Australian Government

Civil Aviation Safety Authority

I, JOHN FRANCIS McCORMICK, Director of Aviation Safety, on behalf of CASA, make this instrument under regulation 139.015 of the *Civil Aviation Safety Regulations 1998*.

[Signed John F. McCormick]
John F. McCormick
Director of Aviation Safety

29 April 2010

Manual of Standards Part 139 Amendment Instrument (No. 1) 2010

1 Name of instrument

This instrument is the *Manual of Standards Part 139 Amendment Instrument (No. 1) 2010.*

2 Commencement

This instrument commences on the day after it is registered.

3 Amendment of the Manual of Standards Part 139

Schedule 1 amends Manual of Standards Part 139.

Schedule 1 Amendments

[1] Section 1.2, definition of *Visibility*

substitute

Visibility (***V***)	Visibility for aeronautical purposes is the greater of: (a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognised when observed against a bright background; (b) the greatest distance at which lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background. *Notes:* 1. The 2 distances have different values in air of a given extinction coefficient, and the distance mentioned in paragraph (b) varies with the background illumination. The distance mentioned in paragraph (a) is represented by the meteorological optical range (***MOR***). 2. For international recognition and consistency**,** the definition of ***Visibility*** is taken from Chapter 1, Part 1, Annex 3, *Meteorological Service for International Air Navigation,* in the Convention on International Civil Aviation.

[2] Sub-subparagraph 9.1.1.2 (c) (i)

substitute

(i) accommodate larger aeroplanes, for example, an upgrade from a code 2 to a code 3 runway, or from a code C to a code D taxiway, or to accommodate on an apron more aircraft, larger aircraft, or both more aircraft and larger aircraft.

[3] After sub-subparagraph 9.1.1.2 (c) (ii)

insert

(iii) to accommodate aircraft take-offs and aerodrome surface movements in RVR conditions of less than 550 m; or

(iv) if existing equipment that is obsolete or does not comply with current standards is replaced with new equipment.

Notes:

1. The upgrade of a facility, including an aerodrome lighting system, is the trigger for a non-compliant system to be brought into compliance with the relevant MOS standards. Since the timing and budgeting of an upgrade is usually under the aerodrome operator's control, so too is the timing of works necessary to bring the non-compliant system into compliance with the MOS.
2. The following are examples of how CASA interprets this standard:
   (a) if an approach lighting system requires new light fittings to be installed, for example because the existing fittings can no longer be maintained due to unavailability of spare parts, all aspects of the approach lighting system must be brought into compliance with the MOS, including, for example the photometric characteristics of the new approach lights and the frangibility standards;
   (b) if a runway (A) at an aerodrome is lengthened to accommodate larger or heavier aircraft, the runway lights must be extended and threshold and runway end lights relocated. If the existing runway lights, threshold lights or end lights do not comply with the MOS, lengthening runway A is a trigger for bringing all of the lighting on the runway into compliance with the MOS. However, this would not, of itself, trigger the requirement for all of the lighting on runway B at the aerodrome to be brought into compliance with the MOS;
   (c) if an apron (A) at an aerodrome is extended to accommodate more or larger aircraft, the changed apron and resultant apron floodlighting must comply with the MOS. However, all of floodlighting on apron A must also comply with the MOS. It would not, of itself, trigger the requirement for non-compliant floodlighting on apron B at the aerodrome to be brought into compliance with the MOS;
   (d) routine maintenance pavement overlays would not, of itself, trigger the replacement of associated non-compliant visual aids.

[4] Subparagraph 9.1.1.2 (d)

omit

the relevant CASA office

insert

CASA

[5] After paragraph 9.1.2.2

insert

9.1.2.2A As far as practicable, light fittings with different photometric characteristics must not be mixed in a lighting system.

Note: It is necessary to ensure, as far as practicable, uniformity in the visual appearance of light in a light system. See also paragraph 9.1.12.6.

[6] After subparagraph 9.1.4.1 (a)

insert

(ab) for taxiways used only by aeroplanes of code A or B — at least 1 such code A or B taxiway between the runway and the apron, with retroreflective markers permitted on the other code A or B taxiways;

[7] Subparagraph 9.1.4.1 (c), the Note

omit

[8] After paragraph 9.1.5.3

insert

Note: This type of lighting installation is not considered by CASA to be portable lighting. It is considered to be a permanent installation. The lighting system must, therefore, satisfy all of the permanent aerodrome lighting standards, for example light intensity, light colour, frangibility etc.

