Civil Aviation Rules

# Notice of Proposed Rule Making
# NPRM 26/17/139-36
# 17 August 2026

## Part 139 Aerodromes – Certification and Operation

## Consequential Amendments

## Nil

## Docket 26/17/CAR 139-36
## 2026 Rules Review

Proposed Applicable 26 November 2026

## Background to the Civil Aviation Rules

The Papua New Guinea (PNG) Civil Aviation Rules (CARs) establish the *minimum* regulatory safety standards and boundary for participants to gain entry into, operate within, and exit the PNG civil aviation system. The PNG Rules are divided into Parts and each Part contains a series of individual rules which relate to a particular aviation activity.

Advisory Circulars accompany many rule Parts and contain information about standards, practices and procedures that the Director has been established to be an 'Acceptable Means of Compliance' (AMC) for the associated rule. An Advisory Circular may also contain Guidance Material (GMs) and Explanatory Material (EMs) to facilitate compliance with the rule requirements.

The objective of the Civil Aviation Rules system is to obtain a balance of responsibility between, on the one hand, the State and regulatory authority, the Civil Aviation Safety Authority of PNG (CASA PNG) and, on the other hand, those who provide services and exercise privileges in the civil aviation system. This balance must enable the State and regulatory authority to set standards for, and monitor performance of aviation participants whilst providing the maximum flexibility for the participants to develop compliance within the safety boundary.

Section 45 of the Civil Aviation Act 2000 prescribes general requirements for participants in the civil aviation system and requires, amongst other things, participants to carry out their activities safely and in accordance with the relevant prescribed safety standards and practices. Section 69 of the Act allows the Minister to make ordinary rules for any of the following purposes:

(a) The implementation of Papua New Guinea's obligations under the Convention

(b) To provide for a safe, sustainable, effective and efficient aviation services

(c) The provision of aviation meteorological services, search and rescue services and civil aviation security programmers and services

(d) Assisting aviation safety and security, including but not limited to personal security

(e) Assisting economic development

(f) Improving access and mobility

(g) Protecting and promoting public health

(h) Ensuring environmental sustainability

(i) Any matter related or reasonably incidental to any of the following:

  (1) The Minister's functions and role under section 8 of the Act;

  (2) The Authority's general objects and functions under section 11 of the Act;

  (3) The Authority's functions in relation to safety under section 12 of the Act; and

  (4) The Director's functions and powers under section of 17 the Act

  (5) The Director's powers under section 52A, 53 and 54 of the Act

(j) Any other matter contemplated by any provision of the Act.

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# 1. Purpose of this NPRM

The purpose of this Notice of Proposed Rulemaking is to submit for consideration the proposed amendments to Civil Aviation Rule Part 139.

# 2. Background to the Proposal

## 2.1 General Summary

Amendment 10 to Part 139 proposes a comprehensive update of the Aerodromes – Certification and Operation rules to align with ICAO Annex 14, Volume I Amendment 18 and to strengthen the regulatory framework for aerodrome certification, operation, safety and security oversight.

The proposed amendments introduce a new certification framework for Qualifying Aerodromes in Subpart E and to move Transition Provisions to new Subpart F.

The amendment strengthens aerodrome safety oversight by introducing requirements for the regulatory review and acceptance of design of new facility or alteration of existing facility at an aerodrome, expanding aerodrome operational reporting obligations, and introducing requirements for the safety oversight of ground handling activities.

The proposed changes also enhance aerodrome emergency preparedness by requiring aerodrome emergency plans to include contingency arrangements for acts of unlawful interference and other aviation security-related emergencies.

The amendment is expected to improve the safety, security and efficiency of aerodrome operations while ensuring that Papua New Guinea's regulatory framework remains aligned with ICAO Annex 14 Volume I requirements.

This NPRM proposes changes to Aerodromes – Certification and Operation in Part 139 as detailed in section 6.

## 2.2 NPRM Development

As a signatory to the Convention on International Civil Aviation, Papua New Guinea is committed to aligning its regulations to ICAO SARPS, where practicable. NPRM development is triggered by several key factors. A primary trigger for NPRM is the amendments of various Annexes to the Convention. Additionally, NPRMs may be triggered when internal reviews, audits or accident and incident investigations reveal safety or compliance gaps in existing regulations that could impact aviation safety. Evolving industry best practices and technological advancements play a significant role in driving the need for regulatory updates through NPRMs. The proposed amendments are developed in consultation with internal subject matter experts.

## 2.3 Key Stakeholders

The Civil Aviation Safety Authority identifies the following as key stakeholders for the proposed rule amendments contained in this NPRM:

(1) The Civil Aviation Safety Authority
(2) The Ministry for Transport
(3) The Ministry of Civil Aviation
(4) Aviation Document Holders
(5) Other interested Stakeholders

# 3. Consequential Amendments

There are no consequential amendments

# 4. Exemptions

There are no current Exemptions against this Rule Part.

# 5. Impact Assessment

## 5.1 Safety

This amendment has a positive impact on improving overall safety.

## 5.2 Compliance Cost

The compliance cost is minimal.

