermore the limitation for smallest aircraft of 55 feet maximum wheel clearance at the maximum on slope is not possible when B747 or other large aircraft also use the aerodrome. For example the eye to wheel path of a B747 is around 44 feet. The minimum wheel clearance from ICAO is around 19.6 feet (6m). Therefore the minimum TCH would be 63.6 feet at 2.8⁰.

Which would equate to a maximum TCH of 72.7 feet, which would exceed the maximum wheel clearance of 55 feet. In any case the regulations should require the LDA to be checked to ensure the safe operation of aircraft. I see no issue for smaller aircraft provided there is appropriate LDA. Please review this aspect.

CASA Response

Agreed. This section has been significantly revised since the Notice of Proposed Rule Making was issued.

Disposition

Procedure for establishing the distance of the PAPI wing bar from the runway threshold fully revised.

Comment 219 – NPRM ref: Section 9.9 Visual Approach Slope Indicator Systems, Paragraph 9.9.5.4

The statement that the PAPI should be placed at the same distance from the threshold as the virtual source as the ILS is inappropriate. Aircraft with large differences between ILS to wheel track and eye to wheel track need the visual aid positioned to suit the ILS and the visual guidance appropriately. For B747, this would be around 20 feet difference.

CASA Response

Agreed. This section has been significantly revised since the Notice of Proposed Rule Making was issued.

Disposition

Procedure for harmonising PAPI and ILS fully revised.

Comment 220 – NPRM ref: Section 9.9, Visual Approach Slope Indicator Systems, Paragraph 9.9.5.7, 9.9.5.8 and 9.9.5.9

There should be a new section titled ‘CASA Approvals’ or similar.

These paragraphs need to be clarified – similar comments as for the commissioning of lighting systems sub-section 9.1.14.

This procedure is relevant for a number of lighting systems such as HIRL/HIAL and T-VASIS. Therefore this may be more appropriate in the commissioning section.

CASA Response

Agreed. “Commissioned” rather than “CASA approved” is a more appropriate expression. As this material relates to commissioning, and is applicable to systems other than just PAPI, it is appropriate to remove it from this section, and include it in the general section on commissioning.

Disposition

The material on commissioning will now be located in the general section on “Commissioning of Lighting Systems”.

Comment 221 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.2.2(b), and 9.10.2.2(c)

The requirement for runway edge lighting type needs to be clear and unambiguous. Problems have arisen where approved systems are not being judged as operating effectively and additional substantial costs have been incurred providing additional lights.

Should state ‘...lights meeting the directional characteristics.... only need to be provided’.

CASA Response

Paragraph 9.10.2.2(c) was an incorrect draft and will be withdrawn as it is contrary to operational requirements and may give a wrong impression that aerodrome operators can determine how aircraft approaches are flown. Operational and safety requirements dictate that runways intended for night use must be provided with circling guidance. This paragraph will be re-written to make the standard requirement clearer.

Disposition

Section 9.10.2.2 re-worded and 9.10.2.2(c) deleted.

Comment 222 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.4.2

Define the irregular spacing requirements. Normally lights should be spaced at 57.5m spacings, which allows up to a 2.5m variance. Additionally, why is it not allowed to remove a fitting within 600m of the runway end/threshold? The aspect of covered should be that appropriate guidance is maintained which should be possible with the removal of a fitting in this area of the runway.

CASA Response

The first 600 m is the critical section of the runway during the final approach and touchdown phase. Irregular spacing is spacing not within the standard tolerance. The restriction on irregular spacing in the first 600 m will be revised.

Disposition

New Paragraph 9.10.4.2 will allow irregular spacing within 600m from the threshold, on non-instrument and non-precision instrument runways.

Comment 223 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.4.5

There is no reason why precision approach runways cannot omit lights. ICAO allows lights to be omitted. Please review this requirement.

CASA Response

Disagreed. This is an existing standard, and past compliance has not proved too difficult. The lighting is to support low visibility operations, and hence omitting lights is not appropriate.

Disposition

No change.

Comment 224 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.5.2

This practice is not recommended, as the useable pavement should be defined by the lights.

CASA Response

Disagreed. This is the existing standard. It is a specific Australian operational standard, to provide a consistent visual image to pilots when operating onto narrow runways. Having the two rows of runway edge lights closer together gives a misleading visual perception that the pilot is higher above the runway than he actually is.

Disposition

No change.

Comment 225 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.6.1

The RPA clause 9.2.13. No one has a specification for an omnidirectional inset runway edge light. There was never a requirement for any omnidirectional component from inset runway edge lights.

CASA Response

The MOS will be worded to take this into account. It will be sufficient for inset runway edge lights to have photometric characteristics as close as practicable to that of the elevated edge lights. If this means that a limited number of the edge lights are not omnidirectional, then that will be acceptable.

Disposition

Paragraph 9.10.6.1 reworded to clarify the requirements.

Comment 226 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.7.1(c)

Add a note that allows fittings of higher output provided intensity is limited. Generally the fittings offered would be the same for both low and medium intensity; however with the low intensity set a fixed intensity suitable for the aerodrome operations.

CASA Response

Disagreed. The MOS gives a simple statement of what light output is required. The suggested note is considered unnecessary, and may cause confusion to operators without a detailed knowledge of aerodrome lighting.

Disposition

No change.

Comment 227 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.8.1(c)

There is no reason to limit the intensity of the runway lighting systems for medium intensity. At some aerodromes greater light intensity would be an advantage and provided that the runway lighting system uniformity is maintained this would provide a superior outcome. Additionally, where a runway is lit as a precision approach lighting system generally bi-directional/omni directional lights are used which provide higher light intensities for the approach in the other direction, which may not necessarily be precision approach. This paragraph should be deleted.

CASA Response

Disagreed. The upper limit on intensity for medium intensity lights is to suit the worst visibility conditions under which non-instrument or non-precision approach procedures may be conducted. Higher intensity in these relatively good visibility conditions would cause glare to pilots unless the maximum output was reduced or limited. Any greater intensity would only be appropriate for lower visibility conditions, which would require a precision approach, and the high intensity lights support this.

Disposition

No change.

Comment 228 – Section 9.10, Runway Lighting, Sub-section 9.10.10.1

The clause omits the use of lights as a departure aid.

CASA Response

Agreed. This was an inadvertent consequence of using the phrase “... to be used for landing in either direction ..”.The clause will be re-phrased to “ .. to be used from either direction ..”.

Disposition

The words “for landing” deleted, which will result in the paragraph encompassing all appropriate operations.

Comment 229 – NPRM ref: Section 9.10, Runway Lighting, Sub-section 9.10.16

The requirement for two uni-directional lights is unclear and they would appear to serve no useful purpose. These lights should be either a wing bar or omni-directional. Wing bars are optional and would not normally be required however the later omni-directional lights allow additional circling guidance would be of benefit. In any case this lighting should be optional.

CASA Response

Disagreed. This sub-section relates to High Intensity thresholds. Omni-directional lights are not appropriate for high intensity thresholds. High intensity thresholds are not intended to support circling approaches. Circling guidance is provided by the Medium intensity threshold lights, which indeed have the outer light as omnidirectional.

Disposition

No change.

Comment 230 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.17.1(b) – also applies to 9.10.19.8(e) and 9.10.19.13(a)

The light distribution should be $\pm 10^0$. This is based on the typical light used for this application is a high intensity taxiway light.

CASA Response

Disagreed. These thresholds are to support circling approaches, and therefore the widest horizontal beam spread is operationally desirable. The typical light for this application is an elevated fitting, except when on runways that are also precision instrument runways. Elevated fittings with split filters or internal shields can satisfy this standard at or near the 180° beam width. Where inset fittings are to be used, a light in compliance with Figure 9.14-5 would satisfy the minimum beam width.

Disposition

No change.

Comment 231 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.17.1(d)

This paragraph should use and define average main beam intensity. Additionally, is half the required intensity acceptable? Conflicts with paragraph 9.10.19.8(g).

CASA Response

The intention of this paragraph was to give the preferred value of “1 to 1.5”, but at the same time to allow a lot of existing thresholds which are known to be installed to a previous standard which allowed intensity down to half that of the edge lights. The concession for existing installations is not necessary for a temporary displaced threshold, and that is why the preferred figures only are specified in 9.10.19.8(g). As a result of this comment, the wording of 9.10.17.1(d) will be changed to make the intent clearer.

Disposition

Paragraph 9.10.17.1(d) revised, and a note added, to make the intent clearer.

Comment 232 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.19.1(b)(iii)

In this case what is expected to occur with an omni-directional outer threshold light?

CASA Response

This standard is for a precision approach runway, therefore the threshold lights are High intensity, and thus uni-directional; there are no omni-directional lights. Omni-directional outer threshold lights are in the Low and Medium intensity threshold systems.

Disposition

No change.

Comment 233 – Section 9.10, Runway Lighting, Paragraph 9.10.19.5

A ‘toe-out’ angle for the RTILS should be included.

CASA Response

Agreed. This will be included.

Disposition

This aspect of RTIL characteristics have been revised.

Comment 234 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.19.5(d)

An intensity to achieve the 7km visibility would be useful.

CASA Response

An intensity has not been specified because there is no accepted international standard. CASA therefore prescribed an operational parameter instead. However, in the note following this paragraph CASA has provided guidance on lights that have been found to be suitable.

Disposition

No change.

Comment 235 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.19.6

Cross-reference to Figure 9.12.4.

CASA Response

Figure 9.12.4, and similar figures, illustrate typical arrangements of various aerodrome lighting systems, but they are not the standard. The standard is the text in the appropriate paragraphs. In most cases, these figures will illustrate standards from several paragraphs. As such, it is not the practice in the MOS to include cross-referencing to figures that are only provided for illustrative purposes.

Disposition

No change.

Comment 236 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.19.8

Temporary displaced threshold lights. This requirement is OK if we're dealing with low or medium intensity installations, but it is problematic for high intensity installations.

CASA Response

If a precision approach runway has the threshold temporarily displaced, this will normally render the ILS unavailable for precision approaches, which changes the runway to a non-instrument or non-precision instrument runway, as appropriate. As such, operations are restricted to visibility conditions suitable for medium intensity runway lights. A note will be added to the MOS, clarifying that the Temporary displaced threshold lighting relates only to Low and Medium intensity runway lighting systems, and not to High Intensity systems.

Disposition

A note has been added following the paragraph on characteristics of temporary displaced threshold lights.

Comment 237 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.20.6(b)

The performance specified may need to be changed to be similar to ICAO eg ‘The lights shall show up to 30° above horizontal in all angles of azimuth necessary to provide guidance to aircraft taxiing in either direction. The minimum peak intensity shall be 5cd. The lights also need to be connected to suit operation on the runway circuits or provided with a separate circuit to ensure correct operation over the range of runway intensity settings.

CASA Response

Agreed. Rather than include light characteristics in this paragraph, the taxiway edge light standard will be quoted as the applicable characteristics.

Disposition

The paragraph revised to state that the characteristics must be those of taxiway edge lights.

Comment 238 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.21.5(a)

Where the lights coincide with pre-threshold lighting they may be omni-directional. This aspect should also be addressed.

CASA Response

Disagreed. Stopway is not intended for normal traffic. It is only intended for aircraft to be stopped in the case of an abandoned take-off, and therefore the lights are required to be seen only by an aircraft over-running the runway end.

Disposition

No change.

Comment 239 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.21.5(d)

Suggest the words ‘where practical’ be added to the end of this paragraph.

CASA Response

Because a stopway is not intended for normal traffic, it is difficult to envisage where elevated lights would not be practicable. The matter of elevated versus inset lights has been address as a single standard in section 9.1.12 instead of being distributed throughout the chapter.

Disposition

The matter has been removed from this section.

Comment 240 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.22.6

Define the type or level of monitoring required.

CASA Response

Normal monitoring, as provided for other lighting facilities, to give visual confirmation to the ATC that the bar of Hold Short Lights are ON/OFF, and what the intensity setting is.

Disposition

The paragraph has been revised to state that the monitoring is for the ATC operator controlling the LAHSO operations.

Comment 241 – NPRM ref: Section 9.10, Runway Lighting, Sub-section 9.10.23, and 9.10.23.1(Note)

Are runway centreline lights required for a Category I runway used for takeoff with an operating minimum below an RVR of the order of 400m?

Are runway centreline lights required for departures in >400m RVR conditions as recommended by ICAO?

CASA Response

No. Under current AIP “ENR 1.5 Section 4.2 Standard Take-off Minima”, runway centreline lights are not mandatory.

Disposition

No change.

Comment 242 – NPRM ref: Section 9.10, Runway Lighting, Paragraph 9.10.23.5(Note)

ICAO design manual Part 5 stipulates circuiting requirements – these should be referenced here.

CASA Response

Disagreed. The MOS will only call up an ICAO reference when the particular ICAO material is part of the standard.

Disposition

No change.

Comment 243 – NPRM ref: Section 9.11, Isocandela diagrams of runway lighting

This section should refer to the maintenance requirement specified in ICAO or 50% either here or elsewhere. This section should also provide guidance on the photometric requirements for threshold and end lights for low and medium intensity lighting systems.

CASA Response

The maintenance requirement is given in 9.20.2.2. Photometric requirements for threshold and end lights for low and medium intensity systems are given in 9.10.17.1 and 9.10.19.13 respectively.

Disposition

No change.

Comment 244 – NPRM ref: Section 9.11, Isocandela diagrams of runway lighting, Paragraph 9.11.1.4

The intensity ratios should include for practicality, a ratio for an inset runway edge light. Elevated and inset will rarely have 1:1 ratio. Our current specifications require the lights to fall within 0.8 to 1.2, which is considered practical. These ratios should also include low and medium intensity requirements for threshold and end as well as simple approach for these.

CASA Response

Disagreed. Photometrics of inset lights should be as close a match to the corresponding elevated lights, as possible. That is sufficient. Adding this additional requirement is unwarranted.

Disposition

No change.

Comment 245 – NPRM ref: Section 9.12, Illustrations of Runway Lighting

Figure 9.12-1 to -7 should show the threshold and end lights outside the extremity of the runway. Additionally these drawings should also show dimensions.

CASA Response

The standards 9.10.13.1(a) and 9.10.19.11(a) allows threshold and runway end lights to be located not more than 1 m inside the extremity, and therefore the figures are not misleading. These figures are for illustration purposes only. The standards, including dimensions and tolerances, are contained in the text of the MOS.

Disposition

No change.

Comment 246 – NPRM ref: Section 9.12, Illustrations of Runway Lighting, Sub-section 9.12.4

An additional figure is recommended to show the more complex layout at a major airport. Those facilities might include REIL's, temporary PAPI, extinguishing of lights in closed sections, unserviceability markings and works limit lights, etc.

CASA Response

We consider that such a drawing would be too cluttered to be of any real benefit, at the scale we would have to use to fit within the format of the Manual of Standards. Also, choosing what to include, and what to omit, and still have the drawing represent a “typical” major airport, would be virtually impossible. For example, including RTILs would infer that they were a commonly required facility, when in fact they are quite uncommon at major aerodromes.

Disposition

No change.

Comment 247 – NPRM ref: Section 9.13, Taxiway Lighting

The issue of the specification for the edge lighting of apron taxiways requires further classification. On many aprons there are edge lights but no apron taxiway centreline lights. What are the specifications for provision and performance of these fittings? Should the lights be blue (which is a low performing colour), or should they be some other colour? Should the lights be shielded from the manoeuvring area?

CASA Response

Taxiway edge lights are not needed on apron taxiways. Apron floodlights, or if necessary taxiway centreline lights, are appropriate for apron taxiways. (Note that this is not the same subject as apron edge lights, but in reviewing this comment, we noted that the MOS required some revision to clarify the provision of taxiway edge lights at the edge of an apron.)

Disposition

The MOS has been revised to include provision of taxiway edge lights at the edge of an apron.

Comment 248 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.1.3

Should also include requirement for taxiway centreline lights for complicated taxiway systems.

CASA Response

Agreed. The Manual of Standards will be amended accordingly.

Disposition

The MOS has been revised to include provision to allow the use of taxiway centreline lights where the taxiway layout is complex.

Comment 249 – NPRM ref: Section 9.13, Taxiway Lighting, Sub-section 9.13.7

The information included here is incorrect. The main criterion for taxiway centreline lighting is to ensure a minimum of three lights are visible allowing for the nose cut-off of the aircraft that will frequently use the aerodrome and also displacement of the cockpit from the centreline (normally 3m) as detailed in ICAO Design Manual Part 4. This can be easily achieved with the ICAO compliant fittings at the original CASA spacing requirements, particularly for curves with a radius at 60m and above. This is based on the 27m nose cut-off for B747 aircraft, smaller aircraft could use the previous CASA guidance for all curves.

It should be noted that narrower beam spreads do not detract from the performance of the installation, in fact they increase guidance whilst also minimising the amount of spill light, another undesirable element (eg warning a pilot when deviating excessively from the centreline). The requirement to control spill light is also included in the regulations and should be a feature of a well-designed installation, where possible. This is a particular issue for certain Defence aerodromes which can potentially conflict with joint use aerodromes if the increased spacing proposed in the regulations is adopted.

Disagree with the proposition in point 2 of the Note box. The newer fittings are better in terms of spread in both azimuth and vertical.

CASA Response

Disagreed. Taxiway lighting is to enable safe, expeditious surface movement under various visibility conditions. “Three lights visible” is the absolute minimum to enable surface movement, and is associated with low visibility operations. A clear indication of taxi path well in front of the aircraft enables taxi speed to be maintained. CASA has chosen to follow international practice concerning the use of current ICAO compliant photometrics, and to no longer endorse the use of older non-compliant fittings.

Disposition

No change.

Comment 250 – NPRM ref: Section 9.13, Taxiway Lighting, Sub-section 9.13.8

Taxiway centreline lighting should be located on the centreline. The paragraph should state: ‘where not practical they can be offset not more than 0.3m.’

CASA Response

Disagreed. In Australia, practicability is not the determining factor. The standard allows aerodromes to choose to offset lights from the centreline. Offsetting has some advantages, for instance, it can reduce the effect of nosewheel bump, and also makes ongoing maintenance of taxiway centreline marking easier while minimizing the potential for fouling the lights with pavement paint.

Disposition

No change.

Comment 251 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.9.1

Spacing is not provided for non-instrument runways.

CASA Response

Centreline lights are not mandatory for non-instrument runways. However, they are permissible, and the Table will be amended to include non-instrument runways.