[9] After paragraph 9.1.6.1, the Note

insert

Note 2: Some operational credit is available to runways with interleaf circuits. For more information see Aeronautical Information Publication (AIP) Australia, Part 2 – En Route, ENR 1.1, paragraph “Partial Runway Lighting Failure”.

[10] After paragraph 9.1.7.3

insert

9.1.7.4 Secondary power must be provided to allow the operation of the following lighting systems at every runway from which aircraft are intended to take off in RVR conditions less than a value of 800 m:

(a) runway edge lights;

(b) runway end lights;

(c) runway centreline lights, where provided;

(d) all stop bars, when they are being used;

(e) runway guard lights, when stop bars are not being used;

(f) essential taxiway lights;

(g) essential obstacle lights.

Note: For subparagraph (f), CASA considers taxiway lights essential when their operation is essential to the safety of aircraft operations.

[11] After paragraph 9.1.8.1

insert

9.1.8.2 For paragraph 9.1.8.1, alerting of the generators is an acceptable method of achieving the very short switch-over times. For this method, before commencement of low visibility, or when weather conditions indicate that the Supply Authority electricity may be susceptible to interruption, the generator(s) are started, and when they come up to speed, the electrical load is connected to them. In the unlikely event that a generator fails, the electrical system must automatically reconnect the load to the Supply Authority power.

9.1.8.3 Where alerting of the generators is the method adopted for meeting the switch-over times to support Precision Approach Cat II and III approaches, and take-offs in RVR conditions less than a value of 800 m, real time information on the operating status of the generator set(s) and the Supply Authority power must be provided to ATC.

[12] Subsection 9.1.10

substitute

9.1.10 Portable Lighting

9.1.10.1 Portable lights are only for temporary emergency use, and primarily for VFR operations.

Note: For example, portable lights may be used at an aerodrome for landings and take-offs as follows:

(a) if the aerodrome is intended for regular night operations and, therefore, has a permanent lighting system installed — to replace unserviceable lights until the permanent lights are urgently repaired;

(b) if the aerodrome is not intended for regular night operations and, therefore, does not have a permanent lighting system installed — for temporary emergencies such as medical emergencies or emergency landings.

9.1.10.2 Portable lights:

(a) may comprise liquid fuel-burning flares or lamps, battery-powered electric lights or other similar devices; and

(b) must have a substantially omni-directional light output.

Notes:

1. Because of the variable technology permitted, no light intensity is specified. However, as an indication of adequate light intensity under the weather conditions prevailing at the time of their use, portable runway lights should be visible from a distance of not less than 3 km.
2. The colour of the portable lights should conform to the colour for permanent lights, except that, where the provision of coloured lights at the threshold and the runway end is not practicable, all runway lights may be variable white or as close to variable white as practicable.

9.1.10.3 If an aerodrome is notified in ERSA as having portable lighting, the following requirements apply:

(a) the portable lights must always be in a serviceable condition and a state of readiness, including clean glasses and either fuel tanks filled or fresh batteries available;

(b) appropriate persons must be trained to deploy the lights and put them into operation without delay when the need arises.

Note: Due to the time required to deploy portable lights, the ERSA entry should include a notation that prior notice of operations is required.

9.1.10.4 The portable lights must be:

(a) at the same spacing as permanently installed lights; and

(b) level so that the vertical axis is true; and

(c) deployed in such a way that an aircraft can land into the wind.

Note: To allow speedy deployment, the locations of the portable lights should be clearly marked, and the surface appropriately treated and maintained.

9.1.10.5 For an aircraft arrival, the portable lights must be lit or switched on at least 30 minutes before the estimated time of arrival.

9.1.10.6 For an aircraft departure, the portable lights must be:

(a) lit or switched on at least 10 minutes before the time of departure; and

(b) retained after take-off:

(i) for at least 30 minutes; or

(ii) if no air-ground communication exists with the aircraft — for at least 1 hour.

Note: Retention of the portable lights is required for the contingency that an aircraft may need to return to the aerodrome.

[13] Paragraph 9.1.11.1, the Note

substitute

Note: For guidance on frangibility, see:

(a) ICAO Aerodrome Design Manual Part 6 – Frangibility; and

(b) ICAO Aerodrome Design Manual Part 4 – Visual Aids, Chapter 15, Frangibility of Visual Aids.