## 5.3 Security

This amendment has a positive impact on improving overall security.

## 5.4 Environment

Negligible environmental impact.

## 5.5 Efficiency and capacity

Implementation will result in efficiency gains and overall positive impact.

## 5.6 Expected implementation time

Date of publication of final rule.

# 6. Summary of changes

The proposed changes in amendment 10 of CAR Part 139 relate to:

**(a) New Rules:**

(1) Rule 139.108 - Introduces the requirement for review and acceptance of Aerodrome Design and Construction Works.

(2) Rule 139.301 – Introduces the purpose of rules governing the certification and operation of Qualifying Aerodromes.

(3) Rule 139.303 – Introduces the definitions relating to a Qualifying Aerodrome.

(4) Rule 139.305 – Introduces a new certification framework for Requirement for Qualifying Aerodrome certificate.

(5) Rule 139.307 - Introduces the requirement for the application for a certificate for a Qualifying Aerodrome.

(6) Rule 139.309 - Introduces the requirement for the issuance of a Qualifying Aerodrome Certificate.

(7) Rule 139.311 - Introduces the requirement for the duration of a Qualifying Aerodrome Certificate.

(8) Rule 139.313 - Introduces the requirement for the renewal of a Qualifying Aerodrome Certificate.

(9) Rule 139.315 - Introduces the requirements for conducting a Safety Case Study for a Qualifying Aerodrome.

(10) Rule 139.317 – Introduces requirements for qualifying aerodrome operators Personnel Requirements.

(11) Rule 139.319 - Introduces the requirement for establishment of appropriate Aerodrome Limitations by an applicant for the grant of a Qualifying Aerodrome Certificate necessary for safety of aircraft operations.

(12) Rule 139.321 – Introduces the requirement for qualifying aerodrome Public Protection.

(13) Rule 139.323 – Introduces requirements for qualifying aerodrome Notification of Aerodrome Data and Information.

(14) Rule 139.325 – Introduces requirements for qualifying aerodrome Safety Management.

(15) Rule 139.327 – Introduces requirements for qualifying aerodrome Facility Services and Movement Data Reporting.

(16) Rule 139.329 – Introduces requirements for qualifying aerodrome Works on Aerodrome.

(17) Rule 139.331 – Introduces requirements for qualifying aerodrome Documentation.

(18) Rule 139.333 – Introduces requirements for Qualifying Aerodrome Exposition.

(19) Rule 139.335 – Introduces the requirement for qualifying aerodrome Continued Compliance.

(20) Rule 139.337 – Introduces the requirement for qualifying aerodrome Unsafe Conditions.

(21) Rule 139.339 – Introduces requirements for qualifying aerodrome Changes to Certificate Holder's Organisation.

(22) Rule 139.341 – Introduces requirements for qualifying aerodrome Aeronautical Study.

(23) Rule I.7.1 Introduces requirements for regular assessment of the impact of Ground Handling to align with amendment 18 of Annex 14 Volume.

(24) Rule I.7.2 Introduces requirements for establishment of criteria for safety oversight of Ground Handling.

**(b) Amendments:**

(1) Rule 139.57 – Amended to require an applicant for an aerodrome operating certificate to establish and maintain an Airport Contingency Plan.

(2) Rule 139.77 Amended to expand the scope of the rule to include passenger movement data.

**(c) Editorials**

Various provisions throughout Appendices A to J have been amended to replace the word "should" with "may" where appropriate, to ensure consistency with ICAO Annex 14, Volume I

# 7. Legislative Analysis

## 7.1 Power to make rules

The Minister may make ordinary rules under sections 69, 70, 71 and 72 of the *Civil Aviation Act 2000*, for various purposes including implementing Papua New Guinea's obligations under the Convention, assisting aviation safety and security, and any matter contemplated under the Act.

These proposed rules are made pursuant to:

(a) Section 69(1)(a) which provides for the Minister to make rules for the implementation of Papua New Guinea's obligations under the Convention;

(b) Section 72(a) which provides for the Minister to make rule for the designation, classification and certification of-

(1) Air services;

(2) Aerodrome operators;

(3) Aviation security providers;

(4) Aviation training organizations;

(5) Aircraft design, manufacture, maintenance and supply organizations;

(6) Air traffic services;

(7) Aviation meteorological services;

(8) Aeronautical communication services; and

(9) Aeronautical procedures.

The proposed amendment of Part 139 complies with the requirements of the *Civil Aviation Act and does not contravene the Constitution, the Aerodrome (Business Concession) Act, Civil Aviation (Air Craft Operator Liability) Act, Aircraft Charges Act, Airport Departure Tax Act, the Explosive Act, Firearms Act, Customs Act, Plant and Disease Control Act* and the *Environmental Act.*

The proposed Rule has been checked for language and compliance with the legal conventions of Papua New Guinea.

### 7.2 Matters to be taken into account

This NPRM is developed in accordance with the primary statutory requirements, including but not limited to those set out in s.2 and s. 75 of the Act and key government policy priorities. The matters taken into consideration include:

7.2.1 Enhancing safety, security, efficiency, and service quality in the civil aviation system in a sustainable manner.

7.2.2 Facilitating access to the air transport network, contributing to the economic and social development of Papua New Guinea.