Disposition

Table 9.13-1 revised to include non-instrument runways.

Comment 252 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.9.5

Fifteen-metre spacing for curves is a considerable overkill. If the older lights are acceptable, new lights are equivalent and also should be acceptable. These systems should be at the same spacing as for the taxiway edge lighting for RVR 550m (CAT I) and above.

CASA Response

The longitudinal spacing of taxiway centreline lights has been arrived at after significant study and discussion, including detailed study results for one of our major international aerodromes. The standards adopted by CASA are in line with common international practice.

Disposition

No change.

Comment 253 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.9.5

In Note 1, does the word ‘should’ mean optional or mandatory?

CASA Response

“Should” means not mandatory, but CASA encourages aerodromes to follow the suggestion.

Disposition

No change.

Comment 254 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.10.1(b) and Paragraph 9.13.11.1(b)

ICAO has a tolerance, which should be allowed. Standard Defence practice is to place the lights coincident with the marking at 0.9m offset from the runway centreline. There is only a need to install at 1.2m where affected by runway centreline lights. ICAO requirements should be specified.

CASA Response

Disagreed. The ICAO value is only a recommendation, it has the distance specified as “..at least..”, and can change depending on the presence or absence of runway centreline lights and which side of the runway centreline marking they are offset, and can result in the taxiway lights being either on the taxiway centreline marking or 0.3 m offset from the marking. CASA has distilled all the variables, and chosen a single standard that is applied under all circumstances, and provides the same end result no matter what the other variables are.

Disposition

No change.

Comment 255 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.11.2

ICAO allows 30m spacing where no runway centreline lights are installed. This should also be allowed by these regulations.

CASA Response

Disagreed. CASA has considered this ICAO dispensation, and can see no logical reason for it. The presence or absence of runway centreline lights appears to have no relevance to an aircraft on a rapid exit taxiway. CASA therefore did not adopt this exception.

Disposition

No change.

Comment 256 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.13.1

This is an ambiguous statement. Define this requirement.

CASA Response

Disagreed. The wording is very similar to words used in Annex 14, para 5.3.15.6. We can detect no ambiguity.

Disposition

No change.

Comment 257 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.14.3(b)

Unnecessarily prescriptive requirement. Lights should be installed in accordance with ICAO between 0m and 3m from the edge of the pavement.

CASA Response

Disagreed. The values used are in accordance with long standing Australian standards. They are within the ICAO tolerance. There is no persuasive argument to widen our tolerance. In particular, we consider 3m from the taxiway edge to be too far to give the necessary guidance to ensure aircraft don't drop a wheel of the edge of the taxiway, bearing in mind taxiway edge lighting is usually associated with lower categories of taxiway which may not have taxiway shoulders.

Disposition

No change.

Comment 258 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.15.1, Fig 9.13-1

This Figure may need to be modified to include the requirement for the limitation of thirty metre spacings for short straight sections, if considered appropriate.

CASA Response

Disagreed. The minimum 30 m spacing on short taxiways, in 9.13.9.2, is specifically for centreline lighting. For taxiway edge lighting, the values derived from Figure 9.13-1 apply for any length of taxiway.

Disposition

No change.

Comment 259 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.15.7

These spacings should be based on the curve spacings. A general spacing requirement should be to uniformly space the lights on the curve in accordance with the requirements of Table 9.13-1 between lights installed on the tangent points. The next spacing from the tangent point on the straight section should be equal to the curve spacing and the next spacing at not more than 25m where the curve spacing is less than 25m or equal to the curve spacing where it exceeds 25m.

CASA Response

Disagreed. This is a long-standing Australian standard. The light spacing is progressively reduced to provide visual cue to approaching pilots that they are about to enter the intersection, etc.

Disposition

No change.

Comment 260 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.15.9

Apron edge lighting needs to be identified as a separate requirement. Defence uses aviation yellow for this application, which is also recommended for consideration to delineate from other lighting systems and to warn personnel of the extremity of the movement area.

CASA Response

Disagreed. Apron edge lighting, for civil aerodromes, is standard blue edge lighting. This is in accordance with international standards. (See Annex 14, paragraph 5.3.16.1.)

Disposition

No change.

Comment 261 – NPRM ref: Section 9.13, Taxiway Lighting, Sub-section 9.13.17

Is there a priority system for use with taxiway centreline lights? Is a mix of type A and type B systems allowable? Is an electrical monitoring system required? Is there a requirement for intensity control? At Melbourne Airport the preferred option is to leave the existing holding point lights, which mark the holding line at night, and then add elevated WIG WAG lights with stage 6 intensity that operate when the runway is in use. This allows future conversion of the pavement lights to stop bars if required.

NPRM ref: Section 9.13 Taxiway Lighting, Sub-section 9.13.18

In relation to the pattern and location of runway guard lights:

Is there a priority system to be installed when taxiway centreline lighting is installed i.e. if taxiway centreline lighting is used, should Configuration B lighting be installed, or is Configuration A alone acceptable.

Is a mix of configuration A and B lighting systems permissible on adjacent runway/taxiway intersections?

Is a system of monitoring to be installed, which gives an indication of unserviceability to ATS, or are routine checks by airport operator staff sufficient?

Paragraph 9.13.17.3 requires guard lights at each taxiway/precision runway intersection. Does this statement also apply to vehicle road/precision runway intersections?

What constitutes a wide throat taxiway?

How many light intensity levels are required when associated with a 3-stage taxiway lighting system?

The isocandella diagram requires a maximum beam intensity of 300cd. Will the lights be able to be seen during strong daylight?

Is the isocandella diagram for Configuration A or B?

CASA Response

Configuration A is suitable on all taxiways, except where the need for enhanced conspicuity is required, e.g. wide-throat taxiways or complex runway holding positions, results in the need for configuration B to be used.

If an aerodrome has a mix of normal runway holding positions and complex runway holding positions, then they will have a mix of Configuration A and B configurations.

What constitutes a “wide-throat” is a matter for judgement, taking into consideration pavement geometry, usual aircraft type, etc. If a pilot approaching the holding position would not have the “wig-wags” on both sides of the taxiway in his normal field of view, then Configuration B would be required.

The MOS will be re-worded to clarify the applicability of the two configurations.

Normal monitoring, as provided for other lighting facilities, to give visual confirmation to the ATC that the runway guard lights protecting a given runway are ON/OFF, is required. Periodic inspections will indicate individual failed lights within the system, as is the case with other lighting systems.

Leaving the existing “intermediate holding position” light fittings in place for future use in Stop Bars is permissible, provided that they are located at the holding position. However, to operate them in conjunction with the runway guard lights would provide pilots with a non-standard visual cue.

Runway guard lights are required on taxiway/runway intersections. They are not for road holding positions on vehicle roads.

Intensity control of runway guard lights is not related to the number of intensity stages of taxiway lighting system. The two systems operate independently of each other.

Paragraph 9.13.19.3(d) states that Figure 9.14-6 is the isocandela diagram for Configuration A. It is the same as ICAO Annex 14 calls the “low-intensity” runway guard light configuration A, in their Figure 2.24. CASA believes it will be suitable for Australian conditions, when fitted with visors and target boards where necessary, bearing in mind that very low visibility conditions by day are rare, and these lights do not normally have to be seen at long ranges. With typical runway/taxiway geometry the runway guard lights do not have to be seen at ranges greater than about 110m. Also, they are set low to the ground, and are viewed looking down so they are not normally viewed against a background of the sky.

ICAO, in Annex 14 Figure 2.25, also have an isocandela diagram for what they call “high-intensity” runway guard light Configuration A, which is nominally 5 times the intensity of the “low-intensity” runway guard light. If aerodromes choose to purchase and install this “high-intensity” version, intensity control will almost certainly be required.

Disposition

Some paragraphs have been revised to clarify the applicability of Configuration A and B.

Comment 262 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.21.1

The requirements of this paragraph in respect of intermediate holding position lights are not clear.

CASA Response

Agreed. This paragraph will be re-worded to make the intent clearer.

Disposition

The paragraph has been re-worded to make the intent clearer.

Comment 263 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.23.1(c)

Change requirement to ‘lights must comply with the requirements at Appendix XXX for centreline lights’.

CASA Response

Disagreed. There are several taxiway centreline light characteristics published in Figures 9.14-1 to 9.14-5. Intermediate holding position lights should be matched as closely as practicable to whichever taxiway centreline light is being used in the vicinity of the holding position.

Disposition

No change.

Comment 264 – NPRM ref: Section 9.13, Taxiway Lighting, Paragraph 9.13.23.2

The transitivity of yellow will not normally allow this to be achieved. A clear performance statement is required for photometric performance.

CASA Response

Disagreed. At this time, there is no internationally accepted comprehensive photometric standard for taxiway edge lights, so to create one for the corresponding intermediate holding position lights, would not be practicable. It is sufficient that they be matched as closely as practicable to the associated taxiway edge lights.

Disposition

No change.

Comment 265 – NPRM ref: Section 9.14, Isocandela Diagrams for Taxiway Lights

The Figures are unreadable and contain a number of errors. Reference to ICAO would be more appropriate. This section also needs a description of how to measure the lighting performance of the elevated lights.

CASA Response

See our earlier response to similar comments re referencing ICAO.

CASA does not consider it necessary to specify a method of measuring the light performance of elevated taxiway light fittings, because there is no detailed photometric standard that they have to meet.

Disposition

Relevant figures improved.

Comment 266 – NPRM ref: Section 9.16, Apron Floodlighting, Paragraph 9.16.4.1

The paragraph should state that the lights are to be dispersed across the phases.

CASA Response

CASA believes that being dispersed across the phases is implicit in the context of the paragraph as written. However, the paragraph will be changed to explicitly state that the lights are to be distributed across the phases.

Disposition

The paragraph has been re-worded to explicitly state that the lights are to be distributed across the three phases. A Note has been added, strongly encouraging this procedure at all aerodromes, not just major aerodromes.

Comment 267 – NPRM ref: Section 9.16, Apron Floodlighting, Paragraphs 9.16.4.3 and 9.16.4.4

The apron-floodlighting standard for vertical illuminance specifies the illuminance is taken 2m above the ground and parallel to the aeroplane centreline. In practice the readings are taken at 90 degrees to the centreline, in both directions, to determine the level of illumination on the body of an aircraft parked at a parking bay.

CASA Response

The standard specifies the vertical illumination required, not the method of measuring it.

Disposition

No change.

Comment 268 – NPRM ref: Section 9.16, Apron Floodlighting, Paragraph 9.16.4.7(b) and 9.16.4.8

Could you please provide the basis of this requirement for further consideration? Does the intent of this statement require emergency power for these systems?



CASA Response

This requirement is to minimize as far as possible, the apron remaining in darkness for any appreciable time. This is for the safety of aircraft, passengers, support vehicles, etc. on the apron at night.

Paragraph 9.16.4.7 (a) requires apron floodlighting to be on secondary power, but only on those aprons used by large aircraft, where the potential for accidents is greater, due to the presence of more support vehicles and personnel.

Disposition

No change.

Comment 269 – NPRM ref: Section 9.17, Visual Docking Guidance Systems, Paragraph 9.17.5.1

Does not agree with ICAO Annex 14 Chapter 5 – 5.3.22.2 and 5.3.22.14 with regard to complying by 1 January 2005 with the above document as requested.

CASA Response

CASA has chosen not to specify a date by which existing non-compliant systems must be replaced. Instead we intend to allow non-compliant systems to remain in service, in accordance with paragraph 9.17.1.2, as indicated by the Note following paragraph 9.17.5.1.

Disposition

No change.

Comment 270 – NPRM ref: Section 9.18, Lighting Associated with Closed and Unserviceable Areas

The standard should provide the option of using flashing lights. Flashing red lights have been successfully used and have the advantage of being more noticeable than steady lights, and at airports, which do not have 24 coverage, they ensure the necessary longer battery life.

CASA Response

Disagreed. These light convey important information to pilots. CASA has adopted the international standard.

Disposition

No change.

Comment 271 – NPRM ref: Section 9.18, Lighting Associated with Closed and Unserviceable Areas, Paragraph 9.18.1.1

Most lighting systems cannot be disabled to this level for short-term closures. Suitable covers are generally provided for a quick and simple method to prevent light emissions.

CASA Response

“Electrically disabled” could mean the removal of the lamp. In the past, simply putting a “bucket” over the lights has not always been effective. Sometimes the buckets blew away. Sometimes the “bucket” and its associated weight (to hold it in place), constituted a non-frangible object. Never the less, a note will be added to allow mechanical covers in some circumstances.

Disposition

The Note has been revised to allow opaque covers if certain conditions are satisfied.

Comment 272 – NPRM ref: Section 9.19, Other Lights on an Aerodrome, Sub-section 9.19.1

At major international airports, the Australian protective Service provides CTFR. As they are classed as an emergency service, provision should be made for the use of their blue/red beacons. The use of such beacons is strictly controlled, as is the movement of such vehicles on the, movement area.

CASA Response

Agreed. The MOS will be amended to allow emergency or security vehicles that are not dedicated to aerodrome use, to use vehicle warning lights complying with local traffic code.

Disposition

Paragraphs added to the MOS to accommodate fire and rescue vehicles, and emergency and security vehicles not dedicated to aerodrome use.

Comment 273 – NPRM ref: Section 9.19, Other Lights on an Aerodrome, Paragraph 9.19.1.2

Lights should be visible 360 degrees.

CASA Response

Agreed. The MOS will be amended to make this clear.

Disposition

Paragraph added to the MOS requiring 360° visibility.

Comment 274 – NPRM ref: Section 9.19, Other Lights on an Aerodrome, Paragraph 9.19.2.2

The lights should be omni-directional, not bi-directional.

Portable lights should not be limited to battery-operated lights. Long term works areas can be often connected to mains power.



CASA Response

Agreed. The MOS will be amended to remove the perceived restrictions on standard commercially available work warning lights.

Disposition

Paragraph amended to remove mention of “bi-directional” and “battery operated”.

Comment 275 – NPRM ref: Section 9.19, Other Lights on an Aerodrome, Paragraph 9.19.3.1

Is this paragraph referring to airside facilities?

CASA Response

The MOS is referring to “roads and carparks” which are not airside facilities. The MOS will be amended with the intention of clarifying our comments on lighting of roads and carparks.

Disposition

The MOS has been revised to clarify that CASA advises the aerodrome operator to comply with relevant codes and standards for the lighting of roads and carparks, and that CASA does not promulgate standards for these facilities.

Comment 276 – NPRM ref: Section 9.20, Monitoring, Maintenance and Serviceability of Aerodrome Lighting, Paragraph 9.20.2.1

Define ‘as soon as practicable’. General maintenance practices would, depending on the operations, normally involve a fortnightly inspection where the lights would be corrected at that time. Where the serviceability requirements are exceeded the outage would need to be attended to immediately.

CASA Response

The MOS requires outages to be remedied as soon as practicable after it is detected. It is illogical to expect it to be fixed before the outage is detected, but once it is detected, it should be fixed as soon as practicable, taking all relevant factors into consideration. Aerodrome operators have an obligation to implement a maintenance program that is proactive and effective.

Disposition

No change.

Comment 277 – NPRM ref: Section 9.20, Monitoring, Maintenance and Serviceability of Aerodrome Lighting, Paragraph 9.20.2.5(a) and 9.20.2.6(a)

ICAO would deem failure when the lighting levels fall below 50% which may occur when more than two lamps fail for the day and would allow one night lamp to fail. Please review.

CASA Response

This is a specific T-VASIS criteria, and relates to the minimum acceptable visual signal. Due to the visual cues presented to the pilot, it is different from the situation when one light in a large array (of say runway edge lights) is down on intensity.

Disposition

No change.

Comment 278 – NPRM ref: Section 9.20, Monitoring, Maintenance and Serviceability of Aerodrome Lighting, Paragraph 9.20.2.7

This would depend on the number of circuits and therefore the paragraph should be amended.

CASA Response

Disagreed. For any practical installation of interleaved circuits, irrespective of the number of circuits use, the failure of any one circuit requires NOTAM action, and rectification as soon as practicable. (CASA finds it inconceivable that an aerodrome would interleave a lighting system over seven or more separate circuits.)

Disposition

No change.

Comment 279 – NPRM ref: Section 9.22, Use of Unarmoured Cables for Aerodrome Lighting

The statement regarding the nylon sheath cable being “...suitable for direct burial in the ground” poses problems in areas where soil or surface types are of a variety that pose a protection problem to the primary cable (i.e. black soils or rock outcrop areas). To ensure the longevity of the primary cable mechanical protection or conduit cabling is mandatory in these areas. It is recommended that a note be added to say that although a primary cable can be buried directly in the ground without mechanical protection there are certain instances where this is not recommended and a mechanical protection should be used.

CASA Response

This Section is included for information only, concerning an exemption against full compliance with an Australian Standard. Also, it is included because the Standards Committee in their letter requested that the conditions under which the exemption is valid be disseminated.



It is the Aerodrome operator's responsibility to ensure the appropriate engineering design of their systems, including decisions based on the local soil condition.

Disposition

No change.

Comment 280 – NPRM ref: Section 9.22, Use of Unarmoured Cables for Aerodrome Lighting, Paragraph 9.22.4.5

The applicable standard is now AS/NZS 3000:2000. The letter should be updated to ensure the exemption remains valid.

CASA Response

As stated above, this information Section 9.22 is passed on to aerodrome operators, purely for their information. CASA has no part in applying or enforcing “electrical” regulations. CASA has no intention to seek an update of the 1993 exemption. If aerodrome operators believe that an updated exemption is desirable, it is their prerogative to seek such an update.

Disposition

No change.

Chapter 10 – Operating Standards for Certified Aerodromes

Comment 281 – NPRM ref: Section 10.1, General, Paragraph 10.1.3.2

At many aerodromes (especially smaller country ones) radios are not needed and not used. Therefore the use of a radio should only be essential at aerodromes that require it.

CASA Response

This paragraph is about training. If a person is required by the aerodrome operating procedures to make use of a radio, then that subject is relevant. Similarly, if a person is required to supervise aerodrome works, then the competency for supervising aerodrome works becomes essential. This paragraph is not about the operating procedures for individual aerodromes.

Disposition

No change.

Comment 282 – NPRM ref: Section 10.1, General, Paragraph 10.1.3.3

The note to this paragraph implies that the AAA training course would be need for aerodrome personnel to meet the necessary standards. To identify a single training course, as the measure, is both technically incorrect and is inappropriate from the point of view of remaining impartial. The note should be replaced by the statement in paragraph 4 of CAAP 89C-1(0) which correctly states the situation.