[14] After paragraph 9.1.12.5

insert

9.1.12.6 If some inset lights are included in a system of elevated lights, the photometric characteristics of the inset lights must be as close as practicable to those of the elevated lights.

Note: The standard in this provision is set in terms of "practicability". CASA accepts that some difference in photometric characteristics may be unavoidable as a matter of practicability. In such a case, the resultant non-uniformity of visual appearance of the lighting system would be acceptable to CASA for paragraph 9.1.2.2A.

[15] Paragraph 9.1.14.9

substitute

9.1.14.9 If a lighting system is operated by an ATS provider or a similar responsible person (the ***lighting system operator***):

(a) an automatic monitoring system must provide the lighting system operator with the following information:

(i) an indication of each lighting system that is on;

(ii) the intensity of each lighting system that is on;

(iii) any fault in a lighting system used to control aircraft movement; and

(b) the information must be automatically relayed to the lighting system operator position of the operator responsible for the lighting system.

9.1.14.9A For subparagraph 9.1.14.9.9 (b), the information must be automatically relayed within the following time frames:

(a) for a stop bar at a runway-holding position — 2 seconds;

(b) for all other types of visual aids — 5 seconds.

[16] Subparagraph 9.1.15.1 (a)

substitute

(a) **For ground check of compliance with electrical specifications and CASA standards —** an electrical engineer or licensed electrician with such aerodrome lighting knowledge and experience of aerodrome lighting as equips him or her to competently perform the compliance checks.

[17] After paragraph 9.1.15.2

insert

9.1.15.2A For commissioning, evidence that light fitting types, models and versions comply with the standards for photometric and other characteristics as specified in this Chapter must be in the form of test reports from a laboratory that is accredited by one of the following as having the competence to carry out the type of measurement involved:

(a) the National Association of Testing Authorities (***NATA***);

(b) an overseas accrediting authority which has a mutual recognition agreement with NATA.

[18] Paragraph 9.1.15.8, the Note

omit

[19] After paragraph 9.1.15.8

insert

9.1.15.9 Before a runway is opened for night use, the aerodrome operator must assess obstacles within the obstacle limitation surface area of the aerodrome for obstacle lighting purposes, particularly if the obstacles are within 3 km of the aerodrome.

9.1.15.10 Copies of all ground check reports, flight check reports, and light fitting laboratory test reports used to support the commissioning of lighting systems must be:

(a) filed in the aerodrome operator's Aerodrome Manual; and

(b) kept in the custody, or under the control, of the aerodrome operator for as long as the relevant lighting system remains in service.

[20] After subsection 9.3.1, the heading "General"

insert

Note: See subsection 14.3.6 for "AFRU with PAL Features".

[21] After subparagraph 9.3.1.2 (e)

insert

; (f) intensity must be the following percentage of full intensity:

(i) Day intensity — nominally 100%;

(ii) Twilight intensity — nominally 10%;

(iii) Night intensity —nominally 1%.

Note: For guidance in setting up the light sensitive switch, the following values of background luminance are suggested, though other values may be used if they provide a better match to local visibility conditions:

(a) Day — background luminance above 500 cd/m^2;

(b) Twilight — between 50 and 500 cd/m^2;

(c) Night — below 50 cd/m^2.

[22] After paragraph 9.4.3.4

insert

9.4.3.4A In the case of a wind farm whose wind turbines must have obstacle lighting, medium intensity lights are to be installed as follows:

(a) if any part of the wind turbine, including the rotating blades, penetrates the obstacle limitation surface (***OLS***) of an aerodrome, top lights must mark the highest point reached by the rotating blades;

Note: Because it is not practicable to install obstacle lights at the tip of the blades, these lights may be located on a separate structure, adjacent to the wind turbine, at a height that corresponds to the highest point of the rotating blade of the turbine.