7.2.3 Establishing rules of operation and responsibilities within the civil aviation system to promote safety and security at a reasonable cost.

7.2.4 Implementing Papua New Guinea's obligations under international aviation and meteorological agreements.

7.2.5 Modernizing and harmonizing regulations with international practice is important.

7.2.6 Ensuring provision of civil aviation and meteorological services and facilities as efficiently and economically as practicable.

7.2.7 Driving sustainability and inclusive national development and

7.2.8 Engaging all stakeholders through transparent policy and rulemaking processes.

## 8. Submissions on the NPRM

### 8.1 Submissions are invited

Interested persons are invited to participate in the making of the proposed rule amendment by submitting written data, views, or comments. All submissions will be considered before final action on the proposed rule amendment is taken. If there is a need to make any significant change to the rule requirements in the proposal as a result of the submissions received, then interested persons may be invited to make further submissions.

### 8.2 Examination of submissions

All submissions will be available in the rules docket for examination by interested persons both before and after the closing date for submissions. A consultation summary will be published with final rule.

Submissions may be examined by application to the Docket Clerk at the CASA PNG Head office between 8:30 am and 3:30 pm, on weekdays, except statutory holidays.

### 8.3 Disclosure

Submitters should note that any information attached to submissions will become part of the docket file and will be available to the public for examination at the Civil Aviation Safety Authority Headquarter.

Submitters should state clearly if there is any information in their submission that is commercially sensitive or for some other reason the submitter does not want the information to be released to other interested parties.

# 9. How to make submission

Submissions may be sent by the following methods:

| | |
|---|---|
| By Mail: | Docket Clerk (NPRM 26/17/139-36)<br>Civil Aviation Safety Authority of Papua New Guinea<br>PO Box 1941<br>Boroko<br>National Capital District |
| Delivered: | Docket Clerk (NPRM 26/17/139-36)<br>Civil Aviation Safety Authority of Papua New Guinea<br>Morea-Tobo Road<br>Six Mile, Jacksons Airport<br>Port Moresby NCD |
| By Fax: | Docket Clerk (NPRM 26/17/139-36)<br>3251789 / 325 1919 |
| By Email: | Docket Clerk (NPRM 26/17/139-36)<br>rules@casapng.gov.pg |

## 9.1 Final date for submissions

Comments must be received before ***COB, 25th September, 2026.***

## 9.2 Availability of the NPRM

Any person may obtain a copy of this NPRM from-

CASA PNG web site: www.casapng.gov.pg

or at a cost from

Docket Clerk
Civil Aviation Safety Authority of PNG Headquarter
Building 1, Level 1
Morea-Tobo Road
Six Mile, Jacksons Airport
Port Moresby NCD.

## 9.3 Further information

mailto:gsikre@casapng.gov.pgFor further information, contact:

Gloria Sikre (Ms)
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# Part 139

# Aerodromes – Certification and Operation

## Subpart A — General

### 139.2 Definitions and Abbreviations

**(a) Defintions…**

…

**Aerodrome certificate** means a certificate issued by the ~~appropriate authority~~ Director under ~~applicable reg***ulations***~~ this Part for the operation of an aerodrome**.**

… …

| | |
|---|---|
| **Integrity classification (aeronautical data)** | means classification based upon the potential risk resulting from the use of corrupted data. Aeronautical data is classified as: |
| **a) routine data:** | means there is a very low probability when using corrupted routine data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe; |
| **b) essential data:** | means there is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe; and |
| **c) critical data:** | means there is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe. |
| **Non-instrument runway** | means a runway intended for the operation of aircraft using visual approach procedures or an instrument approach procedure to a point beyond which the approach should may continue in visual meteorological conditions. |
| **Road-holding position** | means a designated position at which vehicles should may be required to hold. |

…

## (b) Abbreviations

ABAR means Aircraft braking action report

ACN means Aircraft classification number (Applicable until 27 November 2024)

ACR means Aircraft classification rating (Applicable as of 28 November 2024)

…

UAS means Unmanned aircraft system

…

## Subpart B — Certification Requirements

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### 139.57 Aerodrome emergency plan

(a) An applicant for the grant of an aerodrome operating certificate must establish and maintain an aerodrome emergency plan that complies with the applicable standards in Appendix I.1 designed to minimise the possibility and extent of personal injury and property damage at, or in the vicinity of, their aerodrome in an emergency.

(b) The aerodrome emergency plan required under paragraph (a), must include an Airport Contingency Plan acceptable to the Director.

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### 139.77 Movement data reporting

An applicant for the grant of an aerodrome operating certificate must establish procedures for collecting and reporting ~~traffic~~ aircraft and passenger movement data at the aerodrome on a monthly basis ~~and report that movement quarterly~~ to the Director.