CASA Response

CASA does not endorse a particular training course from any particular training providers. CASA has endorsed a competency based training syllabus, which contains the essential elements which a person needs to be competent in to perform the duties.

Disposition

No change.

Comment 283 – NPRM ref: Section 10.1, General, Sub-section 10.1.4

Please clarify how this requirement would apply to an airport, which receives infrequent international charters. In our case these are predominantly freight. In this case I would presume that the 2006 date would apply.

CASA Response

The intention is to have a Safety Management System in place only at designated international airports, as defined in AIP GEN 1.2, by 2006. Other certified aerodromes will have to introduce SMS from 2007.

Disposition

No change.

Comment 284 – NPRM ref: Section 10.2, Inspecting and Reporting Aerodrome Serviceability, Paragraph 10.2.2.1

The reporting requirements for bird strikes/near misses to ATSB need to be further defined and clarified.

CASA Response

Agreed. Bird strikes/near misses are aviation safety related information. Aerodrome operators have a duty of care to provide ATSB of such information if and when they are aware of it.

Disposition

A Note has been added to this paragraph to clarify this requirement.

Comment 285 – NPRM ref: Section 10.2, Inspecting And Reporting Aerodrome Serviceability, Paragraph 10.2.4.1(c)

The extent of daily checks on the airport lighting system needs to be clarified. This section should reflect the fact that many lights such as T-VASIS and ILS need an expert inspection to establish their level and alignment and only a basic inspection can be conducted during the serviceability inspection.

CASA Response

Agreed. The inspection check for lights should only refer to any disturbance, which may have taken place to the level and alignment of lights.

Disposition

The inspection must check any disturbance to level and alignment of lights.

Comment 286 – NPRM ref: Section 10.2, Inspecting And Reporting Aerodrome Serviceability, Paragraph 10.2.4.1(f)

Should read unserviceable or similar.

CASA Response

Disagreed. The use of the word ‘outage’ is to stress the point that one or more lights may be out, but the facility, e.g. a taxiway, may still be serviceable to aircraft for night operations.

Disposition

No change.

Comment 287 – NPRM ref: Section 10.2, Inspecting And Reporting Aerodrome Serviceability, Paragraph 10.2.4.1(g)

The inspection should be checking for damage to light bases, not the frangibility of the bases.

CASA Response

Agreed.

Disposition

Sub-paragraph (g) changed to require a check on the condition of the frangibility of the light bases.

Comment 288 – NPRM ref: Section 10.2, Inspecting And Reporting Aerodrome Serviceability, Paragraph 10.2.5.3(c)

The inspection should be for ‘identified shelters provided by ...’ The environmental management procedures are far too broad for a serviceability inspection. Identified off airport attractants should only need to be inspected if the management solution is not occurring.

CASA Response

Agreed. This section should be made clearer.

Disposition

A new sub-section has been introduced for inspection of birds or animals. Sub-paragraph (c) will refer to ‘possible shelter’ and sub-paragraph (d) will refer to inspection of bird hazard mitigating procedures which are incorporated in the environmental management procedures for the aerodrome.

Comment 289 – NPRM ref: Section 10.2, Inspecting And Reporting Aerodrome Serviceability, Sub-section 10.2.6

Runway strips are not intended for the surface movement of aircraft, except in an emergency, and therefore why is there a need to carry out an empirical assessment of the bearing strength of runway strips.

CASA Response

The intent of this section needs to be made clearer.

Disposition

This sub-section will only be applicable where an unsealed runway is not marked and the whole of the runway strip is available for aircraft operations.

Comment 290 – NPRM ref: Section 10.4, Sample Aerodrome Report Form

The sample form cannot be related to the examples of NOTAMs shown under Section 10.5. The template used by both AsA and Dept of Defence and published in their ATC documents seems to be more user friendly and relates to the issued versions of NOTAMs, i.e. matching the field codes A, B, C etc.

CASA Response

The purpose of this form is to gather all relevant information so that the NOTAM office can promulgate NOTAMs in the standard format. The form is recognised and is familiar to current users so CASA does not see a need to change the format at this time.

Disposition

No change.

Comment 291 – NPRM ref: Section 10.5, Examples of NOTAM and Listing of Abbreviations

An example of a reasonably complex MOWP involving displaced thresholds and obstacles should be included. Although they occur infrequently, they need to be accurate when done.

CASA Response
Agreed.

Disposition

A number of examples on a complex MOWP have been included.

Comment 292 – NPRM ref: Section 10.5, Examples of NOTAM and Listing of Abbreviations, Sub-section 10.5.2

Is the table needed within the MOS document?

CASA Response
We believe the standard abbreviations allow aerodrome operators to provide information in a succinct manner and allow the NOTAM office to interpret the information without the chance of confusion or error.

Disposition

No change.

Comment 293 – NPRM ref: Section 10.5, Examples of NOTAM and Listing of Abbreviations, Sub-section 10.5.2

Consider including the following abbreviations:

ALER – airport lighting equipment room
HIRL – high intensity runway light
MAGS - movement area guidance sign
OBST-L – obstacle lights
RCLL – runway centreline light

CASA Response
Disagree on ALER, as this is too similar to ALERFA ‘alert phase’. Disagree on MAGS as this is too similar to MAG ‘magnetic’. Where it is necessary to refer to movement area guidance signs in a NOTAM this will be written in full. Disagree on OBST-L, but will include different types of obstacle lights -HIOL, MIOL and LIOL. Agree to RCLL, and will include different intensity runway lights – HIRL, MIRL and LIRL.

Disposition

Abbreviations for obstacle lights and runway centreline lights have been included.

Comment 294 – NPRM ref: Section 10.6, Appointment of Reporting Officers, Paragraph 10.6.4.1

It can be outside the power of the aerodrome operator/owner to ensure arrangements with State and Local Planning Authorities. If an obstruction is erected there are no safety issues if the necessary NOTAMs notification, and markings are done. It is in the interest of the aerodrome operator to have arrangements in place for the efficient use of their aerodrome, but it should not be mandatory as safety is not an issue.

CASA Response

The intention of this section is to require monitoring of off-aerodrome development that may become a hazard to aircraft. This sub-section will be re-written with a new section title to clarify that function.

Disposition

Section re-written to clearly set out the function of the reporting officer in monitoring activities outside, but in the vicinity of the aerodrome.

Comment 295 – NPRM ref: Section 10.8, Guidelines for Aerodrome Emergency Plans, Paragraph 10.8.1.4

For international airports, customs and immigration should be listed amongst the ‘on aerodrome’ agencies.

CASA Response

Disagreed. The purpose of the AEP is to include organisations that can contribute to immediate response in the event of an emergency. While customs and immigration have their respective functions, they are not front line emergency response organisations.

Disposition

No change.

Comment 296 – NPRM ref: Section 10.8, Guidelines for Aerodrome Emergency Plans, Paragraph 10.8.5.1

The requirement for a mobile command post needs to be mandatory.

CASA Response

Whilst a mobile command post is desirable, it is not appropriate to mandate it for all aerodromes. The local Aerodrome Emergency Committee is in a better position to determine what emergency facilities are necessary for the particular aerodrome.

Disposition

No change.

Comment 297 – NPRM ref: Section 10.8, Guidelines for Aerodrome Emergency Plans, Paragraph 10.8.6.2

The term used for ‘command’ vehicles is not always appropriate. Emergency combat agencies often use agency specific ‘command’ vehicles. The ‘forward mobile command post’, should be referred to as a Mobile Coordination/Liaison Centre’.

CASA Response

It is acknowledged that individual responding agencies may set up their own command structure on the scene. However, the term forward mobile command post for emergency response is a generally recognised and accepted term.

Disposition

No change.

Comment 298 – NPRM ref: Section 10.8, Guidelines for Aerodrome Emergency Plans, Paragraph 10.8.7.1

The senior police officer is only required to assume overall co-ordination of the agencies responding to the emergency, and not the control of the agencies.

CASA Response

Agreed.

Disposition

The role of the police has been clarified.

Comment 299 – NPRM ref: Section 10.8, Guidelines for Aerodrome Emergency Plans, Paragraph 10.8.7.2

Rather than being authorised, the police *may be* authorised to direct the custody, transport and storage of deceased persons.

CASA Response

Agreed.

Disposition

The role of the police as a representative of the Coroner has been clarified.

Comment 300 – NPRM ref: Section 10.9, Control of Airside Access Including Vehicle Control, Paragraph 10.9.2.4

The requirements should be amended to be consistent with Chapter 9, Section 9.19.1. The standard type of light should be the flashing dome light located in a conspicuous position. Flashing hazard lights would not be considered acceptable.

CASA Response

Agreed.

Disposition

This paragraph has been reworded.

Comment 301 – NPRM ref: Section 10.10, Aerodrome Works Safety

Should consider including the procedures and requirements for determining limit of works, unserviceable areas, displaced thresholds etc. Particular issue that would be of benefit is the distance or procedure by thresholds are displaced, location of work limit lights, etc.

CASA Response

Agreed that the criteria for planning of aerodrome works should be better set out.

Disposition

The introductory sub-section has had two paragraphs added to it to clarify the types of aerodrome works and what to do when a temporary threshold is displaced more than 300m.

Comment 302 – NPRM ref: Section 10.10, Aerodrome Works Safety, Paragraph 10.10.3.1

This paragraph has removed the discretionary power from the District Aerodrome Inspector that allows the aerodrome operator to conduct works without a MOWP if the aerodrome is used by RPT aircraft of less than 5,700kg MTOW.

CASA Response

This was an inadvertent oversight.

Disposition

MOWP will only be required at aerodromes used by aeroplanes with MTOW greater than 5,700kg.

Comment 303 – NPRM ref: Section 10.10, Aerodrome Works Safety

The term aerodrome works needs to be defined (as per RPA Chapter 13). This paragraph needs to be cross-referenced to Section 10.11.

CASA Response

Agreed.

Disposition

The definition of ‘aerodrome works’ has been provided in Section 1.2 of the MOS.

Comment 304 – NPRM ref: Section 10.10, Aerodrome Works Safety, Paragraph 10.10.3.9

The paragraph addresses emergency work being done without a MOWP, however, it then goes on to require the aerodrome operator to take all reasonable measures to issue a NOTAM for works not less than 48 hours before the commencement of works. The nature of emergency works is that they need to be carried out immediately. In these circumstances, the NOTAM should be issued as soon as practicable but before the emergency works commence.

CASA Response

Agreed that the text needs re-wording.

Disposition

The second sentence to this paragraph has been reworded.

Comment 305 – NPRM ref: Section 10.10, Aerodrome Works Safety, Sub-section 10.10.5

The restriction on time limited works at night should not be applicable at a 24 hour ATC controlled airport.

CASA Response

Agreed.

Disposition

The standard has been amended to say that restrictions on carrying out time limited works are not applicable if they are authorised by ATC at a controlled aerodrome.

Comment 306 – NPRM ref: Section 10.10, Aerodrome Works Safety, Paragraph 10.10.7.2

It is not clear what can be varied by ATC. Is it applicable to all of Section 10.10 or simply to this paragraph?

CASA Response

The reference should be to the preceding paragraph 10.10.6.1.

Disposition

The cross-reference has been clarified.

Comment 307 – NPRM ref: Section 10.10, Aerodrome Works Safety, Sub-section 10.10.12

The demarcation between 5cm overlays and greater is questioned. As well there is no mention of standards for temporary ramps for taxiway overlays.

CASA Response

The nature of the works on taxiways is different to that on runways. Aircraft speeds on taxiways are not as high as on runways. The provision of a long ramp, following the completion of the days taxiway overlay work, is not critical and so there is no need to specify mandatory standards for the ramp. The 5cm overlay thickness criterion for runway overlay is in accordance with ICAO standard.

Disposition

No change.

Comment 308 – NPRM ref: Section 10.11, Method of Working Plans

This section should be amended to include reference to issue of NOTAM and/or AIP Supplement (SUP) particularly as the MOWP may have ramifications for aircraft operations. MOWPs are not normally available to all pilots, and any NOTAM, which refers to the MOWP, may have little or no meaning to the average pilot unless the specific operational impact on operators can be spelt out through issue of a SUP.

CASA Response

The MOWP should include a comprehensive communication plan which will provide timely advise to all stakeholders of aerodrome works. The issue of NOTAMs and AIP SUP would be part of this process.

Disposition

No change.

Comment 309 – NPRM ref: Section 10.11, Method of Working Plans, Paragraph 10.11.1.1

This paragraph needs to be cross-referenced to Section 10.10.

CASA Response

Disagreed. Provision of a good Table of Contents should eliminate need for cross-referencing.

Disposition

No change.

Comment 310 – NPRM ref: Section 10.13, Aircraft Parking, Paragraph 10.13.2.1

Procedures for apron safety are required only in high use common user areas, not all areas.

CASA Response

Agreed.

Disposition

The paragraph has been reworded so that special procedures will only be required on those aprons where apron congestion is a problem.

Comment 311 – NPRM ref: Section 10.13, Aircraft Parking, Paragraph 10.13.3.1

In relation to apron safety management, unless the airport operator undertakes aircraft handling, the airlines are responsible for the detailed procedures in areas relating to aircraft docking, engine start, etc. This is not the airport operator's function.

CASA Response

Disagreed. To ensure apron safety should be part and parcel of aerodrome operator's obligation.

Disposition

Paragraph 10.13.3.1 has been reworded to require aerodrome operators to ensure that procedures are in place, irrespective of who is responsible for aircraft parking functions.

Comment 312 – NPRM ref: Section 10.14, Bird and animal hazard management, Paragraph 10.14.1.3

The need for a bird and animal hazard management plan, prepared by a suitably qualified person would be an unjustified expense for the large number of aerodromes that have no bird or animal problem or are managing their bird and animal hazards well.

CASA Response

A bird hazard management plan is only required where a bird hazard exists either through regular monitoring or when directed by CASA, normally at the request of ATSB, following bird strike incident reports.

Disposition

No change.

Comment 313 – NPRM ref: Section 10.14, Bird and animal hazard management, Paragraph 10.14.1.7

The requirement to advise ATSB of bird strikes should be mandatory.

CASA Response

Normally pilots or airlines provide bird strike incident information. Aerodrome operators may not have first hand information of the incident. Aerodrome operators are of course urged to provide ATSB with information on bird strikes, whenever such information comes to their attention, either through eye witness accounts or examination of bird remains on the aerodrome. We do not think it is appropriate to make this requirement mandatory as it is not enforceable.

Disposition

No change.

Comment 314 – NPRM ref: Section 10.15, Pavement maintenance, Sub-section 10.15.2

This section requires some alterations and modifications; in particular CASA should align itself with the FAA Advisory Circular, rather than the ICAO Annex 14, for the general principles associated with the management of runway friction. There are a number of differences between the two documents however the key difference relates to the intent and use of continuous friction measuring equipment (CFME) data. The FAA approach is based on the premise that CFME data should only be used for engineering and maintenance purposes and this should only be used to assess the timing and extent of maintenance works. In comparison, ICAO Annex 14 requires that pilots be advised when a section of runway falls below the nominated minimum friction value, essentially to advise them that the runway may be slippery when wet. Our view is that the generation of instructions to pilots via CFME data infers a level of precision that currently does not exist.

CASA Response

We have no argument that the friction measurement is primarily intended for better management of pavement maintenance. However, if the pavement is allowed to deteriorate to the extent as to reach the minimum friction level, then pilots should be cautioned. Runways are not expected to rapidly deteriorate to that extent because the maintenance planning level values of friction should have activated the required corrective maintenance action. Notification allows pilots to adjust landing techniques accordingly.

Disposition

No change.

Comment 315 – NPRM ref: Section 10.15, Pavement maintenance, Paragraph 10.15.2.1

We are unaware of any test methods that enable the measurement of texture depth on a grooved runway. The note under paragraph 6.2.9.1 conflicts with the requirements of paragraph 10.15.2.4. Paragraph 6.2.9.1 states that continuous friction measuring equipment data, which confirms that the ‘ICAO design objective for new surfaces’ is achieved, will suffice as evidence that the minimum surface texture depth has been achieved. This friction level will not be achieved within touchdown zones on a regular basis. This is why ICAO and FAA nominate the ‘maintenance planning level’ and ‘minimum friction level’. Paragraph 6.2.9.12 should be adjusted to read ‘minimum friction level’.

CASA Response

Sub-section 6.2.9 is meant for a newly constructed runway.

Disposition

No change.

Comment 316 – NPRM ref: Section 10.15, Pavement maintenance, Paragraph 10.15.2.2

What type of surface texture test is acceptable to CASA.

CASA Response

The surface texture tests recommended by ICAO namely the grease patch test or the sand replacement test.

Disposition

No change.

Comment 317 – NPRM ref: Section 10.15, Pavement Maintenance, Paragraph 10.15.2.3

The paragraph reads that friction testing is not required if the runway is grooved. Is this correct? How often must the surface be tested?

CASA Response

Continuous surface friction testing is required to be undertaken on grooved runways. In order to avoid confusion the reference to carrying out continuous friction testing, unless the runway is grooved and has negligible contamination, will be removed. The frequency of testing is a matter for individual aerodromes, depending on the rate of rubber built-up, the condition of the surface, etc.

Disposition

The reference to negligible contamination has been removed.

Comment 318 – NPRM ref: Section 10.15, Pavement Maintenance, Paragraph 10.15.2.3

This will require the use of specialist equipment, which will be costly to own for infrequent use, and will therefore most likely be supplied by a consultant. This may result in additional costs for regional airports where the cost to mobilise equipment may be as much as the cost of testing. Is this allowed for in the quoted \$2000-\$5000 for a round of testing?

The decision about what runways need testing and how often should bear these cost implications in mind, particularly in regions with comparatively low rainfall. Will testing be required on runways used for infrequent international charters?

CASA Response

Continuous surface friction testing will only be required to be carried out at designated international aerodromes serving code 4 jet aeroplanes.

Disposition

No change.

Comment 319 – NPRM ref: Section 10.16, Maintenance around Navigational Aids

Many aids on aerodromes are owned and operated by Airservices Australia and the aerodrome operator has no control in the maintenance of these aids. This section should only apply to navigational aids that are the responsibility of the aerodrome operator.