(b) if the rotating blades do not penetrate the OLS, the top lights must be placed on top of the generator housing;

(c) obstacle lights must be provided on a sufficient number of individual wind turbines to indicate the general definition and extent of the wind farm, with intervals between lit turbines not exceeding 900 m;

(d) all of the obstacle lights on a wind farm must be synchronised to flash simultaneously;

(e) the downward component of obstacle lighting may be shielded to the extent mentioned in either or both of the following sub-subparagraphs:

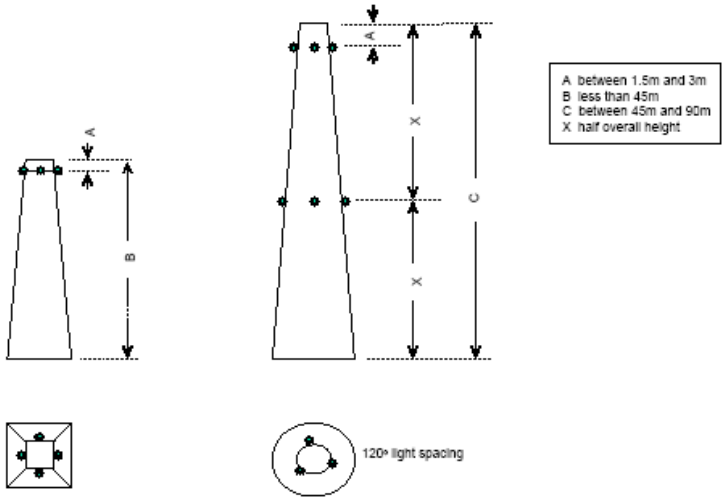
(i) so that no more than 5% of the nominal light intensity is emitted at or below 5^o below horizontal;

(ii) so that no light is emitted at or below 10^o below horizontal;

(f) to prevent obstacle light shielding by the rotating blades, 2 lights must be provided on top of the generator housing in a way that allows at least 1 of the lights to be seen from every angle in azimuth.

[23] Paragraph 9.4.3.9, Figure 9.4-1

substitute



[24] Paragraph 9.4.10.3

substitute

9.4.10.3 For an obstacle located within the OLS area of the aerodrome, the following requirements apply:

(a) if there is an obstacle light outage, the aerodrome operator must:

(i) immediately request the NOTAM office to advise pilots of the details of the outage; and

(ii) as soon as practicable liaise with the owner of the obstacle light so that the outage is repaired as quickly as practicable;

(b) if the aerodrome has been notified by CASA that it must close upon the failure of a specified obstacle light considered by CASA to be essential for safety, the aerodrome operator must immediately notify CASA of the failure.

Note: Information on requesting NOTAM action is in Chapter 10, Section 10.3.

9.4.10.3A The aerodrome operator's Aerodrome Manual must include:

(a) the procedures to be followed when an obstacle light outage occurs; and

(b) details of any CASA notification that the aerodrome must close upon the failure of a specified obstacle light considered by CASA to be essential for safety.

[25] After paragraph 9.6.1.1

insert

Note: Wind direction indicators must be provided in accordance with Section 8.7.

[26] Paragraph 9.6.1.3, including the Note

substitute

9.6.1.3 An illuminated wind direction indicator (***IWDI***) must be illuminated by floodlighting from above.

9.6.1.3A An IWDI installed on or after 1 July 2011 must be illuminated by at least 4 lamp units which together provide between 100 and 600 lux illumination on any point of the horizontal plane passing through the top of the IWDI sleeve at the supporting pole end for the 360^{o} area swept by the fully extended sleeve.

Note: An acceptable method of testing for illumination compliance is to measure illumination levels on the horizontal plane passing through the top of the sleeve at the pole end. Measurements should be taken at 1 m intervals starting at the pole and working outwards on a radial to the pole to a range equal to the length of the fully extended sleeve. The outermost interval on each radial may be less than 1 m to correspond with the actual length of the sleeve. The radials should be at 30^{o} intervals. Each reading should be in the range 100 to 600 lux.

9.6.1.3B The lighting must have:

(a) accurate colour rendering; and

(b) no perceptible warm-up or restrike delay.

9.6.1.3C An IWDI installed before 1 July 2011 must be illuminated:

(a) in accordance with paragraphs 9.6.1.3A and 9.6.1.3B; or

(b) as follows:

(i) four 200W 240V tungsten filament general purpose lamps in either vertical elliptical industry reflectors, or round deep bowl reflectors, between 1.8 m and 2.2 m above the mid-height of the sleeve mounting, and between 1.7 m and 1.9 m radial distance from the axis of rotation of the wind sleeve; or

(ii) eight 120W 240V PAR 38 flood lamps in reflectorless fittings, between 1.8 m and 2.2 m above the mid-height of the wind sleeve mounting, and between 1.7 m and 1.9 m radial distance from the axis of the rotation of the wind sleeve; or

(iii) some other method of floodlighting which:

(A) produces lighting equivalent to that provided under sub-subparagraph 9.6.1.3C (b) (i) or (ii); and

(B) has accurate colour rendering; and

(C) has no perceptible warm-up or restrike delay.