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### ~~139.96 Aerodrome Security Programme~~

~~An applicant for the grant of an aerodrome operating certificate for a security designated airport must establish, implement and maintain an aerodrome security programme that complies with the requirements of Part 107.~~

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**Subpart C — Operating Requirements**

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## 139.108 Aerodrome Design and Construction Works

(a) A holder of an aerodrome operating certificate who intends to carry out the construction of a new facility, or the alteration of an existing facility, at the aerodrome must submit the proposed design to the Director prior to the commencement of any construction work.

(b) The design required under paragraph (a) must be acceptable to the Director

…

## Subpart D — Aerodrome Security

**…**

**139.203**

The holder of an aerodrome operating certificate for a security designated aerodrome must establish, implement and maintain an aerodrome security programme that complies with the requirements of Part 107.

**Subpart E — Certification requirements for qualifying aerodrome operating certificate**

**139.301 Purpose**

This part prescribes rules governing the certification and operation of qualifying aerodromes.

**139.303 Definition**

In this Part, the qualifying aerodrome certificate means a certificate issued by the Director for the operation of an aerodrome, whose safety risk profile is assessed as acceptable to ensure aviation safety is adequately managed.

**139.305 Requirements for qualifying aerodrome certificate**

(a) This rule applies to an aerodrome that has been determined by the Director to be a qualifying aerodrome.

(b) A person must not operate a qualifying aerodrome except under the authority of a qualifying aerodrome certificate issued by the Director under the Act and in accordance with this Part when serving any aeroplane:

(1) engaged in air operations to or from Papua New Guinea: and

(2) having a passenger seating configuration of 20 seats or more, excluding any required flight crew member seat, that is engaged in regular air operations for the carriage of passengers within Papua New Guinea.

(c) A person operating an aerodrome who is not required to hold a qualifying aerodrome certificate under paragraph (b), may apply for a qualifying aerodrome certificate under this Part.

**139.307 Application for certificate**

An applicant for the grant of a qualifying aerodrome certificate must complete form CA139/01 and submit it to the Director with: —

(1) the exposition required by rule 139.333; and

(2) a payment of the appropriate fee prescribed by the regulations made under the Act; and

(3) a plan of the aerodrome and its facilities certified by a registered surveyor; and

(4) evidence of lawful entitlement to use the place as an aerodrome.

**139.309 Issue of certificate**

(a) A qualifying aerodrome certificate may be issued by the Director under the Act in accordance with this Part if the Director is satisfied that: -

(1) the applicant meets the requirements under rule 139.317 to 139.333;

(2) the applicant, and the applicant's senior person or persons required by 139.317(a)(1) are fit and proper persons; and

(3) the granting of the certificate is not contrary to the interests of aviation safety.

(b) Without limiting the power of the Act, when granting a qualifying aerodrome certificate, the Director may impose any requirements or specify any procedures to be followed by the aerodrome operator to address the risks identified in a safety case study required by rule 139.315.

**139.311 Duration of certificate**

(a) A qualifying aerodrome certificate may be granted or renewed for a period of up to 5 years.

(b) A qualifying aerodrome certificate remains in force until it expires. or is suspended or revoked

(c) The holder of a qualifying aerodrome certificate that expires or is revoked must forthwith surrender the certificate to the Director.

(d) The holder of a qualifying aerodrome certificate. that is suspended must forthwith produce the certificate to the Director for appropriate endorsement.

**139.313 Renewal of certificate**

(a) An application for the renewal of a qualifying aerodrome certificate must be made on form CAl39/0l.

(b) The application must be submitted to the Director at least 30 days before the certificate expires.

**139.315 Safety Case**

An applicant for the grant of a qualifying aerodrome certificate must provide a safety case acceptable to the Director.

**139.317 Personnel requirements**

(a) An applicant for the grant of a qualifying aerodrome certificate must engage, employ or contract:

(1) a senior person identified as the Chief Executive who has the authority within the applicant's organisation to ensure that all activities undertaken by the organisation can be financed and carried out in accordance with the requirements and standards prescribed by this Part; and

(2) a senior person designated as the Airport Manager or group of senior persons, who are responsible for ensuring that the aerodrome and its operation comply with the requirements of this Part; and

(3) sufficient personnel to operate and maintain the aerodrome and its services and facilities in accordance with the requirements of this Subpart.

(b) An applicant for the grant of a qualifying aerodrome certificate must establish a procedure for initially assessing and for maintaining the competence of personnel required to operate and maintain the aerodrome and its services and facilities.

**139.319 Aerodrome limitations**

An applicant for the grant of a qualifying aerodrome certificate must, for the safety of aircraft operations at the aerodrome, establish appropriate limitations on the use of the aerodrome that arise from the aerodrome design or the facilities or services provided at the aerodrome.

**139.321 Public protection**

(a) An applicant for the grant of a qualifying aerodrome certificate must provide at their aerodrome, fencing or other suitable barrier that complies with the applicable standards prescribed in Appendix I.10.

(b) The safeguards required by paragraph (a) must: -

(1) in areas adjacent to the aerodrome operational area to which the public has direct vehicle or pedestrian access: -

i. be continuous barriers that may include existing structures, gates and doors with secured or controlled access; and

ii. be at least 1200 millimetres in height; and

(2) in other areas, be of a construction and height appropriate to prevent incursion by animals likely to endanger aircraft operations.