Comment: The specifications may not be applicable to all navigational aids. The maintenance should be based on the agreed specification made with the telecommunication service provider.

CASA Response

Agreed that this section should be reworded to made the above aspects clearer.

Disposition

The text has been amended to require aerodrome operators to document the procedures for maintenance around navigational aids, located on or off the aerodrome and either owned by the aerodrome operator or other service provider.

In addition, the maintenance specification should be based on what is agreed with the telecommunication service provider, or use the existing specification in the absence of an agreement.

Comment 320 – NPRM ref: Section 10.18, Aerodrome Technical Inspections

There is no reference to the frequency at which they are to be conducted. Should refer back to CASR 139.200.

CASA Response

This section is quite brief as the requirements are clearly set out in the regulations and there are no technical standards regarding the inspections.

Disposition

The section to complement the regulations has been re-worded.

Chapter 11 – Standards for Other Aerodrome Facilities

Comment 321 – NPRM ref: Section 11.1, General, Sub-section 11.1.3

Standards for siting and clearance areas for airways facilities on airports, as well as for communications facilities, are the responsibility of the CASR Part 171 Service Provider (currently Airservices). Consequently, all details from paragraphs 11.1.3.1 to 11.1.15.4 should be replaced with a statement similar to that for Air Traffic Control Towers at sub-section 11.1.2. Some of the information contained in this section is obsolete.

CASA Response

The purpose of this section is to specify the clearance distances for existing navigation aids so that the aids performances will not be degraded by inadvertent interferences which can be controlled by the aerodrome operator. Agreed that aerodrome operators need to liaise closely with the service provider and to ascertain requirements for any new navigation aids.

Disposition

A note has been inserted to advise aerodrome operators that they should liaise with Airservices as the latter is the owner of most of the navigation aids. In addition, included is a requirement that for new installations, aerodrome operators need to follow the manufacturer's instructions.

Comment 322 – NPRM ref: Section 11.1, General, Sub-section 11.1.6

Clearance distance between the aerodrome roadway and VOR facility at our aerodrome is less than 100m which is much less than the 300m required distance. It would be beneficial for CASA to discuss with us and Airservices the options that may be available in respect of the VOR against the requirements in CASR Part 139.

CASA Response

If the aerodrome roadway was established after the installation of the VOR, then the roadway has been incorrectly sited. The degree of likely interference will depend on the usage of the road and its level vis-à-vis the VOR site. Airservices conducts a periodic flight survey program to check the performance of their navigation aids. Suggest you check with the flight survey team to ascertain extent of problem.

Disposition

No change.

Comment 323 – NPRM ref: Section 11.1, General, Sub-section 11.1.16

Where earthing points are already provided are they able to be removed with the agreement of only the fuelling agent?

What are the specifications for earthing points?

If it can be established that there is no significant change to resistivity over time, can the inspection interval be increased?

No mention is made of checking earthing points in Section 10.18.

CASA Response

Yes, check with the fuelling agent, as they are the people who use them, but also with relevant airlines. The specification is to provide the resistance as specified. Inspection is to be made as part of the aerodrome technical inspection at intervals of not more than 12 months. The requirement to test earthing points at the aerodrome is set out in the regulations.

Disposition

No change.

Chapter 13 – Standards for Aerodromes Intended for Small Aeroplanes Conducting Air Transport Operations Under CASR 121B

Comment 324 – NPRM ref: Section 13.1, General

Concern has been raised that wilderness flights into remote areas such as beaches, salt pans, etc will have to cease as it will not be possible for these places to meet the standards required of this Section.

CASA Response

The standard is intended for the establishment of aerodromes used by AOC holders operating under CASR Part 121B. For one-off operations to other than established aerodromes, the AOC holder may seek exemptions under CASR Part 121B which will contain a provision to address such situations.

Disposition

No change.

Comment 325 – NPRM ref: Section 13.1, General, Paragraph 13.1.3.2

It is not clear what marking is required for the runway threshold. Is it the intention that threshold marking include runway designation and piano-key markings? In any case the centreline marking should be mandatory.

CASA Response

Agreed. Text requires amendment to clarify the marking requirement. Runway centreline marking is not required on runways of 18m or less.

Disposition

Text has been amended to clarify marking requirement.

Comment 326 – NPRM ref: Section 13.1, General, Paragraph 13.1.3.3

The U shape described in this paragraph is the marking of the respective thresholds with strategically spaced runway truncated cones. This paragraph should be rewritten to reflect this statement and maybe describe the situation with a diagram with appropriate spacings and dimensions.

CASA Response

Agreed. The text requires amendment to better clarify the requirement for markings or markers used to define the runway threshold location.

Disposition

Text has been amended to clarify use of markings or markers.

Comment 327 – NPRM ref: Section 13.1, General, Paragraph 13.1.7.1

The 50mm stone on constructed gravel surfaces and 40mm surface cracks on natural surface runways is excessive. Anything larger than 25mm should be removed or filled by appropriate means.

CASA Response

Disagreed. This is a long-standing practice and there have been no pilot or operational reports of it being excessive. Larger stone sizes provide structural integrity to the pavement and may be desirable depending on local ground condition. The important thing is to provide good proportion of various sizes of stone and compaction to achieve a good mechanical interlock. Removal of the larger stone sizes may result in excessive fines, which can result in a more rapid deterioration of the pavement surface.

If larger stones are being loosened up and becoming a problem, timely grading and compaction of the runway surface should be carried out. It would be desirable to have only small cracks but certain soil types do produce excessive shrinkage and the 40mm has been found to be acceptable.

Disposition

No change.

Chapter 14 – Radio Communication Facilities Provided by an Aerodrome Operator

Comment 328 – NPRM ref: Chapter 14

Frequency confirmation systems are an automated ground-air radio communication devices and therefore should be covered by CASR 171 – Aeronautical Telecommunication Organisations.

CASA Response

Disagreed. Responsibility for the provision of frequency confirmation systems rests with the aerodrome operator. It is appropriate for the requirement to be in MOS 139.

Disposition

No change.

Comment 329 – NPRM ref: Section 14.2, Certified Air/Ground Radio Services

There is no reference to the requirement for a person operating a VHF radio to have a Radio Telephone Certificate of Competency. Has this requirement been removed?

CASA Response

It is confirmed that there is an extant requirement under Civil Aviation Regulation (1988) No 83 for any aeronautical radio operator involved in the communication of safety related information to hold an Aircraft Radiotelephone Operator Certificate of Proficiency (AROCP) or a Flight Radio Operator's Licence (FROL), or a licence issued under the Radiocommunications Act 1992. It is planned that CAR 83 will be replaced in the future by an authorisation to be issued under the proposed CASR Part 64.

Disposition

A paragraph has been added to MOS Section 14.4 to specify that Unicom operators must possess a certificate or licence of the type specified in CAR 83 (1) (d).

Comment 330 – NPRM ref: Section 14.2, Certified Air/Ground Radio Services

CASR Part 71 proposes that an aeronautical study for a CA/GRS be undertaken when the total annual air traffic movement rate exceeds 7,500 IFR movements. Previous indications for CA/GRS related to special traffic mix aerodromes and Gove Airport was regarded as not needing such a facility. The latest provisions could reverse this situation resulting in a high cost service of dubious advantage.

CASA Response

Under CASR Part 71, CASA has proposed a criterion of 7,500 IFR aircraft annual movements or 40,000 total; aircraft movements for an aeronautical study to be undertaken to assess the necessity for a CA/GRS to be provided at an aerodrome. This criterion replaces that which was previously established under CAO 92.3 for the determination of 'special traffic mix' aerodromes. CASA is satisfied that this criterion represents world practice in that it is closely aligned with:

- a) The Canadian and New Zealand criteria for provision of FSS; and*
- b) The results of safety studies conducted by CASA carried out on MBZs, using the Airspace Risk Model.*

It must be borne in mind that the trigger points proposed by CASA in Part 71 simply establish the requirement for an Aeronautical Study, but should not be taken as a mandatory requirement for a CA/GRS to be established. If the outcome of any Aeronautical Study for the consideration of a CA/GRS indicates that such a service is unnecessary on safety grounds or is not cost effective, a lesser mitigator may be appropriate.

Disposition

No change.

Comment 331 – NPRM ref: Section 14.2, Certified Air/Ground Radio Services

Suggest that this needs to remain the responsibility of the AOC holder and not be made an airport owner requirement. The airlines arrange scheduling and, as such, can coordinate hours of the ground to air communications operators.

CASA Response

At most of the aerodromes where a radio communication service (CA/GRS, or frequency confirmation service) will be required in accordance with CASR Part 71 and/or CASR Part 139, there will normally be a number of airlines that operate at the aerodrome. CASA considers that it is more effective to require an aerodrome operator to provide the necessary radio service than to have several airline operators provide a similar service on the same (MBZ) frequency. Such a situation would lead to pilot confusion and potentially affect safety. The cost of service provision is recoverable from users of the aerodrome, in similar fashion to other aerodrome services.

Disposition

No change.

Comment 332 – NPRM ref: Section 14.3, Frequency Confirmation System, Sub-section 14.3.8

It is assumed that flight-testing has already been carried out on existing units.

CASA Response

It is confirmed that the requirements relate to new installations, not existing units.

Disposition

No change.

Comment 333 – NPRM ref: Section 14.4, Unicom Services

The statement in AIP-ERSA INTRO –33 that UNICOM operators are required to obtain a licence from the Australian Communications Authority and that frequency band approval must come from Airservices Australia, prior to the entry being placed in ERSAs, should be included in this section.

CASA Response

These two requirements are not CASA regulatory requirements and therefore have not been included as such. However, it is accepted that a note to inform of these requirements would be appropriate.

Disposition

A Note advising of the need to have an assigned aeronautical frequency licence issued by the Australian Communications Authority for Unicom stations has been added at the end of Section 4.4.

Summary of Responses to NPRM 0112AS

Aerodrome Certification and Operation

Civil Aviation Safety Regulation (CASR) Part 139

Document SOR 0112AS

Copies of this Summary of Responses to NPRM 0112AS can be obtained
by one of the following means from:

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Annex A

Civil Aviation Safety Regulations CASR Part 139 – Aerodromes

Language, Style and Presentation of Regulations

The regulations included in this SOR were drafted by the Office of Legislative Drafting (OLD) of the Commonwealth Attorney-General's Department. That Office is committed to using plain language and clear presentation in regulations.

The regulations are presented in their final form as a 'Draft Only' version ready for production of the signature copy for submission to the Executive Council.



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Civil Aviation Amendment Regulations 2003 (No.)¹

Statutory Rules 2003 No. ²

I, PETER JOHN HOLLINGWORTH, Governor-General of the Commonwealth of Australia, acting with the advice of the Federal Executive Council, make the following Regulations under the *Civil Aviation Act 1988*.

Dated 2003

Governor-General

By His Excellency's Command

JOHN ANDERSON
Minister for Transport and Regional Services

DRAFT ONLY

1 Name of Regulations

These Regulations are the *Civil Aviation Amendment Regulations 2003 (No.)*.

2 Commencement

These Regulations commence as follows:

- (a) on gazettal — regulations 1 to 5 and Schedule 3;
- (b) on 2 May 2003 — Schedules 1 and 2.

3 Amendment of *Civil Aviation Safety Regulations 1998*

Schedule 1 amends the *Civil Aviation Safety Regulations 1998*.

4 Amendment of *Civil Aviation Regulations 1988*

Schedule 2 amends the *Civil Aviation Regulations 1988*.

5 Amendment of *Civil Aviation Amendment Regulations 2002 (No. 2)*

Schedule 3 amends the *Civil Aviation Amendment Regulations 2002 (No. 2)*.

Schedule 1 Amendments of *Civil Aviation Safety Regulations 1998*

(regulation 3)

[1] **Part 139, heading**

substitute

Part 139 Aerodromes

[2] **Part 139, Subpart A, heading**

substitute

Subpart 139.A General

[3] **Regulation 139.000**

omit

Subpart A	General
139.000	Make-up of this Part

insert

Subpart 139.A	General
139.000	Make-up of this Part
139.005	Applicability of this Part
139.010	Definitions for this Part
139.015	Standards for aerodromes
139.020	Exemptions
139.025	Access to aerodromes
139.030	Aerodromes with non-precision approach runways to be certified or registered
139.035	No effect on operation of <i>Airports (Building Control) Regulations 1996</i> etc
139.036	Review of decisions

Subpart 139.B Certified aerodromes

Division 139.B.1 Aerodrome certificate

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- 139.045 Application for aerodrome certificate
- 139.050 Grant of aerodrome certificate
- 139.055 Notice of refusal to grant aerodrome certificate
- 139.060 Aerodrome certificate may be subject to conditions
- 139.065 Duration of aerodrome certificate
- 139.070 Suspension or cancellation by CASA
- 139.075 Cancellation at request of holder
- 139.080 Aerodrome certificate not transferable
- 139.085 Temporary aerodrome certificate

Division 139.B.2 Aerodrome manual

- 139.090 Preparation and location of aerodrome manual
- 139.095 Information to be included in aerodrome manual
- 139.100 Form of aerodrome manual
- 139.105 Amendments of aerodrome manual
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Division 139.B.3 Operation and maintenance of a certified aerodrome

- 139.120 Care and diligence in operation and maintenance
- 139.125 Reporting officer
- 139.130 Works safety officer for aerodrome works other than time-limited works
- 139.135 Works safety officer for time-limited works
- 139.140 Training of aerodrome personnel
- 139.145 Aerodrome manual procedures
- 139.150 Notice of deviation
- 139.155 Notice of changes in physical condition etc of aerodrome
- 139.160 Notice of changes in information published in AIP-ERSA
- 139.165 Physical characteristics of movement area
- 139.170 Aerodrome markings
- 139.175 Signal area
- 139.180 Wind direction indicators — general

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- 139.185 Wind direction indicators — requirement for certain runways
 - 139.190 Visual approach slope indicator system
 - 139.195 Lighting of movement area
 - 139.200 Checking of lighting systems
 - 139.205 Aerodrome emergency committee
 - 139.210 Aerodrome emergency plan
 - 139.215 Testing of aerodrome emergency plan
 - 139.220 Aerodrome serviceability inspections
 - 139.225 When aerodrome serviceability inspections must be conducted
 - 139.230 Aerodrome technical inspections
 - 139.235 When aerodrome technical inspections must be conducted etc
 - 139.240 Who may conduct aerodrome technical inspections
 - 139.245 Planning and execution of aerodrome works
 - 139.250 Safety management system

Subpart 139.C Registered aerodromes

- 139.255 Definition for this Subpart
- 139.260 Application for registration of aerodrome
- 139.265 Registration of aerodromes
- 139.270 Notice of refusal to register aerodrome
- 139.275 Register
- 139.280 Duration of registration
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- 139.295 Applicable standards for registered aerodromes
- 139.300 Reporting officer
- 139.305 Notice of changes in physical condition etc of aerodrome
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- 139.315 Safety inspections
- 139.320 Approval of persons to conduct aerodrome safety inspections
- 139.325 Duration of approval
- 139.330 Suspension or cancellation of approval by CASA

Subpart 139.D Reporting officer and safety inspection requirements for certain other aerodromes

- 139.335 Aerodromes to which this Subpart applies
- 139.340 Reporting officer
- 139.345 Safety inspections

Subpart 139.E Obstacles and hazards

- 139.350 Monitoring of airspace
- 139.355 Establishment of obstacle limitation surfaces
- 139.360 Notice of obstacles
- 139.365 Structures 110 metres or more above ground level
- 139.370 Hazardous objects etc

Subpart 139.F Aerodrome radio communication services

Division 139.F.1 General

- 139.375 Aerodrome operators to collect statistics if directed

Division 139.F.2 Frequency confirmation system

- 139.380 Definitions for Division 139.F.2
- 139.385 Aerodromes that must have a frequency confirmation system

Division 139.F.3 Air/ground radio service

- 139.390 Definitions for Division 139.F.3
- 139.395 Air/ground radio service must be certified
- 139.400 Direction by CASA to provide CA/GRS
- 139.405 Voluntary provision of CA/GRS
- 139.410 Certification of air/ground radio service
- 139.415 General obligations of aerodrome operator
- 139.420 When CA/GRS must be operating
- 139.425 Information about operating hours to be given to NOTAM Office
- 139.430 Certified air/ground radio operators
- 139.435 Offences

139.005 Applicability of this Part

This Part deals with the operation of aerodromes and includes rules about the following matters:

- (a) certification of aerodromes and the requirements that apply to operators of certified aerodromes;

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- (b) registration of aerodromes and the requirements that apply to operators of registered aerodromes;
 - (c) reporting officer and safety inspection requirements that apply to operators of certain other aerodromes used for regular public transport operations or charter operations;
 - (d) obstacles and hazards at aerodromes;
 - (e) obligations of aerodrome operators in relation to radio communication services and rescue and fire fighting services.

139.010 Definitions for this Part

In this Part (other than Subpart 139.H):

Manual of Standards means the document called ‘Manual of Standards (MOS) – Part 139 Aerodromes’ published by CASA, as in force from time to time.

MBZ means mandatory broadcast zone.

139.015 Standards for aerodromes

The standards for aerodromes are those set out in the Manual of Standards.

139.020 Exemptions

- (1) CASA may, by instrument, exempt an aerodrome operator from compliance with specified provisions of this Part or specified standards set out in the Manual of Standards.
- (2) Before exempting an aerodrome operator, CASA must take into account any relevant considerations relating to the interests of the safety of air navigation.
- (3) An exemption is subject to the operator complying with any conditions that CASA specifies in the instrument as being necessary in the interests of the safety of air navigation.
- (4) The operator must comply with a condition specified in the instrument.

Penalty: 10 penalty units.

139.025 Access to aerodromes

- (1) The operator of a certified aerodrome or a registered aerodrome must allow CASA to conduct tests of aerodrome facilities, equipment or operating procedures at the aerodrome for the purpose of ensuring the safety of aircraft.
- (2) The operator must allow CASA access to any part of the aerodrome or any aerodrome facilities, equipment or records for the purposes of subregulation (1).
- (3) CASA:
 - (a) must give reasonable notice of any tests to be conducted to the operator; and
 - (b) must carry out the tests at a reasonable time.
- (4) Subregulations (1) and (2) do not limit the operation of regulation 305 of CAR.

139.030 Aerodromes with non-precision approach runways to be certified or registered

- (1) A person must not operate an aerodrome to which subregulation (3) applies if the aerodrome is not a certified aerodrome or a registered aerodrome.