[27] Paragraph 9.6.1.4, including the Note

substitute

9.6.1.4 The floodlighting is to be aimed and shielded to ensure that it causes neither glare nor distraction to pilots.

Note: An acceptable method of testing for compliance is as follows: from an observer's standing position on ground that is level with the base of the pole there should be no glare at a range of 25 m or more. The assessment need only be made from those directions likely to be viewed from landing, taking-off or taxiing aircraft.

[28] Paragraph 9.9.1.10

omit

[29] Paragraph 9.9.4.8, Figure 9.9-6, the Key

omit

METH (twice occurring)

insert

MEHT

[30] Paragraph 9.10.11.3

substitute

9.10.11.3 Subject to paragraph 9.10.11.6, only an aerodrome used predominantly for training and general aviation may use the alternative pattern of low intensity or medium intensity runway threshold lights as described in paragraph 9.10.11.5.

[31] After paragraph 9.10.11.5

insert

9.10.11.6 On and after 1 June 2010, an aerodrome may use the alternative pattern of low intensity or medium intensity runway threshold lights in paragraph 9.10.11.5 only if:

(a) the aerodrome was using, and was entitled to use, the alternative pattern immediately before 1 June 2010; and

(b) the aerodrome operator continues to comply with the alternative pattern on and after that date.

[32] Subparagraph 9.10.17.1 (c)

substitute

(c) for the following areas:

(i) a taxiway for exiting a runway;

(ii) a runway turning area;

(iii) other similar areas;

the runway end lights must be located in such a way that an aircraft using the area will not be required to cross the row of red lights comprising the runway end lights.

[33] Paragraph 9.10.24.1, including the Note

substitute

9.10.24.1 Runway centreline lights must be provided on the following:

(a) a Cat II or III precision approach runway;

(b) a runway intended for take-offs with an operating minimum below an RVR of 350 m.

Note: Runway centreline lights are also recommended for the following runways if the distance between the runway edge lights is greater than 50 m:

(a) Cat I precision approach runways;

(b) runways intended for take-offs with an operating minimum equal to or above an RVR of 350 m.

[34] Paragraph 9.10.24.2

omit

300 (twice occurring)

insert

350

[35] Section 9.11, Figure 9.11-8, the Notes, No.1, the values for "a"

substitute

a	**5.0**	**7.0**	**8.5**

[36] Paragraph 9.13.1.1

substitute

9.13.1.1 Unless the aerodrome has light traffic density, a taxiway intended for use in RVR conditions less than a value of 350 m must have centreline lights that provide continuous guidance between the runway centreline and the apron.

[37] Paragraph 9.13.1.2

substitute

9.13.1.2 A taxiway intended for use at night in RVR conditions of between 350 m and 1 200 m must have centreline lights unless the aerodrome has:

(a) a simple layout; or

(b) light traffic density.

[38] Subparagraph 9.13.2.2 (c)

omit

are

insert

area

[39] Paragraph 9.13.3.1

substitute

9.13.3.1 For code letter A or B taxiways, retroreflective taxiway centreline or edge markers may be used instead of taxiway centreline or edge lights, provided at least 1 taxiway from the runway to the apron has taxiway centreline or edge lights.

9.13.3.2 If taxiway centreline lights are not provided, taxiway centreline markers may be used to improve guidance on the taxiway, or to supplement:

(a) taxiway centreline marking; or

(b) taxiway edge markers or taxiway edge lights.

Note: Curves and intersections are examples of where improved guidance or supplementation may be given.

9.13.3.3 If taxiway edge lights are not provided, taxiway edge markers may be used to improve guidance on the taxiway, or to supplement:

(a) taxiway edge marking; or

(b) taxiway centreline markers or taxiway centreline lights.

Note: Curves, intersections and apron edges are examples of where improved guidance or supplementation may be given.