**139.323 Notification of aerodrome data and information**

An applicant for the grant of a qualifying aerodrome certificate must establish a procedure that comply with Appendix B, to notify aeronautical information service providers certificated under Part 175—

(1) of aerodrome data and information; and

(2) of any limitation established under rule 139.319 on the use of the aerodrome; and

(3) as soon as practicable, of any change that affects the use of the aerodrome.

**139.325 Safety management**

(a) An applicant for the grant of a qualifying aerodrome certificate must establish, implement, and maintain a system for safety management in accordance with Part 100.

(b) The safety management system required by paragraph (a) must include a runway safety programme.

(c) The safety management system required by paragraph (a) must oblige all users of the aerodrome, including fixed-base operators, ground handling agencies and other organizations that perform activities independently at the aerodrome in relation to flight or aircraft handling, to comply with the requirements laid down by the aerodrome operator with regard to safety at the aerodrome.

**139.327 Movement data reporting**

An applicant for the grant of an aerodrome operating certificate must establish procedures for collecting and reporting aircraft and passenger movement data at the aerodrome on a monthly basis to the Director.

**139.329 Works on aerodrome**

An applicant for the grant of a qualifying aerodrome certificate must establish procedures, including precautions to be taken, for ensuring that any works carried out on the aerodrome do not endanger aircraft operations.

**139.331 Documentation**

An applicant for the grant of a qualifying aerodrome certificate must—

(1) hold copies of relevant documents necessary for the provision and operation of the aerodrome and the associated services and facilities; and

(2) establish a procedure for controlling the documents required under paragraph (1) to ensure that—

(i) current issues of relevant documents are available to personnel at each location where personnel need access to the documentation; and

(ii) every obsolete document is promptly removed from every point of issue; and

(iii) the current version of each item of documentation can be identified to prevent the use of superseded material.

**139.333 Qualifying aerodrome exposition**

(a) An applicant for the grant of a qualifying aerodrome certificate must provide the Director with an exposition which must contain—

(1) a statement signed by the chief executive, on behalf of the applicant's organisation, confirming that the exposition and any included manuals—

(i) define the organisation and demonstrate its means and methods for ensuring ongoing compliance with this Part; and

(ii) is to be complied with at all times; and

(2) all of the documentation required by Part 100 to establish and maintain the system for safety management; and

(3) the titles and names of the senior person or persons required by rules 139.317(a)(1) and (2); and

(4) the duties and responsibilities of the senior person or persons required by rules 139.317(a)(1) and (2), including—

(i) matters for which they have responsibility to deal directly with the Director on behalf of the organisation; and

(ii) responsibilities for safety management; and

(5) an organisation chart showing lines of responsibility of the senior person or persons specified under paragraph (a)(2); and

(6) any limitations on the use of the aerodrome established under rule 139.319; and

(7) a description of the safeguards for public protection required by rule 139.321 including information identifying the lines of safety responsibility within the organisation; and

(8) the procedures for the notification of aerodrome data and information required by rule 139.323; and

(9) the procedures for the collection and reporting of traffic movement data required by rule 139.327: and

(10) the procedures and precautions for any works on the aerodrome required by rule 139.329; and

(11) the procedures for management and control of documents necessary for the provision and operation of the aerodrome required by rule 139.331(2), including procedures for controlling, amending, and distributing the exposition.

(b) The exposition must, in addition to the matters specified in paragraph (a), include any requirements or procedures that are necessary to manage risks that have been identified in the safety case as required by rule 139.315, relating to any of the following matters:

(1) aerodrome design requirements including physical characteristics, obstacle limitation surfaces, visual aids, equipment and installations, and runway end safety areas:

(2) aerodrome emergency plan:

(3) rescue and firefighting:

(4) wildlife hazard management:

(5) aerodrome maintenance:

(6) visual aids for navigation – maintenance and checking:

(7) aerodrome air traffic services:

(8) apron management services:

(9) aerodrome inspection programme:

(10) ground vehicles:

(11) protection of navigation aids and air traffic service facilities:

(12) aerodrome condition notification.

(c) An exposition required under this subpart may adopt, by reference, a requirement in Subparts B and C for the purpose of mitigating or managing a risk identified in the safety case required by rule 139.315 or rule 139.341.

(d) The applicant's exposition must be acceptable to the Director.

**139.335 Continued compliance**

A holder of a qualifying aerodrome certificate must—

(1) hold at least 1 complete and current copy of the aerodrome exposition required by rule 139.333 on the aerodrome; and

(2) comply with all procedures, plans, systems, and programmes detailed in the exposition; and

(3) make each applicable part of the exposition available to personnel who require those parts to carry out their duties; and

(4) continue to meet the standards and comply with the requirements of this Subpart prescribed for qualifying aerodrome certification under this Part; and

(5) notify the Director of any change of address for service, telephone number, or other contact details required by the approved form within 28 days of the change.