Penalty: 10 penalty units.
- (2) An offence against subregulation (1) is an offence of strict liability.
- (3) This subregulation applies to an aerodrome that:
 - (a) is available for public use; and
 - (b) has a non-precision approach runway.

139.035 No effect on operation of *Airports (Building Control) Regulations 1996* etc

Nothing in this Part affects the operation of the *Airports (Building Control) Regulations 1996*, the *Airports (Protection of Airspace) Regulations 1996* or the *Airports (Control of On-Airport Activities) Regulations 1997*.

139.036 Review of decisions

Application may be made to the Administrative Appeals Tribunal for review of:

- (a) a decision under regulation 139.020 not to grant an exemption under that regulation; or
- (b) a direction given by CASA under regulation 139.145; or
- (c) a decision under Subpart 139.C refusing to register, or suspending or cancelling the registration of an aerodrome.

Subpart 139.B Certified aerodromes

Division 139.B.1 Aerodrome certificate

139.040 When an aerodrome certificate is required

- (1) A person must not operate an aerodrome to which subregulation (3) applies if the aerodrome is not a certified aerodrome.

Penalty: 50 penalty units.

- (2) An offence against subregulation (1) is an offence of strict liability.
- (3) This subregulation applies to an aerodrome that:
 - (a) has a runway that is suitable for use by aircraft having:
 - (i) a maximum passenger seating capacity of more than 30 seats; or
 - (ii) a maximum carrying capacity of more than 3 400 kilograms; and
 - (b) is available for use in regular public transport operations or charter operations by such aircraft.

Note A person must not operate an aerodrome that is available for public use and has a non-precision approach runway if the aerodrome is not a certified aerodrome or a registered aerodrome (see regulation 139.030).

139.045 Application for aerodrome certificate

- (1) A person may apply to CASA for an aerodrome certificate authorising the person to operate an aerodrome at the place specified in the application.
- (2) The application must be in the approved form.

Note A person who operates an aerodrome for which an aerodrome certificate is not required may apply for an aerodrome certificate.

139.050 Grant of aerodrome certificate

CASA must grant an aerodrome certificate to an applicant under regulation 139.045 if:

- (a) the aerodrome's facilities and equipment are in accordance with the standards specified in the Manual of Standards for a certified aerodrome; and
- (b) the aerodrome's operating procedures make satisfactory provision for the safety of aircraft; and
- (c) an aerodrome manual, in accordance with regulation 139.095, has been prepared for the aerodrome; and
- (d) the applicant would, if the certificate is granted, be able properly to operate and maintain the aerodrome.

139.055 Notice of refusal to grant aerodrome certificate

If CASA refuses to grant an aerodrome certificate to an applicant, CASA must give the applicant written notice of the refusal, and the reasons for it, no later than 14 days after CASA refuses to grant the certificate.

139.060 Aerodrome certificate may be subject to conditions

- (1) CASA may grant an aerodrome certificate subject to any condition that CASA considers necessary in the interests of the safety of aircraft.
- (2) If CASA decides to grant an aerodrome certificate subject to a condition, CASA must give the applicant written notice of the reasons for the decision.

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- (3) A condition must be set out on the certificate or in the notice given to the applicant under subregulation (2).
 - (4) An aerodrome operator must not contravene a condition of the operator's aerodrome certificate.

Penalty: 25 penalty units.

139.065 Duration of aerodrome certificate

- (1) An aerodrome certificate remains in force unless it is cancelled.
- (2) However, the certificate is not in force during any period in which it is suspended.

139.070 Suspension or cancellation by CASA

- (1) CASA may, by written notice given to the holder of an aerodrome certificate, suspend or cancel the certificate if there are reasonable grounds for believing that:
 - (a) a condition to which the certificate is subject has been breached; or
 - (b) the aerodrome facilities, operations or maintenance are not of the standard necessary in the interests of the safety of air navigation; or
 - (c) the holder has failed to comply with regulation 139.025.
- (2) Before suspending or cancelling an aerodrome certificate, CASA must:
 - (a) give to the holder a show cause notice that:
 - (i) sets out the facts and circumstances that, in the opinion of CASA, would justify the suspension or cancellation; and
 - (ii) invites the holder to show cause, in writing, within 30 days after the date of the notice, why the certificate should not be suspended or cancelled; and
 - (b) take into account any written submissions that the holder makes to CASA within the time allowed under subparagraph (a) (ii).

139.075 Cancellation at request of holder

- (1) If the holder of an aerodrome certificate wishes the certificate to be cancelled, the holder must give CASA not less than 30 days' written notice of the date on which the holder wishes the certificate to be cancelled.
- (2) CASA must cancel the certificate on the date specified in the notice.

139.080 Aerodrome certificate not transferable

An aerodrome certificate is not transferable.

139.085 Temporary aerodrome certificate

- (1) CASA may grant a temporary aerodrome certificate to an applicant under regulation 139.045 if:
 - (a) the applicant's application is for a certificate to operate an aerodrome for which an existing aerodrome certificate is in force; and
 - (b) the holder of the existing aerodrome certificate has given CASA notice under regulation 139.075 for the certificate to be cancelled; and
 - (c) the cancellation of the existing aerodrome certificate will have effect before CASA can fully consider the applicant's application; and
 - (d) CASA is satisfied that the applicant will be able to properly operate and maintain the aerodrome for the duration of the temporary certificate.
- (2) A temporary aerodrome certificate must not be granted for a period of longer than 60 days.

Division 139.B.2 Aerodrome manual

139.090 Preparation and location of aerodrome manual

- (1) The operator of a certified aerodrome must have an aerodrome manual, in accordance with regulation 139.095, for the aerodrome.

Penalty: 10 penalty units.

- (2) The operator must give CASA a copy of the manual and must keep another copy at the operator's principal place of business or at the aerodrome.

Penalty: 10 penalty units.

- (3) The operator must make the copy of the manual kept at the operator's principal place of business or at the aerodrome available to authorised persons during normal business hours.

Penalty: 10 penalty units.

- (4) Strict liability applies to the physical element of an offence against subregulation (1) that the operator is required to have an aerodrome manual for the aerodrome.

- (5) An offence against subregulation (2) or (3) is an offence of strict liability.

139.095 Information to be included in aerodrome manual

For subregulation 139.090 (1), the aerodrome manual must include:

- (a) the following information, to the extent that the information is applicable to the aerodrome:
 - (i) the particulars of the aerodrome site mentioned in Appendix 1 to this subparagraph;
 - (ii) the particulars of the aerodrome administration and operating procedures mentioned in Appendix 1 to this subparagraph;
 - (iii) the particulars of the aerodrome to be notified in AIP-ERSA, mentioned in Appendix 1 to this subparagraph;

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- (iv) particulars of any condition to which the operator's aerodrome certificate is subject;
 - (v) particulars of any direction given to the operator by CASA under regulation 139.105; and
 - (b) if particular information referred to in paragraph (a) is not included in the manual because it is not applicable to the aerodrome:
 - (i) a statement to the effect that the information is not applicable; and
 - (ii) the reasons why it is not applicable; and
 - (c) if CASA gives the operator an exemption under regulation 139.020 in relation to the aerodrome:
 - (i) any identifying number given to the exemption by CASA; and
 - (ii) the date on which the exemption came into effect; and
 - (iii) any condition subject to which the exemption is granted.

Appendix 1 to subparagraph 139.095 (a) (i)
(Particulars of the aerodrome site)

Aerodrome site

For subparagraph 139.095 (a) (i), the particulars are as follows:

- (a) a plan of the aerodrome showing the main aerodrome facilities, including the wind direction indicators, for the operation of the aerodrome;
- (b) a plan of the aerodrome showing the aerodrome boundaries;
- (c) a plan showing the distance of the aerodrome from the nearest city, town or other populous area, and the location of any aerodrome facilities and equipment outside the boundaries of the aerodrome;
- (d) either:
 - (i) particulars of title of the aerodrome site; or

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- (ii) if the boundaries of the aerodrome are not defined in the documents of title — the particulars of the title to, or interests in, the property on which the aerodrome is located and a plan showing the boundaries and position of the aerodrome.

Appendix 1 to subparagraph 139.095 (a) (ii)
(Particulars of the aerodrome administration and operating procedures)

For subparagraph 139.095 (a) (ii), the particulars are as follows:

Aerodrome administration

- (a) particulars of the aerodrome administration including the following:
 - (i) the organisational structure;
 - (ii) the management positions responsible for the operation and maintenance of the aerodrome;
 - (iii) contact details of the person who is the aerodrome manual controller;
 - (iv) contact details for the main persons responsible for aerodrome operations and safety functions;

Aerodrome emergency plan

- (b) particulars of the aerodrome emergency plan, including details of the following:
 - (i) the composition of the aerodrome emergency committee and contact details for the emergency service organisations represented on the committee;
 - (ii) a description of the role of each emergency service organisation involved in the plan;
 - (iii) the activation, control and coordination of the emergency service organisations during an emergency;
 - (iv) the aerodrome's emergency facilities and arrangements for keeping them in readiness;

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- (v) the operational response to an emergency, including arrangements for aerodrome access and assembly areas;
 - (vi) the response to a local stand-by call out;
 - (vii) the response to a full emergency call out;
 - (viii) the arrangements to return the aerodrome to operational status after an emergency;
 - (ix) the arrangements for periodic review and testing of the aerodrome emergency plan;

Aerodrome lighting

- (c) particulars of the procedures for the inspection and maintenance of the aerodrome lighting (including obstacle lighting) and the supply of stand-by power (if any), including details of the following:
 - (i) the arrangements for carrying out inspections and the checklist for inspections;
 - (ii) the arrangements for recording the results of inspections and for taking follow-up action to correct deficiencies;
 - (iii) the arrangements for switching lights on and off, including back-up arrangements for pilot-activated lighting;
 - (iv) the arrangements for carrying out routine maintenance and emergency maintenance;
 - (v) the arrangements for stand-by power, if any, and, if applicable, particulars of any other method of dealing with partial or total system failure;
 - (vi) the names and roles of the persons who are responsible for the inspection and maintenance of the lighting and the telephone numbers for contacting them during and after working hours;

Aerodrome reporting

- (d) particulars of the procedures for reporting any changes to the aerodrome information set out in AIP and procedures for requesting the issue of NOTAMS, including details of the following:
 - (i) the arrangements for reporting any changes that may affect aircraft operations to AIS and local air traffic services and recording the reporting of changes during and outside the normal hours of aerodrome operation;
 - (ii) the contact details for the persons and organisations to which changes are to be reported;
 - (iii) the name of the reporting officer responsible for reporting the changes and the telephone numbers for contacting him or her during and after working hours;
 - (iv) the arrangements for reporting changes of aerodrome information published in AIP to AIS and CASA;
 - (v) the arrangements for keeping records of reports made;

Unauthorised entry to aerodrome

- (e) particulars of the procedures for preventing the unauthorised entry of persons, vehicles, equipment, plant or animals, or other things that may endanger aircraft safety, into the movement area, including details of the following:
 - (i) the arrangements for controlling airside access;
 - (ii) the names and roles of the persons who are responsible for controlling access to the movement area and the telephone numbers for contacting them during and after working hours;

Aerodrome serviceability inspections

- (f) particulars of the procedures for carrying out aerodrome serviceability inspections, including details of the following:
- (i) the arrangements for carrying out the inspections during and after working hours;
 - (ii) details of the intervals at which the inspections are carried out and the times of the inspections;
 - (iii) the arrangements for keeping an inspection logbook and the place where the logbook is kept;
 - (iv) details of the inspection checklist;
 - (v) the arrangements for communicating with air traffic control during the inspections;
 - (vi) the arrangements for reporting the results of the inspections and for taking prompt follow-up action to ensure correction of unsafe conditions;
 - (vii) the names and roles of the persons who are responsible for carrying out the inspections and the telephone numbers for contacting them during and after working hours;

Aerodrome technical inspections

- (g) particulars of the procedures for carrying out aerodrome technical inspections, including details of the following:
- (i) the items that need to be technically inspected and when the inspections are to be carried out;
 - (ii) the arrangements for technically qualified people to carry out the technical inspections;
 - (iii) the arrangements for recording the results of the inspections and for taking prompt follow-up action to ensure correction of defects;

Aerodrome works safety

- (h) particulars of the procedures for planning and safely carrying out aerodrome works (including works that may have to be carried out at short notice), including details of the following:
 - (i) the preparation of a method-of-working plan identifying areas of the aerodrome affected during each stage of the work and steps taken to ensure safety standards are met;
 - (ii) the distribution list for the method-of-working plan;
 - (iii) the arrangements for telling aircraft operators and other aerodrome users of the method-of-working plan and the telephone numbers for contacting those operators and users during and after working hours;
 - (iv) the arrangements for communicating with air traffic control and aircraft during the carrying out of the works;
 - (v) the arrangements for carrying out time-limited works;
 - (vi) the names, telephone numbers and roles of the persons and organisations responsible for planning and carrying out the works, and the arrangements for contacting those persons and organisations at all times;

Aircraft parking control

- (i) particulars of the procedures for aircraft parking control, if established, including details of the following:
 - (i) the arrangements between air traffic control and apron management;
 - (ii) the arrangements for allocating aircraft parking positions;
 - (iii) the arrangements for initiating engine start and ensuring clearances for aircraft push-back;
 - (iv) an inventory and description of the activation and deactivation of any visual docking guidance system used at the aerodrome;
 - (v) the marshalling service;

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- (vi) the leader (van) service or follow-me service;
 - (vii) the names, telephone numbers and roles of the persons responsible for planning and implementing aircraft parking control;

Airside vehicle control

- (j) if procedures have been established at the aerodrome for the control of surface vehicles operating on or near the movement area, particulars of those procedures, including details of the following:
 - (i) the applicable traffic rules (including speed limits) and the means of enforcement of the rules;
 - (ii) the method of instructing and testing drivers in relation to the applicable traffic rules;
 - (iii) the names, telephone numbers and roles of the persons who are responsible for airside vehicle control;

Bird and animal hazard management

- (k) particulars of the procedures to deal with danger to aircraft operations caused by the presence of birds or animals on or near the aerodrome, including details of the following:
 - (i) the arrangements for assessing any bird or animal hazard;
 - (ii) the arrangements for the removal of any bird or animal hazard;
 - (iii) the names and roles of the persons responsible for dealing with bird or animal hazards, and the telephone numbers for contacting them during and after working hours;

Obstacle control

- (l) particulars of the following:
 - (i) the procedures for monitoring the obstacle limitation surfaces and the Type A chart take-off surface for obstacles;

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- (ii) the procedures for monitoring building developments (in relation to the height of buildings and other structures) within the horizontal limits of the obstacle limitation surfaces;
 - (iii) if the aerodrome has instrument approach procedures — the procedures for monitoring for new objects or building developments in any other areas nominated by the instrument procedure designers;
 - (iv) the arrangements between CASA, local planning authorities and other relevant organisations in relation to the approval of building developments that may infringe the obstacle limitation surfaces;
 - (v) the names, telephone numbers and roles of the persons responsible for planning and implementing obstacle control;

Disabled aircraft removal

- (m) particulars of the procedures for removing an aircraft that is disabled on or near the movement area, including details of the following:
 - (i) the roles of the aerodrome operator and the holder of the aircraft's certificate of registration;
 - (ii) the arrangements for telling the holder of the certificate of registration;
 - (iii) the arrangements for liaising with air traffic control and the Australian Transport Safety Bureau;
 - (iv) the arrangements for obtaining equipment and persons to remove the aircraft;
 - (v) the names and roles of the persons who are responsible for arranging for the removal of an aircraft which is disabled, and the telephone numbers for contacting them during and after working hours;

Handling of hazardous materials

- (n) particulars of the procedures for the safe handling of hazardous materials on the aerodrome, including details of the following:
 - (i) the names, telephone numbers and roles of the persons who are to receive and handle hazardous materials;
 - (ii) the arrangements for special areas on the aerodrome to be set up for the storage of flammable liquids (including aviation fuels) and any other hazardous materials;
 - (iii) the methods to be followed for the delivery, storage, dispensing and handling of these materials;

Note 1 Hazardous materials include explosives, flammable liquids and solids, corrosive liquids, compressed gases, and magnetised or radioactive materials.

Note 2 The arrangements to deal with an accidental spillage of hazardous materials are to be set out in the aerodrome emergency plan.

Protection of radar and navigational aids

- (o) particulars of the procedures for the protection of radar and navigational aids located on the aerodrome to ensure that their performance will not be degraded, including details of the following:
 - (i) the arrangements for the control of activities near radar and navigational aid installations;
 - (ii) the arrangements, made in consultation with the provider of the navigational aid installation, for the supply and installation of signs warning of hazardous microwave radiation;
 - (iii) the arrangements for ground maintenance near these installations;

Low visibility operations

- (p) particulars of the procedures for the management of ground activities at an aerodrome where low visibility operations are conducted, including details of the following:
- (i) the arrangements for measuring visibility along a runway and passing the information to air traffic control, if required;
 - (ii) the arrangements for minimising vehicular traffic within the movement area during periods of low visibility operations;
 - (iii) the arrangements for runway inspections during periods of low visibility operations;
 - (iv) the names and roles of the persons who are responsible for managing low visibility operations, and the telephone numbers for contacting them during and after work hours.

***Appendix 1 to subparagraph 139.095 (a) (iii)
(Particulars of the aerodrome to be notified in
AIP-ERSA)***

For subparagraph 139.095 (a) (iii), the particulars are:

General information

- (a) the following general information about the aerodrome:
- (i) the name of the aerodrome;
 - (ii) the State or Territory where the aerodrome is located;
 - (iii) the geographic coordinates of the aerodrome reference point;
 - (iv) the elevation of the aerodrome, based on the Australian Height Datum;
 - (v) details of the aerodrome beacon;
 - (vi) the name of the aerodrome operator and the address and telephone numbers at which the aerodrome operator may be contacted at all times; and

Information for runways

- (b) the following information for each runway at the aerodrome:
- (i) the magnetic bearing of the runway and the runway number;
 - (ii) the runway reference code number for the approach and take-off areas that have been surveyed;
 - (iii) the length, width and slopes of the runway;
 - (iv) the length and width of the graded and overall runway strip;
 - (v) the pavement surface type and its strength rating;
 - (vi) the runway declared distances and take-off gradient;
 - (vii) the supplementary take-off distances;
 - (viii) the Aerodrome Obstacle Chart Type A, if applicable; and

Information about visual aid systems

- (c) the following information about visual aid systems at the aerodrome:
- (i) the type of runway lighting and the stand-by power, if any, for that lighting;
 - (ii) the type of approach lighting;
 - (iii) the visual approach slope indicator system, if any;
 - (iv) a description of the visual docking guidance systems at any aprons used by aircraft conducting international operations, and the aircraft parking positions where the systems are installed; and

Local information

- (d) the following local information about the aerodrome:
- (i) the hours of operation, if applicable;
 - (ii) the available ground services;
 - (iii) any special procedures;
 - (iv) any local precautions.