[40] Paragraph 9.13.8.1, Table 9.13-1, Type

substitute

Type
Taxiways intended for use in RVR conditions of 550 m or greater
Taxiways intended for use in RVR conditions of less than a value of 550 m but not less than a value of 350 m
Taxiways intended for use in RVR conditions of less than a value of 350 m

[41] Paragraph 9.13.8.3

substitute

9.13.8.3 For a taxiway entering a runway:

(a) the last taxiway centreline light must be not more than 1 m outside the line of runway edge lights; and

(b) if the taxiway centreline lights continue towards the runway centreline, they must end no closer than 1.2 m from the runway centreline.

[42] Paragraph 9.13.8.5, Table 9.13-2, Type

substitute

Type
Taxiways intended for use in RVR conditions of 350 m or greater
Taxiways intended for use in RVR conditions of less than a value of 350 m

[43] After paragraph 9.13.11.4

insert

9.13.11.5 Where the taxiway centreline lights cross a runway, the colour of the taxiway centreline lights viewed by a pilot of an aircraft entering the runway from the taxiway must be:

(a) green up to the runway centreline; and

(b) alternately green and yellow beyond the runway centreline while exiting on the other side of the runway.

[44] Paragraph 9.13.12.3

substitute

9.13.12.3 On a taxiway intended for use in RVR conditions of 350 m or greater, taxiway centreline lights must comply with the specifications set out in Section 9.14, Figure 9.14-1 or Figure 9.14-2, whichever is applicable.

[45] Paragraph 9.13.12.4

substitute

9.13.12.4 On a taxiway intended for use in RVR conditions of less than a value of 350 m, the taxiway centreline lights must comply with the specifications set out in Section 9.14, Figure 9.14-3, Figure 9.14-4 or Figure 9.14-5, whichever is applicable.

[46] Subsection 9.13.16

substitute

9.13.16 Provision of Runway Guard Lights

Notes:

1. Runway guard lights are sometimes colloquially referred to as “wig wags”.
2. The purpose of runway guard lights is to warn pilots and drivers of vehicles operating on taxiways that they are about to enter an active runway.
3. Runway guard light standards became applicable in Australia on and from 1 August 2004.

9.13.16.1 Runway guard lights must be provided at the intersection of a taxiway with a runway intended for use in:

(a) RVR conditions less than a value of 550 m where stop bars are not installed; or

(b) RVR conditions of values between 550 m and 1 200 m where the traffic density is heavy.

9.13.16.2 An aerodrome that is not required to provide runway guard lights may choose to do so as an aid to reducing runway incursions.

Note: Paragraph 9.13.16.3 would apply.

9.13.16.3 Subject to paragraph 9.13.16.5, if runway guard lights are introduced for a runway, they must:

(a) be introduced and used at all taxiways which allow access to the runway; and

(b) as far as practicable, be introduced at all taxiways at the same time; and

(c) if introduced in stages — be introduced in a way that removes any risk of confusion.

9.13.16.4 Runway guard lights are not required for a taxiway if:

(a) the taxiway is used only for exiting from the runway; and

(b) the taxiway cannot be used for entry to the runway.

9.13.16.5 Paragraph 9.13.16.3 does not apply if an aerodrome that is not required and has not chosen to be equipped with runway guard lights installs such lights only at an identified runway incursion hot spot.

[47] Paragraph 9.13.23.1

substitute

9.13.23.1 If a runway is intended to be used in RVR conditions less than a value of 550 m, a stop bar must be provided at each runway holding position serving the runway.

9.13.23.1A Paragraph 9.13.23.1 does not apply if:

(a) operational procedures ensure that in RVR conditions less than a value of 550 m:

(i) aircraft on the manoeuvring area are limited to 1 at a time; and

(ii) vehicles on the manoeuvring area are limited to the minimum essential for safe aerodrome operations; or

(b) appropriate aids and procedures designed to prevent the inadvertent incursion of aircraft or vehicles on to the runway are:

(i) proposed in writing by the aerodrome operator; and

(ii) approved in writing by CASA; and

(iii) in force for the runway.

Note: Stop bars require direct ATC control. Therefore, an aerodrome operator must consult with ATC before planning their introduction.

[48] Paragraph 9.13.26.1

substitute

9.13.26.1 Where taxiway edge markers are used, they must be installed at least in the same locations as taxiway edge lights would have been installed had they been used.

> **Note:** Taxiway edge markers must be used in accordance with subsection 9.13.3.

[49] Paragraph 9.13.27.1

substitute

9.13.27.1 Taxiway edge markers must be retroreflective blue.

[50] Paragraph 9.13.28.1

substitute

9.13.28.1 Where taxiway centreline markers are used, they must be installed at least in the same locations as taxiway centreline lights would have been installed had they been used.