(6) ensure the aerodrome exposition required by rule 139.333 remains acceptable to the Director.

**139.337 Unsafe conditions**

A holder of a qualifying aerodrome certificate must establish procedures for ensuring that aircraft operations are restricted, or if necessary prohibited, on any part of the aerodrome where an unsafe condition may exist.

**139.339 Changes to certificate holder's organisation**

(a) A holder of a qualifying aerodrome certificate must ensure that the exposition required by rule 139.333 is amended to remain a current description of the aerodrome and its associated plans, programmes, services, systems, procedures, and facilities.

(b) The certificate holder must ensure that any amendment made to the exposition meets the applicable requirements of this Part and complies with the amendment procedures contained in the exposition.

(c) The certificate holder must provide the Director with a copy of each amendment to the exposition as soon as practicable after its incorporated into the exposition.

(d) If the holder of an aerodrome certificate proposes to change, or changes, the person identified as the Chief Executive, or any of the senior persons required by rule 139.317(a)(2), the certificate holder must notify the Director prior to the change or as soon as practicable after the change if prior notification is not possible.

(e) The changes of persons referred to in paragraph (d) must be accepted by the Director after satisfactory demonstration of the fit and proper person criteria required by Section 50 of the Act before being incorporated into the certificate holder’s exposition.

(f) The Director may impose conditions under which the holder of a qualifying aerodrome certificate may operate during or following any of the changes specified in paragraph (d) and (e).

(g) The holder of a qualifying aerodrome certificate must comply with any conditions imposed by the Director under paragraph (f).

(h) If any of the changes under paragraph (d) and (e) require an amendment to the qualifying aerodrome certificate, the holder of the certificate must forward the certificate to the Director as soon as practicable for endorsement of the amendment.

(i) The holder of a qualifying aerodrome certificate must amend the holder's exposition as the Director may consider necessary in the interests of safety.

**139.341 Aeronautical Study**

(a) holder of a qualifying aerodrome certificate must monitor operations and conduct an aeronautical study when a significant change in aerodrome operations occurs that may affect the safety of aircraft operations.

(b) For the purpose of paragraph (a), a significant change in qualifying aerodrome operations include:

(1) a change in aerodrome aircraft traffic,

(2) a change in aircraft operations type,

(3) a change in the aerodrome physical characteristics,

(4) an increase in aerodrome accidents/incidents, or

(5) a change in airspace designation.

(c) The holder of a qualifying aerodrome certificate must, immediately after completing an aeronautical study provide the results of the aeronautical study to the Director.

## Subpart ~~E~~F — Transition Provisions

### 139.~~3~~401 – Transition

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### (c) APPENDIX D. OBSTACLE RESTRICTION AND REMOVAL

### D.1 General

D.1.1 The aerodrome operator shall establish a process to prevent the growth of obstacles, both fixed and mobile, that ~~should~~ may affect the safety or regularity of flight operations at an aerodrome.

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~~(d) APPENDIX I AERODROME OPERATIONAL SERVICES, EQUIPMENT AND INSTALLATIONS~~

~~I.7 Ground handling~~

~~I.7.1 The holder of an aerodrome operating certificate shall regularly assess the impact of ground handling operations on aviation safety.~~

~~I.7.2 The holder of an aerodrome operating certificate shall establish criteria for the safety oversight of ground handling as part of the State Safety Programme (SSP).~~

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## APPENDIX B. AERODROME DATA

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### B.6 Strength of pavements.

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B.6.3 The PCR reported shall indicate that aircraft with an aircraft classification rating (ACR) equal to or less than the reported PCR ~~should~~may operate on the pavement subject to any limitation on the tire pressure or aircraft all-up mass for specified aircraft type(s).

…

B.6.6 Information on pavement type for ACR-PCR determination, subgrade strength category, maximum allowable tire pressure category and evaluation method shall be reported using the following codes:

Pavement type for ACR-PCR determination:

| | Code |
|---|---|
| Rigid pavement | R |
| (a) Flexible pavement | F |

Subgrade strength category:

| | Code |
|---|---|
| (b) High strength: characterized by E = 200 MPa and representing all E values equal to or above 150 MPa, for rigid and flexible pavements. | A |
| Medium strength: characterized by E = 120 MPa and representing a range in E values equal to or above 100 MPa and strictly less than 150 MPa, for rigid and flexible pavements. | B |
| Low strength: characterized by E = 80 MPa and representing a range in E values equal to or above 60 MPa and strictly less than 100 MPa, for rigid and flexible pavements. | C |
| Ultra-low strength: characterized by E = 50 MPa and representing all E values strictly less than 60 MPa, for rigid and flexible pavements. | D |

(c) Maximum allowable tire pressure category:

| | Code |
|---|---|
| *Unlimited:* no pressure limit | W |
| *High: pressure* limited to 1.75 MPa | X |
| *Medium: pressure* limited to 1.25 MPa | Y |
| *Low:* pressure limited to 0.50 MPa | Z |