139.100 Form of aerodrome manual

- (1) The operator of a certified aerodrome must keep the copies of the aerodrome manual for the aerodrome in a printed form.

Penalty: 10 penalty units.

- (2) Other copies of the manual may be kept in an electronic form.
- (3) If CASA approves, the manual may consist of more than 1 document.
- (4) The operator must keep the manual in a way that tells a person reading the manual:
 - (a) when changes have been made to the information in the manual; and
 - (b) whether the manual is up-to-date.

Penalty: 10 penalty units.

- (5) An offence against subregulation (1) or (4) is an offence of strict liability.

139.105 Amendments of aerodrome manual

- (1) The operator of a certified aerodrome must amend the aerodrome manual for the aerodrome, whenever it is necessary to do so, to maintain the accuracy of the manual.

Penalty: 10 penalty units.

- (2) To maintain the accuracy of the aerodrome manual, CASA may give written directions to the operator requiring the operator to amend the manual in accordance with the direction.
- (3) An operator must comply with a direction given to the operator under subregulation (2).

Penalty: 10 penalty units.

139.110 Notice of amendments

- (1) The operator of a certified aerodrome must tell CASA, in writing, of any amendment that the operator makes to the aerodrome manual for the aerodrome within 30 days after the amendment is made.

Penalty: 5 penalty units.

- (2) An offence against subregulation (1) is an offence of strict liability.

139.115 Aerodrome manual controller

- (1) The operator of a certified aerodrome must appoint a person to be the aerodrome manual controller for the aerodrome's aerodrome manual.

Penalty: 10 penalty units.

- (2) An offence against subregulation (1) is an offence of strict liability.

- (3) The functions of the aerodrome manual controller are to ensure that:

- (a) a record is kept of the persons who hold copies of the whole or a part of the aerodrome manual; and
- (b) updates of information for the manual are distributed to those persons.

Division 139.B.3 Operation and maintenance of a certified aerodrome

139.120 Care and diligence in operation and maintenance

The operator of a certified aerodrome must ensure that the aerodrome is operated and maintained with a reasonable degree of care and diligence.

Penalty: 20 penalty units.

139.125 Reporting officer

- (1) The operator of a certified aerodrome must appoint 1 or more reporting officers for the aerodrome.

Penalty: 10 penalty units.

- (2) An offence against subregulation (1) is an offence of strict liability.

- (3) The functions of a reporting officer are:

- (a) to monitor the serviceability of the aerodrome; and
- (b) to report to the NOTAM Office and air traffic control any changes in conditions, or any other occurrences, at the aerodrome that must be reported under subregulation 139.155 (1).

- (4) The operator must not appoint a person as a reporting officer if the person has not been trained, in accordance with the Manual of Standards, to perform the reporting officer's functions.

Penalty: 10 penalty units.

139.130 Works safety officer for aerodrome works other than time-limited works

- (1) If aerodrome works (other than time-limited works) are being carried out at a certified aerodrome, the operator of the aerodrome must appoint 1 or more persons as works safety officers for the aerodrome works.

Penalty: 10 penalty units.

- (2) An offence against subregulation (1) is an offence of strict liability.

- (3) The function of a works safety officer is to ensure aerodrome safety while the aerodrome works are being carried out.

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- (4) The operator must not appoint a person as a works safety officer for the aerodrome works if the person has not been trained, in accordance with the Manual of Standards, to perform the works safety officer's function.

Penalty: 10 penalty units.

139.135 Works safety officer for time-limited works

If time-limited works are being carried out at a certified aerodrome, the operator of the aerodrome must ensure that a person who has been trained, in accordance with the Manual of Standards, to perform the function of a works safety officer performs that function for those works.

Penalty: 10 penalty units.

139.140 Training of aerodrome personnel

The operator of a certified aerodrome must ensure that all personnel of the operator are trained in accordance with the standards for training aerodrome personnel set out in the Manual of Standards.

Penalty: 20 penalty units.

139.145 Aerodrome manual procedures

- (1) Subject to any directions issued under subregulation (2), the operator of a certified aerodrome must operate and maintain the aerodrome in accordance with the procedures set out in the aerodrome manual for the aerodrome.

Penalty: 25 penalty units.

- (2) CASA may direct the operator of a certified aerodrome to change the procedures set out in the aerodrome manual, if CASA considers it necessary in the interests of the safety of aircraft.
- (3) An operator must comply with a direction given to the operator under subregulation (2).

Penalty: 25 penalty units.

139.150 Notice of deviation

- (1) This regulation applies if a deviation from a procedure set out in the aerodrome manual for a certified aerodrome is made to ensure the safety of aircraft.
- (2) The operator of the aerodrome must tell CASA, in writing, of the deviation within 30 days after the deviation was made.

Penalty: 5 penalty units.

- (3) An offence against subregulation (2) is an offence of strict liability.

139.155 Notice of changes in physical condition etc of aerodrome

- (1) The operator of a certified aerodrome must, in accordance with the Manual of Standards, give notice to the NOTAM Office of:
 - (a) any temporary or permanent change in the physical condition of the aerodrome that may affect the safety of aircraft; and
 - (b) any other occurrence relating to the operation or maintenance of the aerodrome that may affect the safety of aircraft.

Penalty: 10 penalty units.

- (2) If the aerodrome is a controlled aerodrome, the notice must also be given to air traffic control.

Penalty: 10 penalty units.

139.160 Notice of changes in information published in AIP-ERSA

- (1) To maintain the accuracy of the information published in AIP-ERSA in relation to a certified aerodrome, the operator of the aerodrome must tell AIS, in writing, as soon as practicable of any change required to that information (other than a change that is published in NOTAMS).

Penalty: 5 penalty units.

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- (2) An offence against subregulation (1) is an offence of strict liability.

139.165 Physical characteristics of movement area

The operator of a certified aerodrome must ensure that the physical characteristics of the movement area comply with the standards set out in the Manual of Standards.

Penalty: 10 penalty units.

139.170 Aerodrome markings

- (1) The operator of a certified aerodrome must mark the following areas of the aerodrome in accordance with the standards set out in the Manual of Standards:
- (a) the movement area;
 - (b) any unserviceable area;
 - (c) any works area on or near the movement area.

Penalty: 10 penalty units.

- (2) The operator must ensure that all aerodrome markings are maintained in accordance with the standards set out in the Manual of Standards.

Penalty: 10 penalty units.

- (3) In this regulation:

unserviceable area means a part of the movement area that is unavailable for use by aircraft.

works area means a part of the aerodrome in which maintenance or construction works are in progress that may endanger the safety of aircraft.

139.175 Signal area

- (1) The operator of a certified aerodrome that does not have a continuous air traffic service provided by air traffic control during the day must provide a signal area in accordance with the standards set out in the Manual of Standards.

Penalty: 10 penalty units.

- (2) The operator must display an appropriate signal in the signal area in any circumstances set out in the Manual of Standards that require such a signal to be displayed.

Penalty: 10 penalty units.

- (3) The operator must ensure that the signal area and any signal displayed in it are clearly visible to any aircraft intending to use the aerodrome.

Penalty: 10 penalty units.

139.180 Wind direction indicators — general

The operator of a certified aerodrome must, in accordance with the standards for wind direction indicators set out in the Manual of Standards, install and maintain at least 1 wind direction indicator at the aerodrome.

Penalty: 10 penalty units.

139.185 Wind direction indicators — requirement for certain runways

- (1) If a runway at a certified aerodrome is used in non-precision approach operations, the operator of the aerodrome must ensure that there is a wind direction indicator near the end or ends of the runway at which instrument non-precision approach operations can be conducted.

Penalty: 10 penalty units.

- (2) An offence against subregulation (1) is an offence of strict liability.

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- (3) CASA may exempt the operator under regulation 139.020 from compliance with subregulation (1) only if CASA is satisfied that surface wind information is passed to the pilots of aircraft approaching the runway by:
- (a) an automatic weather observing system that:
 - (i) is compatible with the Bureau of Meteorology's weather observing system; and
 - (ii) provides surface wind information through an aerodrome weather information broadcast; or
 - (b) an approved observer having a communication link with pilots through which timely information about surface wind can be clearly passed to pilots; or
 - (c) any other approved means of providing surface wind information.

139.190 Visual approach slope indicator system

- (1) The operator of a certified aerodrome must, in accordance with the standards for visual approach slope indicator systems set out in the Manual of Standards, provide an approved visual approach slope indicator system for the end of a runway at the aerodrome if that end is regularly used as the approach end for jet-propelled aircraft conducting regular public transport operations or charter operations.

Note At the commencement of this regulation, the visual approach slope indicator systems approved by CASA are the systems known as T-VASIS, AT-VASIS and PAPI.

Penalty: 10 penalty units.

- (2) CASA may direct the operator to provide an approved visual approach slope indicator system for the approach end or ends of a runway to which subregulation (1) does not apply, if CASA considers it necessary in the interests of the safety of aircraft.
- (3) The operator must comply with a direction given to the operator under subregulation (2).

Penalty: 10 penalty units.

139.195 Lighting of movement area

- (1) If a certified aerodrome is available for an aircraft to land or take-off at night, or in less than VMC during the day, the operator of the aerodrome must provide and maintain a lighting system for the movement area of the aerodrome that is in accordance with subregulations (2) and (3).

Penalty: 20 penalty units.

- (2) The lighting system must include:
 - (a) lighting of runways, taxiways and aprons intended for use at night or in less than VMC during the day; and
 - (b) lighting of at least 1 wind direction indicator; and
 - (c) lighting of obstacles within the movement area; and
 - (d) if the aerodrome has a runway intended to serve Category I, II or III precision approach operations — approach, runway and taxiway lighting for the runway and taxiway.
- (3) The lighting system must:
 - (a) if the lighting system is of a kind for which standards are specified in the Manual of Standards — meet those standards; or
 - (b) in any other case — be, or be of a kind, approved by CASA.

139.200 Checking of lighting systems

- (1) The operator of a certified aerodrome must not put a new lighting system of a kind mentioned in subregulation (3) into service at the aerodrome if both of the following requirements are not met:
 - (a) an approved pilot has conducted a flight check of the system;
 - (b) an electrical engineer or a licensed electrician has checked the system for compliance with any applicable electrical specifications and technical standards set out in the Manual of Standards.

Penalty: 10 penalty units.

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- (2) If checking compliance with a specification requires the use of survey instruments, the operator must ensure that the checking is done by:
- (a) a person with a degree, diploma or certificate in surveying or civil engineering; or
 - (b) a person with experience and competence in surveying that is acceptable to CASA.

Penalty: 10 penalty units.

- (3) For subregulation (1), the kinds of lighting systems are as follows:
- (a) an approach lighting system;
 - (b) a runway lighting system for instrument approach runways;
 - (c) a visual approach slope indicator system for jet-propelled aircraft (other than a system intended for use on a temporary basis for a period not longer than 30 days);
 - (d) a pilot-activated lighting system.

139.205 Aerodrome emergency committee

- (1) The operator of a certified aerodrome must establish an aerodrome emergency committee.

Penalty: 10 penalty units.

- (2) An offence against subregulation (1) is an offence of strict liability.
- (3) The committee must include a representative from any fire, police or other emergency service that, having regard to the location of the aerodrome, would be likely to be asked to assist if there were an emergency at the aerodrome.

139.210 Aerodrome emergency plan

- (1) The aerodrome emergency committee for a certified aerodrome must prepare an aerodrome emergency plan.

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- (2) The plan must include:
- (a) procedures for coordinating the responses of all emergency service organisations referred to in the plan; and
 - (b) any other matters that are required to be included in the emergency plan by the Manual of Standards.
- (3) The committee must review the emergency plan at least once a year and make any changes to the plan that are necessary to ensure that it operates properly.
- (4) The review must be carried out in consultation with the emergency service organisations referred to in the emergency plan.
- (5) As soon as practicable after an emergency exercise has been carried out at the aerodrome, or if an emergency has occurred at the aerodrome, as soon as practicable after the emergency, the operator of the aerodrome must arrange for the committee to:
- (a) review the effectiveness of the responses to the exercise or the emergency; and
 - (b) assess the adequacy of the emergency plan to deal with emergencies at the aerodrome; and
 - (c) take such corrective action as is necessary to ensure that the plan operates properly.
- (6) The operator must ensure that:
- (a) records of each review of the emergency plan carried out under this regulation are kept; and
 - (b) each record is retained for at least 3 years after the review to which the record relates was carried out.
- Penalty: 10 penalty units.
- (7) An offence against subregulation (6) is an offence of strict liability.

139.215 Testing of aerodrome emergency plan

- (1) Subject to this regulation, the operator of a certified aerodrome must conduct an emergency exercise at least once every 2 years to test:
 - (a) the coordination of the emergency service organisations referred to in the aerodrome's emergency plan; and
 - (b) the adequacy of the procedures and facilities provided for in the plan.

Penalty: 10 penalty units.
- (2) If a real emergency occurs at the aerodrome within 6 months before an emergency exercise is due, the operator may ask CASA to extend the period within which the next emergency exercise must be conducted.
- (3) CASA must grant the request if it is satisfied that:
 - (a) all emergency service organisations referred to in the plan responded to the real emergency; and
 - (b) the real emergency adequately tested the plan.
- (4) In granting the request, CASA may extend the period until the end of 2 years after the real emergency occurred.

139.220 Aerodrome serviceability inspections

- (1) An *aerodrome serviceability inspection* is an inspection of the aerodrome to ensure that it is safe for aircraft operations.
- (2) The inspection must include the following:
 - (a) an inspection of the movement area to check its surface condition (including for the presence of foreign objects);
 - (b) an inspection of aerodrome markings, lighting, wind direction indicators and ground signals;
 - (c) an inspection for any obstacles infringing the take-off, approach and transitional surfaces;
 - (d) an inspection for any birds or animals on or near the movement area;

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- (e) an inspection of any measures to control the inadvertent entry of persons or animals into the movement area (including aerodrome fencing);
 - (f) an empirical assessment of the bearing strength of unrated runway pavements;
 - (g) an empirical assessment of the runway strip or each runway strip where the runway concerned is not marked and the whole runway strip may be used for aircraft operations;
 - (h) an inspection of the aerodrome's frequency confirmation system (if any);
 - (i) a check of whether any NOTAMS for the aerodrome are current and accurate.
- (3) The inspection must comply with all applicable standards for aerodrome serviceability inspections set out in the Manual of Standards.

139.225 When aerodrome serviceability inspections must be conducted

- (1) The operator of a certified aerodrome must conduct an aerodrome serviceability inspection:
- (a) on each day on which an airline service operates at the aerodrome; or
 - (b) in any other case — at least twice a week.

Penalty: 10 penalty units.

- (2) An offence against subregulation (1) is an offence of strict liability.
- (3) The operator of a certified aerodrome must also conduct an aerodrome serviceability inspection:
- (a) after a gale, storm or other severe weather; and
 - (b) at any time that air traffic control or CASA requires the inspection.

Penalty: 10 penalty units.

139.230 Aerodrome technical inspections

- (1) An *aerodrome technical inspection* is an inspection of aerodrome facilities for an aerodrome to ensure that any deterioration that could make a facility unsafe for aircraft operations is detected.
- (2) The inspection must include the following:
 - (a) an instrument survey of the approach, take-off and transitional surfaces;
 - (b) an inspection and testing of the aerodrome lighting and electrical reticulation systems, including the visual approach slope indicator;
 - (c) an electrical testing of any earthing points at the aerodrome;
 - (d) an inspection and assessment of the movement area pavements and drainage;
 - (e) an inspection of signs on the movement area;
 - (f) an inspection of facilities at the aerodrome used for any of the following:
 - (i) aerodrome emergencies;
 - (ii) the handling of hazardous materials;
 - (iii) bird and animal hazard management;
 - (iv) stand-by and emergency aerodrome lighting;
 - (g) an inspection of airside vehicle control arrangements (if any);
 - (h) a check of the currency and accuracy of:
 - (i) aerodrome information published in AIP; and
 - (ii) aerodrome operating procedures specified in the aerodrome manual for the aerodrome.
- (3) The inspection must comply with all applicable standards for aerodrome technical inspections set out in the Manual of Standards.

139.235 When aerodrome technical inspections must be conducted etc

- (1) The operator of a certified aerodrome must ensure that:
- (a) an aerodrome technical inspection is conducted at intervals of not more than 12 months; or
 - (b) if the operator has elected to have a part or parts of the inspection conducted at different times under subregulation (2), each facility for the aerodrome to be inspected is inspected at intervals of not more than 12 months.

Penalty: 10 penalty units.

- (2) The operator may elect to have a part or parts of an aerodrome technical inspection conducted at different times from the other parts.
- (3) If it appears from an aerodrome serviceability inspection that a particular facility at the aerodrome requires an aerodrome technical inspection, the operator must ensure that the necessary technical inspection of the facility is conducted as soon as practicable.

Penalty: 10 penalty units.

- (4) The operator:
- (a) must, if the operator has elected to have a part or parts of an aerodrome technical inspection conducted at different times under subregulation (2):
 - (i) keep records of each part of each inspection; and
 - (ii) retain each record for at least 3 years after the part of the inspection to which the record relates was conducted; or
 - (b) must, in any other case:
 - (i) keep records of each inspection; and
 - (ii) retain each record for at least 3 years after the inspection to which the record relates was conducted.

Penalty: 10 penalty units.

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- (5) An offence against subregulation (1) or (4) is an offence of strict liability.

139.240 Who may conduct aerodrome technical inspections

- (1) The operator of a certified aerodrome must ensure that an aerodrome technical inspection is conducted by a person or persons with appropriate technical qualifications and experience.

Penalty: 10 penalty units.