> **Note:** Taxiway centreline markers must be used in accordance with subsection 9.13.3.

[51] Paragraph 9.13.29.1

substitute

9.13.29.1 Taxiway centreline markers must be retroreflective green.

[52] Subsection 9.14.1, Figure 9.14-1, the title

substitute

Figure 9.14-1: Isocandela Diagram for Taxiway Centreline Lights and Stop Bar Lights on Straight Sections of Taxiways intended for use in RVR conditions of 350 m or greater

[53] Subsection 9.14.1, Figure 9.14-2, the title

substitute

Figure 9.14-2: Isocandela Diagram for Taxiway Centreline Lights and Stop Bar Lights on Curved Sections of Taxiways intended for use in RVR conditions of 350 m or greater

[54] Subsection 9.14.1, Figure 9.14-3, the title

substitute

Figure 9.14-3: Isocandela Diagram for Taxiway Centreline Lights and Stop Bar Lights on Taxiways intended for use in RVR conditions of less than a value of 350 m — for use on straight sections of taxiway where large offsets can occur. Also for Runway Guard Lights Configuration B

[55] Subsection 9.14.1, Figure 9.14-3, Notes: 1.

substitute

Notes: 1. These beam coverages allow for displacement of the cockpit from the centreline of up to 12 m and are intended for use before and after curves.

[56] Subsection 9.14.1, Figure 9.14-4, the title

substitute

Figure 9.14-4: Isocandela Diagram for Taxiway Centreline Lights and Stop Bar Lights on Taxiways intended for use in RVR conditions of less than a value of 350 m — for use on straight sections of taxiway where large offsets do not occur

[57] Subsection 9.14.1, Figure 9.14-5, the title

substitute

Figure 9.14-5: Isocandela Diagram for Taxiway Centreline Lights and Stop Bar Lights on Taxiways intended for use in RVR conditions of less than a value of 350 m — for use on curved sections of taxiway

[58] Section 9.15, Figure 9.15-1, the title

substitute

Figure 9.15-1 (a): Typical Taxiway Centreline Lights Layout

[59] Section 9.15, after Figure 9.15-1 (a)

insert

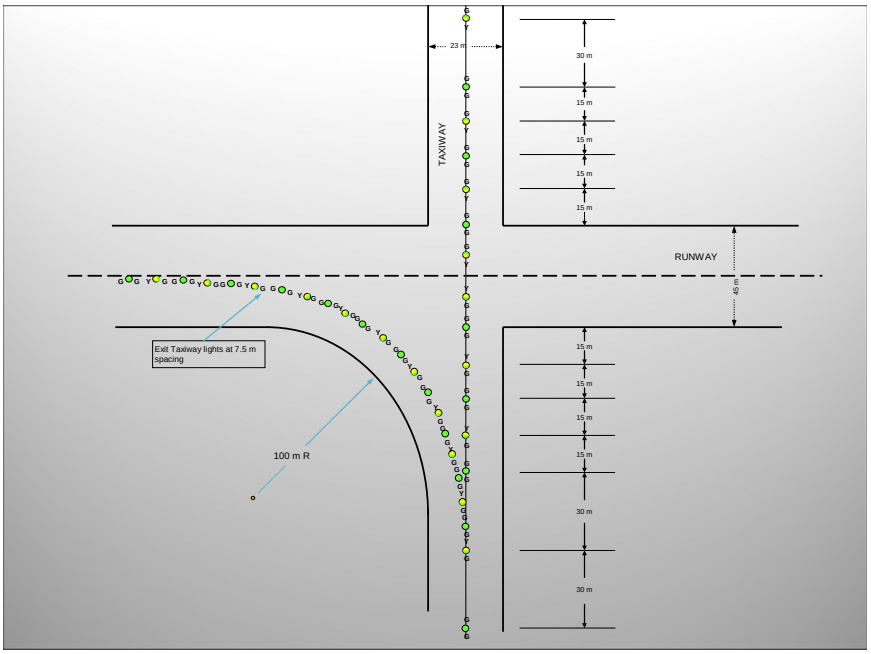


Figure 9.15-1b: Typical Taxiway Centreline Lights Layout

[60] Paragraph 9.16.4.8

omit

If existing floodlights

insert

If existing or proposed floodlights

[61] After paragraph 9.16.4.8

insert

9.16.4.9 Each minimum illuminance value mentioned in this Section is maintained illuminance below which the actual value must not fall.