Evaluation method:

| | | Code |
|---|---|---|
| (d) | Technical evaluation: representing a specific study of the pavement characteristics and application of pavement behaviour technology. | T |
| | Using aircraft experience: representing a knowledge of the specific type and mass of aircraft satisfactorily being supported under regular use. | U |

~~Example 1. If the bearing strength of a rigid pavement, resting on a medium strength subgrade, has been assessed by technical evaluation to be PCR 760 and there is no tire pressure limitation, then the reported information would be:~~

~~PCR 760 / R / B / W / T~~

~~Example 2. If the bearing strength of a composite pavement, behaving like a flexible pavement and resting on a high strength subgrade, has been assessed by using aircraft experience to be PCR 550 and the maximum allowable tire pressure is 1.25 MPa, then the reported information would be:~~

…

B.6.8 …

…

~~Example: 4 800 kg/0.60 MPa.~~

B.9.3 To facilitate compliance with B.9.1 and B.9.2, the following inspections shall be carried out each day:

…

(a) for the runway(s), inspections in addition to (a) whenever the runway surface conditions ~~should~~may have changed significantly due to meteorological conditions.

…

~~B.10 Disabled aircraft removal~~ **B.10 Disabled aircraft removal**

B.10.1 The ~~telephone/telex number(s)~~ contact information of the office of the aerodrome coordinator of operations, ~~if designated~~, for the removal of an aircraft disabled on, or adjacent to, the movement area shall be made available~~, on request,~~ to aircraft operators.

…

## B.12 Visual approach slope indicator systems

…

The following information concerning a visual approach slope indicator system installation shall be made available:

…

minimum eye height(s) over the threshold of the on-slope signal(s). For a T-VASIS or an AT-VASIS this shall be the lowest height at which only the wing bar(s) are visible; however, the additional heights at which the wing bar(s) plus one, two or three fly-down light units come into view ~~should~~may also be reported if such information would be of benefit to aircraft using the approach. For a PAPI this shall be the setting angle of the third unit from the runway minus 2°, i.e. angle B minus 2°, and for an APAPI this shall be the setting angle of the unit farther
(e) from the runway minus 2°, i.e. angle A minus 2°.

## APPENDIX C. PHYSICAL CHARACTERISTICS

…

C.1.6 When it is necessary to displace a threshold either permanently or temporarily, from its normal location, account shall be taken of the various factors which ~~should~~may have a bearing on the location of the threshold. Where this displacement is due to an unserviceable runway condition, a cleared and graded area of at least 60 m in length shall be available between the unserviceable area and the displaced threshold. Additional distance shall also be provided to meet the requirements of the runway end safety area as appropriate.

…

C.1.12 Where parallel instrument runways are intended for simultaneous use subject to conditions specified in Part 172 ~~PANS-ATM (Doc 4444)~~ and Part 173 ~~PANS-OPS (Doc 8168), Volume I~~, the minimum distance between their centre lines shall be:

…

(f)

(g) 1 035 m for independent parallel approaches;

(h) 915 m for dependent parallel approaches;

(i) 760 m for independent parallel departures;

760 m for segregated parallel operations;

(1)

except that:

for segregated parallel operations the specified minimum distance:

(i) ~~should~~may be decreased by 30 m for each 150 m that the arrival runway is staggered toward the arriving aircraft, to a minimum of 300 m; and

…

(a)

C.1.19 Transverse slopes

(b)

To promote the most rapid drainage of water the runway surface shall, if practicable, be cambered except where a single crossfall from high to low in the direction of the wind most frequently associated with rain would ensure rapid drainage. The transverse slope shall ideally be:

1.5 percent where the code letter is C, D, E or F; and

2 percent where the code letter is A or B;

but in any event shall not exceed 1.5 percent or 2 percent, as applicable, nor be less than 1 percent except at runway or taxiway intersections where flatter slopes ~~should~~may be necessary.

…

C.3.12 The strength of runway turn pad shoulders shall be capable of withstanding the occasional passage of the aeroplane it is designed to serve without inducing structural damage to the aeroplane and to the supporting ground vehicles that ~~should~~may operate on the shoulder.

…

***Objects on runway strips***

C.4.6 An object situated on a runway strip which ~~should~~may endanger aeroplanes shall be regarded as an obstacle and shall, as far as practicable, be removed.

…

C.4.15 Transverse slopes

Transverse slopes on that portion of a strip to be graded shall be adequate to prevent the accumulation of water on the surface but shall not exceed:

(a) 2.5 percent where the code number is 3 or 4; and

(b) 3 percent where the code number is 1 or 2;

except that to facilitate drainage the slope for the first 3 m outward from the runway, shoulder or stopway edge shall be negative as measured in the direction away from the runway and ~~should~~may be as great as 5 percent.

…

***Dimensions of runway end safety areas***

(a) C.5.3 A runway end safety area shall extend from the end of a runway strip to a distance of at least
(b) 90 m where:

the code number is 3 or 4; and

the code number is 1 or 2 and the runway is an instrument one.

If an arresting system is installed, the above length ~~should~~may be reduced, based on the design specification of the system, subject to acceptance by the Director.