- (2) In particular:
- (a) the movement area, other pavements and drainage must be inspected by a person who has a recognised degree, diploma or certificate in civil engineering or appropriate technical experience; and
 - (b) the lighting and electrical facilities must be inspected by an electrical engineer or a licensed electrician; and
 - (c) the obstacle limitation surfaces must be inspected by a person who:
 - (i) is technically qualified or experienced in surveying; and
 - (ii) has a sound knowledge and understanding of the standards and survey procedures for obstacle limitation surfaces.

139.245 Planning and execution of aerodrome works

- (1) The operator of a certified aerodrome must ensure that any aerodrome works at the aerodrome are carried out in a way that does not create a hazard to aircraft, or confusion to pilots.

Penalty: 10 penalty units.

- (2) The operator must comply with the standards set out in the Manual of Standards in relation to planning and notice requirements that must be satisfied before aerodrome works may be carried out.

Penalty: 10 penalty units.

139.250 Safety management system

- (1) This regulation applies:
 - (a) to an aerodrome used by aircraft engaged in international operations — on and after 1 November 2005; and
 - (b) to any other certified aerodrome — on and after 1 January 2007.
- (2) The operator of a certified aerodrome to which this regulation applies must ensure that the aerodrome has a safety management system that complies with the standards set out in the Manual of Standards.

Penalty: 10 penalty units.

Note This regulation is based on an ICAO requirement that is to come into effect in November 2005.

Subpart 139.C Registered aerodromes

139.255 Definition for this Subpart

In this Subpart:

aerodrome register means the register established and maintained under regulation 139.275.

139.260 Application for registration of aerodrome

- (1) The operator of an aerodrome (other than a aerodrome to which regulation 139.040 applies) may apply to CASA for registration of the aerodrome.

Note A person must not operate an aerodrome that is available for public use and has a non-precision approach runway if the aerodrome is not a certified aerodrome or a registered aerodrome (see regulation 139.030).

- (2) An application must be in the approved form and must be accompanied by:
 - (a) the information about the aerodrome required by Appendix 1 to this paragraph, including a diagram of the aerodrome in accordance with that Appendix; and

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- (b) a written statement, signed by a person approved under regulation 139.320, to the effect that:
 - (i) the person has conducted a safety inspection of the aerodrome; and
 - (ii) the aerodrome meets the applicable standards referred to in regulation 139.295 for registered aerodromes and is safe for operation; and
 - (c) the name or names of the person or persons who are to be the reporting officers for the aerodrome.
- (3) Despite paragraph (2) (b), for 3 years after the commencement of this regulation, the statement mentioned in that paragraph may be given by a person who is not approved by CASA under regulation 139.320 but is a person CASA is satisfied meets the requirements of subregulation 139.320 (2).

Appendix 1 to paragraph 139.260 (2) (a) (Diagram and information for application for registration of aerodrome)

- (1) The diagram of the aerodrome must show the following:
 - (a) the layout of runways, their designations (runway numbers) and length in metres;
 - (b) the layout of taxiways and aprons;
 - (c) the location of the aerodrome reference point;
 - (d) the location of all wind direction indicators;
 - (e) the elevation of the aerodrome at the highest point of the landing surface;
 - (f) the magnetic bearing and distance to the nearest population centre, and what that centre is.
- (2) The information about the aerodrome must include:

Aerodrome administration

- (a) the following information about the aerodrome and its administration:
 - (i) the name of the aerodrome;

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- (ii) the name of the aerodrome operator and the address and telephone numbers at which the aerodrome operator may be contacted at all times;
 - (iii) the State or Territory in which the aerodrome is located and the latitude and longitude for the location;
 - (iv) whether the aerodrome is a public or private aerodrome;
 - (v) the charges for use of the aerodrome;
 - (vi) the name and contact details for the persons who are to be the reporting officers for the aerodrome; and

Runways

- (b) the following information for each runway at the aerodrome:
 - (i) the runway reference code number for the approach and take-off areas that have been surveyed;
 - (ii) runway width and slope;
 - (iii) runway strip width (grade and overall);
 - (iv) declared distances and supplementary take-off distances;
 - (v) pavement strength rating; and

Aerodrome lighting

- (c) for each runway at the aerodrome that may be used at night — the following information:
 - (i) whether the runway edge lights are low, medium or high intensity lights;
 - (ii) whether approach lighting is provided;
 - (iii) whether pilot-activated lighting is provided and, if pilot-activated lighting is provided, its frequency;
 - (iv) whether T-VASIS or PAPI lighting systems are provided;
 - (v) whether there is an aerodrome beacon;
 - (vi) whether there is stand-by power or portable lighting;
 - (vii) information about any other lighting provided; and

Ground services

- (d) the following information about ground services available to visiting pilots:
 - (i) the types of aviation fuel available and contact details for fuel suppliers;
 - (ii) contact details for local weather information;
 - (iii) details of the universal communication system; and

Special procedures

- (e) information about any special procedures that pilots need to observe or follow; and

Notices

- (f) the following local safety information:
 - (i) the presence of obstacles or other hazards (including animals or birds);
 - (ii) restrictions on the use of taxiways or aprons;
 - (iii) other activities at the aerodrome (for example, sport aviation activities).

139.265 Registration of aerodromes

CASA must, if the operator of an aerodrome has applied for registration of the aerodrome in accordance with regulation 139.260:

- (a) register the aerodrome by entering the following information about the aerodrome in the aerodrome register:
 - (i) the name of the aerodrome;
 - (ii) the details of the location of the aerodrome;
 - (iii) the name and address of the operator; and
- (b) tell the operator, in writing, that the aerodrome is registered; and
- (c) direct AIS to publish in AIP-ERSA details of the registration and the information about the aerodrome required by Appendix 1 to paragraph 139.260 (2) (a).

139.270 Notice of refusal to register aerodrome

If CASA refuses to register an aerodrome, CASA must, no later than 14 days after it refuses to register the aerodrome, give the operator of the aerodrome written notice of the refusal and the reasons for it.

139.275 Register

- (1) CASA must establish and keep, in the approved form, a register of aerodromes registered under this Subpart.
- (2) CASA must make the aerodrome register available for inspection by members of the public at reasonable times and places, and subject to reasonable conditions.
- (3) CASA may comply with subregulation (2) by making the information recorded in the aerodrome register accessible on the Internet.
- (4) CASA must alter the information recorded in the aerodrome register if that information is not up to date.
- (5) CASA must correct the information in the aerodrome register if there is an error in that information.

139.280 Duration of registration

- (1) The registration of an aerodrome remains in force unless it is cancelled.
- (2) However, the registration is not in force during any period in which it is suspended.

139.285 Cancellation of registration on request

- (1) If the operator of a registered aerodrome wishes the registration of the aerodrome to be cancelled, the operator must give CASA not less than 30 days' written notice of the date on which the operator wishes the registration to be cancelled.
- (2) CASA must cancel the registration on the date specified in the notice and arrange for:
 - (a) the cancellation to be notified in NOTAMS; and

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- (b) details of the registration and any other information about the aerodrome to be removed from AIP-ERSA.

139.290 Suspension or cancellation of registration by CASA

- (1) CASA may, by written notice given to the operator of a registered aerodrome, suspend or cancel the registration of the aerodrome if there are reasonable grounds for believing that:
 - (a) the aerodrome fails to meet any of the standards applicable to the aerodrome under regulation 139.295; or
 - (b) the operator of the aerodrome has failed to comply with regulation 139.025, 139.300, 139.305, 139.310 or 139.315.
- (2) Before suspending or cancelling the registration of an aerodrome, CASA must:
 - (a) give to the operator a show cause notice that:
 - (i) sets out the facts and circumstances that, in the opinion of CASA, would justify the suspension or cancellation; and
 - (ii) invites the operator to show cause, in writing, within 30 days after the date of the notice, why the registration should not be suspended or cancelled; and
 - (b) take into account any written submissions that the operator makes to CASA within the time allowed under subparagraph (a) (ii).

139.295 Applicable standards for registered aerodromes

The standards applicable to registered aerodromes are:

- (a) the standards applicable to certified aerodromes in relation to the following matters:
 - (i) physical characteristics of the movement area;
 - (ii) obstacle limitation surfaces;
 - (iii) aerodrome markings;
 - (iv) lighting;
 - (v) wind direction indicators;
 - (vi) signal circle and ground signals; and

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- (b) any other standards set out in the Manual of Standards that are applicable to registered aerodromes.

139.300 Reporting officer

- (1) The operator of a registered aerodrome must appoint 1 or more reporting officers for the aerodrome.
- (2) The functions of a reporting officer are:
 - (a) to monitor the serviceability of the aerodrome in accordance with the Manual of Standards; and
 - (b) to report to the NOTAM Office and air traffic control any changes in conditions, or any other occurrences, at the aerodrome that must be reported under regulation 139.305.
- (3) The operator must not appoint a person as a reporting officer if the person has not been trained, in accordance with the Manual of Standards, to perform the reporting officer's functions.

139.305 Notice of changes in physical condition etc of aerodrome

- (1) The operator of a registered aerodrome must, in accordance with the Manual of Standards, give notice to the NOTAM Office of:
 - (a) any temporary or permanent change in the physical condition of the aerodrome that may affect the safety of aircraft; or
 - (b) any other occurrence relating to the operation or maintenance of the aerodrome that may affect the safety of aircraft.
- (2) If the aerodrome is a controlled aerodrome, the notice must also be given to air traffic control.

139.310 Notice of changes in information published in AIP-ERSA

To maintain the accuracy of the information published in AIP-ERSA in relation to a registered aerodrome, the operator of the aerodrome must tell AIS, in writing, as soon as practicable of any change required to that information (other than a change that is published in NOTAMS).

139.315 Safety inspections

- (1) This regulation applies to a registered aerodrome that is used by an aircraft that:
 - (a) is engaged in regular public transport operations or charter operations; and
 - (b) has a maximum passenger seating capacity of more than 9 seats.
- (2) The operator of the aerodrome must arrange for a safety inspection of the aerodrome to be conducted at least once each year.
- (3) The safety inspection must be conducted by a person approved under regulation 139.320.
- (4) The approved person must give the operator a written report that:
 - (a) deals with the matters set out in Appendix 1 to this paragraph; and
 - (b) specifies any remedial work that is necessary for the aerodrome to comply with the applicable standards.
- (5) Within 30 days after receiving the report, the operator must give to CASA:
 - (a) a copy of the report; and
 - (b) if the report specifies any remedial work as being necessary — a statement as to when and how the operator intends to do the remedial work.

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- (6) Despite subregulation (3), for 3 years after the commencement of this regulation, the safety inspection may be conducted by a person who is not approved by CASA under regulation 139.320 but met the requirements of Part 1 of Schedule 11 of CAR as in force immediately before that commencement.

Appendix 1 to paragraph 139.315 (4) (a) (Matters to be dealt with in safety inspections)

Details of aerodrome

- (1) Check that the following details relating to the aerodrome, published in AIP-ERSA or given to air transport operators, are correct:
- (a) details of the location of the aerodrome;
 - (b) the name and address of the aerodrome operator;
 - (c) details of the movement area;
 - (d) details of runway distances available;
 - (e) details of the aerodrome lighting;
 - (f) details of ground services;
 - (g) notice of special conditions and procedures, if any.

Aerodrome operating procedures

- (2) Check aerodrome operating procedures to ensure that the following matters are dealt with:
- (a) recording of aerodrome inspections;
 - (b) recording of notices given to the NOTAM Office and AIS or to air transport operators;
 - (c) recording of aerodrome works.

Reporting officer

- (3) Check that each person appointed as a reporting officer is competent to carry out the reporting officer's functions.

Details relating to movement area etc

- (4) Check the following:
- (a) dimensions and surface conditions of runways, taxiways and aprons;
 - (b) aerodrome lighting, including back-up lighting and obstacle lighting;
 - (c) wind direction indicators and their illumination;
 - (d) aerodrome markings and signs;
 - (e) obstacle limitation surfaces applicable to the aerodrome;
 - (f) two-way radios (whether hand-held or installed in vehicles) used by the aerodrome operator on the movement area;
 - (g) equipment used for dispersing birds;
 - (h) aerodrome fencing.

139.320 Approval of persons to conduct aerodrome safety inspections

- (1) A person may apply to CASA for approval to conduct aerodrome safety inspections for this Subpart.
- (2) CASA must approve the person if the person:
- (a) has:
 - (i) a recognised degree, diploma or certificate in civil engineering, surveying or a related field and a sound knowledge of the parts of these Regulations and the standards, practices and procedures that are applicable to the operation and maintenance of aerodromes; or
 - (ii) other qualifications, knowledge and experience that CASA considers suitable for conducting an aerodrome safety inspection; and
 - (b) would, if the approval is given, be able to perform properly the aerodrome safety inspection function.

139.325 Duration of approval

- (1) Unless sooner cancelled, an approval under regulation 139.320 remains in force until the end of 5 years after it is given.
- (2) An approval is not in force during any period in which it is suspended, but the period of suspension counts as part of the 5 year approval period.

139.330 Suspension or cancellation of approval by CASA

- (1) CASA may suspend or cancel an approval of a person under regulation 139.320, by written notice given to the person, if the person has not properly carried out, or is no longer properly carrying out, the aerodrome safety inspection function.
- (2) Before cancelling or suspending the approval, CASA must:
 - (a) give the person written notice:
 - (i) stating the reasons that, in the opinion of CASA, would justify the cancellation or suspension; and
 - (ii) advising the person that he or she may, within 30 days after the date of the notice, give CASA written reasons why the approval should not be suspended or cancelled; and
 - (b) take into account any written reasons given to it by the person within the time allowed under subparagraph (a) (ii).

Subpart 139.D Reporting officer and safety inspection requirements for certain other aerodromes

139.335 Aerodromes to which this Subpart applies

- (1) This Subpart applies to an aerodrome that:
 - (a) is not a certified aerodrome or a registered aerodrome; and
 - (b) is used at least once a week by an aircraft that:
 - (i) is engaged in regular public transport operations or charter operations; and

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- (ii) has a maximum passenger seating capacity of more than 9 seats but not more than 30 seats.
- (2) To establish the applicability of this Subpart to an aerodrome, CASA may direct the operator of the aerodrome to give to CASA statistics about the number of movements at the aerodrome, in a specified period, of aircraft to which subparagraphs (1) (b) (i) and (ii) apply.
- (3) An aerodrome operator must comply with a direction given to the operator under subregulation (2).

Penalty: 10 penalty units.

139.340 Reporting officer

- (1) The operator of an aerodrome to which this Subpart applies must appoint 1 or more reporting officers for the aerodrome.
- Penalty: 10 penalty units.
- (2) An offence against subregulation (1) is an offence of strict liability.
- (3) The functions of a reporting officer are:
- (a) to monitor the serviceability of the aerodrome in accordance with the Manual of Standards; and
- (b) to report to the operators that use the aerodrome any changes in conditions, or any other occurrences, at the aerodrome that may affect the safety of aircraft operations.
- (4) The operator must not appoint a person as a reporting officer if the person has not been trained, in accordance with the Manual of Standards, to perform the reporting officer's functions.

Penalty: 10 penalty units.

139.345 Safety inspections

- (1) The operator of an aerodrome to which this Subpart applies must arrange for a safety inspection of the aerodrome to be conducted at least once each year.

Penalty: 10 penalty units.

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- (2) An offence against subregulation (1) is an offence of strict liability.
 - (3) The safety inspection must be conducted by a person approved, under regulation 139.320, to conduct safety inspections for Subpart 139.C.

Penalty: 10 penalty units.

- (4) The approved person must give the operator a written report that:
 - (a) deals with the matters set out in Appendix 1 to this paragraph; and
 - (b) specifies any remedial work that is necessary for the aerodrome to comply with the applicable standards.
- (5) Within 30 days after receiving the report, the operator must give to CASA:
 - (a) a copy of the report; and
 - (b) if the report specifies any remedial work as being necessary — a statement as to when and how the operator intends to do the remedial work.

Penalty: 10 penalty units.

- (6) Despite subregulation (3), for 3 years after the commencement of this regulation, the safety inspection may be conducted by a person who is not approved by CASA under regulation 139.320 but is a person CASA is satisfied meets the requirements of subregulation 139.320 (2).

Appendix 1 to paragraph 139.345 (4) (a) (Matters to be dealt with in safety inspections)

Details of aerodrome

- (1) Check that the following details relating to the aerodrome, published in AIP-ERSA or given to air transport operators, are correct:
 - (a) details of the location of the aerodrome;
 - (b) the name and address of the aerodrome operator;
 - (c) details of the movement area;

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- (d) details of runway distances available;
 - (e) details of the aerodrome lighting;
 - (f) details of ground services;
 - (g) notice of special conditions and procedures, if any.

Aerodrome operating procedures

- (2) Check aerodrome operating procedures to ensure that the following matters are dealt with:
 - (a) recording of aerodrome inspections;
 - (b) recording of notices given to the NOTAM Office and AIS or to air transport operators;
 - (c) recording of aerodrome works.

Reporting officer

- (3) Check that each person appointed as a reporting officer is competent to carry out the reporting officer's functions.

Details relating to movement area etc

- (4) Check the following:
 - (a) dimensions and surface conditions of runways, taxiways and aprons;
 - (b) aerodrome lighting, including back-up lighting and obstacle lighting;
 - (c) wind direction indicators and their illumination;
 - (d) aerodrome markings and signs;
 - (e) obstacle limitation surfaces applicable to the aerodrome;
 - (f) two-way radios whether hand-held or installed in vehicles used by the aerodrome operator on the movement area;
 - (g) equipment used for dispersing birds;
 - (h) aerodrome fencing.

Subpart 139.E Obstacles and hazards

139.350 Monitoring of airspace

- (1) The operator of a certified aerodrome or a registered aerodrome must monitor the airspace around the aerodrome for infringement of the obstacle limitation surfaces by:
 - (a) any object, building or structure; or
 - (b) any gaseous efflux having a velocity exceeding 4.3 metres per second.
- (2) The monitoring must be in accordance with the standards set out in the Manual of Standards.

139.355 Establishment of obstacle limitation surfaces

An aerodrome operator must ensure that obstacle limitation surfaces are established for the aerodrome in accordance with the standards set out in the Manual of Standards.

139.360 Notice of obstacles

- (1) An aerodrome operator must take all reasonable measures to ensure that obstacles at, or within the vicinity of, the aerodrome are detected as quickly as possible.
- (2) If the operator becomes aware of the presence of an obstacle, the operator must:
 - (a) tell the NOTAM Office immediately; and
 - (b) give the NOTAM Office details of:
 - (i) the height and location of the obstacle; and
 - (ii) amended declared distances and gradients, if applicable.