9.16.4.10 Each floodlight design must meet a target value which allows for a depreciation and maintenance factor that is appropriate for the particular floodlighting system.

Note: The floodlight designer may choose the factor provided it is appropriate for the particular floodlighting system.

9.16.4.11 The design, installation, verification and subsequent management of an apron floodlighting system must be in accordance with Australian Standard AS/NZS 3827.1, *Lighting system performance – Accuracies and tolerances. Part 1: Overview and general recommendations.*

[62] Paragraph 9.17.7.3

substitute

9.17.7.3 A parking position identification sign must consist of a numeric or alphanumeric inscription that is:

(a) in white on a black background; and

(b) illuminated at night by a continuous line of green light outlining the inscription.

Note: Green neon tubing illumination is satisfactory.

[63] Paragraph 9.19.1.1

omit

are

insert

must be

[64] Paragraph 9.20.2.5, the Note

substitute

Note: For this Section, a lighting system means lights used to illuminate a particular facility, for example:

(a) all of the lights used to mark a threshold; or
(b) all of the lights used to mark a runway end; or
(c) all of the runway edge lights on a runway; or
(d) all of the taxiway centreline lights on a length of taxiway between intersections.

[65] After paragraph 9.20.2.8

insert

9.20.2.9 For a movement area guidance sign:

(a) the sign must be legible at all times; and

(b) any lamp outage in a sign must be fixed as soon as practicable.

Notes:

1. No specific standard is specified for the critical number of lamps on outage in an illuminated movement area guidance sign. The key requirement is the legibility of the sign inscription at all times.
2. The failure of movement area guidance sign illumination is not subject to notification by NOTAM.

[66] Subsection 9.21.1

substitute

9.21.1 Advice to Lighting Designers

9.21.1.1 This Section supersedes a paper of the same name dated July 1988 issued by the Civil Aviation Authority and referred to in Australian Standard AS 4282-1997, *Control of the obtrusive effects of outdoor lighting*.

9.21.1A Purpose of the Section

9.21.1A.1 This Section provides advice to those involved in the design or provision of lighting systems for use at or in the vicinity of an aerodrome. The intention is to minimise the potential hazard to aircraft operations from the lighting systems.

9.21.1A.2 If an aerodrome operator becomes aware that a lighting installation is proposed to be or is being installed in the vicinity of the aerodrome, it is in the aerodrome's interest to make sure that the person responsible for the lighting system is made aware of the contents of this Section.

[67] Subsection 9.21.2, the heading

substitute

9.21.2 Legislative Background

[68] Paragraph 9.21.2.1, text of regulation 94

substitute

94 Dangerous lights

(1) Whenever any light is exhibited at or in the neighbourhood of an aerodrome, or in the neighbourhood of an air route or airway facility on an air route or airway, and the light is likely to endanger the safety of aircraft, whether by reason of glare, or by causing confusion with, or preventing clear reception of, the lights or signals prescribed in Part 13 or of air route or airway facilities provided under the *Air Services Act 1995*; CASA may authorise a notice to be served upon the owner of the place where the light is exhibited or upon the person having charge of the light directing that owner or person, within a reasonable time to be specified in the notice, to extinguish or to screen effectually the light and to refrain from exhibiting any similar light in the future.

(2) An owner or person on whom a notice is served under this regulation must comply with the directions contained in the notice.

Penalty: 25 penalty units.

(2A) An offence against subregulation (2) is an offence of strict liability.

Note For ***strict liability***, see section 6.1 of the *Criminal Code*.

(2B) It is a defence to a prosecution under subregulation (2) if the defendant had a reasonable excuse.

Note A defendant bears an evidential burden in relation to the matter in subregulation (2B) (see subsection 13.3 (3) of the *Criminal Code*).

(3) If any owner or person on whom a notice under this regulation is served fails, within the time specified in the notice, to extinguish or to screen effectually the light mentioned in the notice, CASA may authorise an officer, with such assistance as is necessary and reasonable, to enter the place where the light is and extinguish or screen the light, and may recover the expenses incurred by CASA in so doing from the owner or person on whom the notice has been served.

[69] After subsection 14.3.6

insert

Note: See Section 9.3 for standards for PAL.