Penalty: 10 penalty units.

- (3) If the operator becomes aware of any development or proposed construction near the aerodrome that is likely to create an obstacle, the operator must:
 - (a) tell CASA as soon as practicable; and

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- (b) give to CASA details of the likely obstacle.

Penalty: 10 penalty units.

139.365 Structures 110 metres or more above ground level

A person who proposes to construct a building or structure the top of which will be 110 metres or more above ground level must inform CASA of that intention and the proposed height and location of the building or structure.

Penalty: 10 penalty units.

139.370 Hazardous objects etc

- (1) CASA may determine, in writing, that:
 - (a) an obstacle, or any proposed development or other proposed construction that is likely to create an obstacle; or
 - (b) a building or structure the top of which is 110 metres or more above ground level; or
 - (c) a proposed building or structure the top of which will be 110 metres or more above ground level;is, or will be, a hazardous object because of its location, height or lack of marking or lighting.
- (2) CASA may determine, in writing, that a gaseous efflux having a velocity exceeding 4.3 metres per second is, or will be, a hazard to aircraft operations because of the velocity or location of the efflux.
- (3) If CASA makes a determination under subregulation (1) or (2), it must:
 - (a) publish in AIP or NOTAMS particulars of the hazardous object or gaseous efflux to which the determination relates; and
 - (b) give written notice of the determination in accordance with subregulation (4).

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- (4) CASA must give a copy of the notice:
- (a) in the case of a hazardous object that is a proposed building or structure:
 - (i) to the person proposing to construct the building or structure; and
 - (ii) to the authority or, if applicable, one or more of the authorities whose approval is required for the construction; and
 - (b) in any other case, if a person who owns or is in occupation or control of the hazardous object, or owns or is in control of the installation that produces the gaseous efflux, can reasonably be identified — to that person.

Subpart 139.F Aerodrome radio communication services

Division 139.F.1 General

139.375 Aerodrome operators to collect statistics if directed

- (1) If CASA considers it necessary in the interests of the safety of air navigation, CASA may, in writing, give directions to an aerodrome operator about collecting:
 - (a) statistics about:
 - (i) the types of aircraft using the aerodrome; and
 - (ii) the times of aircraft movements at the aerodrome; and
 - (b) other information, specified by CASA in the direction, that is relevant to deciding what radio communication services or air traffic services should be provided at the aerodrome.
- (2) An aerodrome operator must comply with a direction given to the operator under subregulation (1).

Penalty: 10 penalty units.

Division 139.F.2 Frequency confirmation system

139.380 Definitions for Division 139.F.2

In this Division:

frequency confirmation system means a ground radio system at an aerodrome that, if it receives a transmission from an aircraft on the radio frequency for the aerodrome, sends a signal or message to the aircraft confirming that the transmission has been received.

non-controlled aerodrome means an aerodrome at which an air traffic control service is not operating.

139.385 Aerodromes that must have a frequency confirmation system

- (1) The operator of a non-controlled aerodrome must ensure that there is a frequency confirmation system for the aerodrome in accordance with subregulation (2) if:
 - (a) the aerodrome is located in an MBZ; or
 - (b) the aerodrome is used at least 5 times a week by aircraft that:
 - (i) are engaged in regular public transport operations or charter operations; and
 - (ii) have a maximum passenger seating capacity of more than 9 seats.

Penalty: 10 penalty units.

- (2) The frequency confirmation system must comply with the standards for frequency confirmation systems set out in the Manual of Standards.

Division 139.F.3 Air/ground radio service

139.390 Definitions for Division 139.F.3

In this Division:

AAIS (automatic aerodrome information service) means the service that provides current, routine information for aircraft arriving at or departing from an aerodrome by means of repetitive broadcasts on a discrete frequency.

air/ground radio service means an aerodrome radio information service that provides aircraft operating in the MBZ of an aerodrome with the services and information specified in section 14.2 of the Manual of Standards.

certified air/ground radio operator, or *CA/GRO*, means a person who is certified as a CA/GRO under regulation 139.430.

certified air/ground radio service, or *CA/GRS*, in relation to an aerodrome, means an air/ground radio service for the aerodrome certified in accordance with regulation 139.410.

139.395 Air/ground radio service must be certified

- (1) The operator of an aerodrome must not operate, or permit to be operated, at the aerodrome an air/ground radio service that is not a CA/GRS.

Penalty: 10 penalty units.

- (2) An offence against subregulation (1) is an offence of strict liability.
- (3) Subregulation (1) does not apply if the operator has CASA's written approval to operate the service for the purpose of conducting tests necessary to determine whether the service meets the standards for a CA/GRS set out in the Manual of Standards.

139.400 Direction by CASA to provide CA/GRS

- (1) CASA may direct the operator of an aerodrome to provide a CA/GRS at the aerodrome.

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- (2) CASA must not give a direction under subregulation (1) unless an aeronautical study for the aerodrome has found that a CA/GRS is required at the aerodrome for the safety of air navigation.
 - (3) An operator must comply with a direction given to the operator under subregulation (1).

Penalty: 10 penalty units.

139.405 Voluntary provision of CA/GRS

An aerodrome operator who has not been given a direction under regulation 139.400 may provide a CA/GRS at the aerodrome.

139.410 Certification of air/ground radio service

- (1) The operator of an aerodrome may ask CASA to certify an air/ground radio service for the aerodrome as meeting the standards for a CA/GRS set out in the Manual of Standards.
- (2) A request must be made to CASA in accordance with the Manual of Standards.
- (3) If the operator asks CASA to certify an air/ground radio service under this regulation, or because of a direction under regulation 139.400, CASA must certify the service if it meets the standards for a CA/GRS set out in the Manual of Standards.

139.415 General obligations of aerodrome operator

The operator of an aerodrome that has a CA/GRS must ensure that:

- (a) the CA/GRS is provided with the facilities required for a CA/GRS by the Manual of Standards; and
- (b) only a CA/GRO operates the CA/GRS; and
- (c) if the aerodrome is a certified aerodrome — the aerodrome manual for the aerodrome includes the operational procedures for the CA/GRS; and

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- (d) the CA/GRS is operated in accordance with regulation 139.420.

Penalty: 10 penalty units.

139.420 When CA/GRS must be operating

- (1) The CA/GRS must be operating for the arrival and departure of an aircraft that:
 - (a) is engaged in regular public transport operations or charter operations; and
 - (b) has a maximum passenger seating capacity of more than 30 seats.
- (2) Subregulation (1) does not apply if:
 - (a) an air traffic control service is operating at the aerodrome; or
 - (b) an exemption from the requirement is in effect under regulation 139.020.
- (3) Also, subregulation (1) does not apply for the limited period mentioned in subregulation (4) if:
 - (a) the CA/GRO is absent from duty because of sickness or injury; or
 - (b) the CA/GRS is unserviceable.
- (4) The *limited period* is the lesser of:
 - (a) 7 days; and
 - (b) the period of the absence from duty or the unserviceability.

139.425 Information about operating hours to be given to NOTAM Office

- (1) The operator of an aerodrome that has a CA/GRS must give the NOTAM Office the following information, in writing:
 - (a) the hours of operation of the CA/GRS;
 - (b) the radio frequency and the call-sign of the CA/GRS;
 - (c) the radio frequency of the AAIS for the aerodrome.

Penalty: 10 penalty units.

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- (2) An offence against subregulation (1) is an offence of strict liability.
 - (3) If the CA/GRS becomes unavailable at the hours of operation notified under paragraph (1) (a), the operator must tell the NOTAM Office as soon as practicable.

Penalty: 10 penalty units.

139.430 Certified air/ground radio operators

- (1) A person may apply to CASA for certification as a CA/GRO.
- (2) The application must be made to CASA in accordance with the Manual of Standards.
- (3) On receiving an application under this regulation, CASA must grant the application if the applicant meets the standards for a CA/GRO set out in the Manual of Standards.

139.435 Offences

- (1) When a CA/GRO is providing a CA/GRS, he or she must not perform any other duties that are unrelated to the provision of the CA/GRS.

Penalty: 5 penalty units.

- (2) The operator of an aerodrome must not allow a CA/GRO to provide a CA/GRS at the aerodrome if:
 - (a) the CA/GRO:
 - (i) has consumed any alcohol in the 8 hours before the service is to be provided; or
 - (ii) is suffering from an incapacity that is likely to impair his or her efficiency in providing the service; and
 - (b) the operator knows of that fact.

Penalty: 5 penalty units.

[4] Regulation 202.000

omit

202.172 Exemption from requirements of airworthiness directive

insert

202.172 Exemption from requirements of airworthiness directive

Subpart 202.FY Transitional provisions for Part 139 (Aerodromes)

202.700 Definitions for this Subpart

202.701 Aerodrome licences issued under CAR

202.702 Conditions of transitional aerodrome licences

202.703 Duration of transitional aerodrome licences

202.704 Previous aerodrome manuals and standards for aerodromes

202.705 Exemptions

[5] Subpart 202.FY

substitute

Subpart 202.FY Transitional provisions for Part 139 (Aerodromes)

202.700 Definitions for this Subpart

In this Subpart:

old regulations means CAR as in force immediately before the commencement of this regulation.

Rules and Practices for Aerodromes means the document called ‘Rules and Practices for Aerodromes’, published by CASA, as in force immediately before the commencement of this regulation.

transitional aerodrome licence means an aerodrome licence that is continued in force after the commencement of this regulation by regulation 202.701 as if it were an aerodrome certificate granted under regulation 139.050.

202.701 Aerodrome licences issued under CAR

An aerodrome licence in force under Part 9 of the old regulations immediately before the commencement of this regulation continues in force after that commencement as if it were an aerodrome certificate granted under regulation 139.050.

202.702 Conditions of transitional aerodrome licences

A transitional aerodrome licence remains subject to any conditions to which it was subject immediately before the commencement of this regulation (including any condition to which the licence was subject under regulation 303 of CAR).

202.703 Duration of transitional aerodrome licences

Despite regulation 139.065, a transitional aerodrome licence continues in force, unless sooner cancelled, until the earlier of the following:

- (a) CASA grants an aerodrome certificate in respect of the aerodrome under regulation 139.050;
- (b) the end of 3 years after the commencement of this regulation.

202.704 Previous aerodrome manuals and standards for aerodromes

- (1) This regulation applies to the operator of an aerodrome if the operator holds a transitional aerodrome licence for the aerodrome.
- (2) The operator is taken to satisfy the requirements of Division 139.B.2 of CASR if the operator has an aerodrome manual for the aerodrome that, immediately before the commencement of this regulation, satisfied the requirements of Part 9, Division 3 of the old regulations.

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- (3) The operator is taken to comply with regulation 139.165 if the operator complies with any requirements or standards for the physical characteristics of the movement area of an aerodrome that:
- (a) are set out or referred to in the Rules and Practices for Aerodromes; and
 - (b) applied to the operator in respect of the aerodrome immediately before the commencement of this regulation.
- (4) The operator is taken to comply with regulations 139.170, 139.190 and 139.195 if the operator complies with any requirements or standards for the marking and lighting of the movement area of an aerodrome that:
- (a) are set out or referred to in the Rules and Practices for Aerodromes; and
 - (b) applied to the operator in respect of the aerodrome immediately before the commencement of this regulation.
- (5) The operator is taken to comply with regulations 139.175 and 139.180 if the operator complies with any requirements or standards for the signal area and wind direction indicators for an aerodrome that:
- (a) are set out or referred to in the Civil Aviation Orders; and
 - (b) applied to the operator in respect of the aerodrome immediately before the commencement of this regulation.
- (6) The operator is taken to comply with regulation 139.355 if the operator complies with any requirements and standards for the establishment of obstacle limitation surfaces for an aerodrome that:
- (a) are set out or referred to in the Rules and Practices for Aerodromes; and
 - (b) applied to the operator in respect of the aerodrome immediately before the commencement of this regulation.

202.705 Exemptions

- (1) An exemption from a provision of Part 9 of the old regulations (the *old provision*) that:
 - (a) was granted to the operator of an aerodrome under regulation 89ZD of the old regulations; and
 - (b) was in effect immediately before the commencement of this regulation;
continues in force after that commencement as if it were an exemption granted to the operator under regulation 139.020 from the provision of these Regulations, or the Manual of Standards, that corresponds to the old provision.
- (2) Any such exemption continues in force subject to any conditions to which it was subject immediately before that commencement.
- (3) In this regulation:
Manual of Standards has the meaning given by regulation 139.010.

[6] Dictionary, Part 1

insert the following definitions in the appropriate alphabetical positions (determined on a letter-by-letter basis)

aerodrome certificate means a certificate granted under regulation 139.050.

aerodrome facilities and equipment means facilities and equipment, inside or outside the boundaries of an aerodrome, that are installed or maintained for use by aircraft operating at the aerodrome.

aerodrome manual, for a certified aerodrome, means the aerodrome manual for the aerodrome required by regulation 139.090.

aerodrome marking includes a permanent or temporary marker, a movement area guidance sign and a road sign.

aerodrome operator:

- (a) for a certified aerodrome — means the person who holds the aerodrome certificate for the aerodrome; and
- (b) for a registered aerodrome — means the operator of the aerodrome; and

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- (c) for an aerodrome to which Subpart 139.D applies — means the person who is responsible for the operation and maintenance of the aerodrome.

aerodrome serviceability inspection, of an aerodrome, means an inspection of the aerodrome mentioned in regulation 139.220.

aerodrome technical inspection, of aerodrome facilities for an aerodrome, means an inspection of the aerodrome facilities mentioned in regulation 139.230.

aerodrome works means any construction or maintenance work on or near the movement area of an aerodrome that may create an obstacle, or restrict the normal take-off and landing of aircraft, at the aerodrome.

AIP-ERSA means the Aeronautical Information Publication Enroute Supplement Australia published jointly by the Australian Air Force and AIS, as in force from time to time.

AIS means AA in its capacity as the provider of an aeronautical information service.

apron, of an aerodrome, has the meaning given by the Air Services Regulations.

certified aerodrome means an aerodrome in respect of which an aerodrome certificate is in force.

manoeuvring area, of an aerodrome, has the meaning given by the Air Services Regulations.

maximum carrying capacity, for an aircraft, means the maximum payload permitted under the aircraft's certificate of type approval.

maximum passenger seating capacity, for an aircraft, means the maximum number of seats for persons (excluding flight crew and cabin crew) in the aircraft that is:

- (a) approved by CASA; and
- (b) specified in the aircraft operator's operations manual.

movement area, of an aerodrome, has the meaning given by the Air Services Regulations.

non-precision approach runway has the same meaning as in Annex 14, Aerodromes, to the Chicago Convention.

NOTAM Office means the office of AIS responsible for the publication of NOTAMS.

obstacle means an object that extends above part of an obstacle limitation surface of an aerodrome.

obstacle limitation surface, of an aerodrome, means an obstacle limitation surface established in accordance with regulation 139.355.

operations manual, for an operator, means the manual required to be provided by the operator under regulation 215 of CAR.

Note The definition of ***operator*** in subregulation 2 (1) of CAR is as follows:

operator means a person, organisation, or enterprise engaged in, or offering to engage in, an aircraft operation.

registered aerodrome means an aerodrome that is registered under regulation 139.265.

time-limited works has the same meaning as in the Manual of Standards.

Schedule 2 Amendments of *Civil Aviation Regulations 1988*

(regulation 4)

[1] Part 9, Divisions 1 to 7

omit

[2] Schedules 10 and 11

omit



Annex B

Manual of Standards (MOS) – Part 139 – Aerodromes

The Manual of Standards Part 139—Aerodromes is a CASA policy manual. It contains technical specifications (standards) prescribed by CASA, of uniform application, determined to be necessary for the safety of air navigation. The MOS is incorporated in the *Civil Aviation Safety Regulations (CASRs) Part 139 — Aerodromes* by reference.

Due to the size and complexity of the MOS – Part 139 – Aerodromes, (7.4MB Adobe Acrobat, 488 printed pages) it has not been reproduced in this SOR.

However, readers may access the MOS through the CASA Website at: www.casa.gov.au/avreg/rules/1998casr/139/index.htm or on a CDROM, by requesting a copy through the Regulatory Documentation Coordinator:

Post (no stamp required) Reply Paid 2005
Standards Administration & Support Branch
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Canberra ACT 2601, Australia

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Annex C

List of Respondents to NPRM 0112AS
consenting to the publish their names

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Organisations

Ken Allcott — representing Sydney Airports Corporation Ltd
Lane Dechaineux — representing Sydney Airports Corporation Ltd
Robert Devin — representing Airservices Australia
Mark Farrer — representing Sydney Airports Corporation Ltd
John Ferguson — representing Airport Lighting Specialist Pty Ltd
Paul Finch — representing Norfolk Island Airport
Shane Flynn — representing AvDev Townsville
David Foster — representing Crane Air Pty Ltd
Peter Francis — representing Airport Technical Services Pty Ltd
Martin Grace — representing Department of Infrastructure, Energy and Resources TAS
Pamela Graham — representing the Melbourne Airport
Peter Hickson — representing Halls Creek WA
Mike Hindle — representing the Nhulunbuy Corporation Ltd
John Hunter — representing Queensland Airport Consultants
Keith Jobson — representing AAAI (c/- Raytheon Australia)
Ken Keech — representing the Australian Airports Association
Steve Lansell — representing the Royal Flying Doctor Service, Western Operations
Andrew Liepa — representing Cairns Port Authority
Howard Ludgate — representing Brisbane Airport Corporation Ltd
John Meekings — representing Airways Training Services Pty Ltd
Les Mitchell — representing Nhulunbuy Corporation Ltd
Graham Moss — representing Gutteridge Haskins and Davey Pty Ltd
John McArdle — representing the Adelaide Airport
Ian McIntyre — representing the Royal Aeronautical Society
Rohan McKinnon – representing the Tumut Shire Council
Bas Nelson — representing Queensland Airport Consultants
David Osborne — representing Moorabbin Airport Corporation
Capt Tom Russel — representing the Australian Federation of Air Pilots
Wally Rutledge — representing the International Aviation Consultants, IAC Aviation
Dianne Stewart — representing the Department of Planning and Infrastructure WA
Guy Thompson — representing the Shire of Roebourne WA
John Tree — representing Department of Transport SA
Mark Turner — representing Department of Defence

Individuals

Ross Stenhouse

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