…

***Objects on runway end safety areas***

…

C.5.7 An object situated on a runway end safety area which ~~should~~may endanger aeroplanes shall be regarded as an obstacle and shall, as far as practicable, be removed.

…

***Objects on clearways***

…

C.6.6 An object situated on a clearway which ~~should~~may endanger aeroplanes in the air shall be regarded as an obstacle and shall be removed.

***Slopes on stopways***

…

C.7.2 Slopes and changes in slope on a stopway and the transition from a runway to a stopway shall comply with the specifications of C.1.13 to C.1.19 for the runway with which the stopway is associated except that:

…

(b) at the junction of the stopway and runway and along the stopway the maximum rate of slope change ~~should~~may be 0.3 percent per 30 m (minimum radius of curvature of 10000 m) for a runway where the code number is 3 or 4.

***Objects on taxiway strips***

…

C.11.3 The taxiway strip shall provide an area clear of objects which ~~should~~may endanger taxiing aeroplanes.

…

**Table C-2. Minimum distance from the runway centre line to a holding bay, runway-holding position or road-holding position**

| | Code Number | | | |
|---|---|---|---|---|
| Type of runway | 1 | 2 | 3 | 4 |
| Non-instrument | 30 m | 40 m | 55 m | 75 m |
| Non-precision approach | 40 m | 40 m | 75 m | 75 m |
| Precision approach category I | 60 mb | 60 m[b] | 90 m[a,b] | 90 m[a,b] |
| Precision approach categories II and III | - | - | 90 m[a,b] | 90 m[a,b] |
| Take-off runway | 30 m | 40 m | 55 m | 75 m |

a. If a holding bay, runway-holding position or road-holding position is at a lower elevation compared to the threshold, the distance ~~should~~may be decreased 5 m for every metre the bay or holding position is lower than the threshold, contingent upon not infringing the inner transitional surface.

b. This distance ~~should~~may need to be increased to avoid interference with radio navigation aids, particularly the glide path and localizer facilities. Information on critical and sensitive areas of ILS and MLS is contained in Annex 10, Volume I, Attachments C and G, respectively (see also C.12.6).

***Clearance distances on aircraft stands***

…

C.13.7 …

When special circumstances so warrant, these clearances ~~should~~may be reduced at a nose-in aircraft stand, where the code letter is D, E or F:

…

## APPENDIX D. OBSTACLE RESTRICTION AND REMOVAL

…

***Runways meant for take-off***

…

D.2.23 The dimensions of the surface shall be not less than the dimensions specified in Table D-2, except that a lesser length ~~should~~may be adopted for the take-off climb surface where such lesser length would be consistent with procedural measures adopted to govern the outward flight of aeroplanes.

### D.4 Other objects

…

D.4.2 Anything which ~~should~~may, in the opinion of the appropriate authority after aeronautical study, endanger aeroplanes on the movement area or in the air within the limits of the inner horizontal and conical surfaces shall be regarded as an obstacle and shall be removed in so far as practicable.

## APPENDIX E. VISUAL AIDS FOR NAVIGATION

...

### E.2 Markings

### E.2.1 General

***Interruption of runway markings***

E.2.1.1 At an intersection of two (or more) runways the markings of the more important runway, except for the runway side stripe marking, shall be displayed and the markings of the other runway(s) shall be interrupted. The runway side stripe marking of the more important runway ~~should~~may be either continued across the intersection or interrupted.

...

E.2.1.3 At an intersection of a runway and taxiway the markings of the runway shall be displayed and the markings of the taxiway interrupted, except that runway side stripe markings ~~should~~may be interrupted.

...

E.2.4.4 A runway threshold marking shall consist of a pattern of longitudinal stripes of uniform dimensions disposed symmetrically about the centre line of a runway as shown in Figure E-2 (A) and (B) for a runway width of 45m. The number of stripes shall be in accordance with the runway width as follows:

| *Runway width* | *Number of stripes* |
|---|---|
| 18 m | 4 |
| 23 m | 6 |
| 30 m | 8 |
| 45 m | 12 |
| 60 m | 16 |

except that on non-precision approach and non-instrument runways 45 m or greater in width, they ~~should~~may be as shown in Figure E-2 (C).

…

### E.2.5 Aiming point marking

...

***Location***

...

E.2.5.4 An aiming point marking shall consist of two conspicuous stripes. The dimensions of the stripes and the lateral spacing between their inner sides shall be in accordance with the provisions of the appropriate column of Table E-1. Where a touchdown zone marking is provided, the lateral spacing between the markings shall be the same as that of the touchdown zone marking.

**Table E-1. —Location and dimensions of aiming point marking**

| | Landing distance available | | | |
|---|---|---|---|---|
| Location and dimensions (1) | Less than 800 m (2) | 800 m up to but not including 1200 m (3) | 1200 m up to but not including 2400 m (4) | 2400 m and above (5) |
| Distance from threshold to beginning of marking | 150 m | 250 m | 300 m | 400 m |
| Length of stripe[a] | 30–45 m | 30–45 m | 45–60 m | 45–60 m |
| Width of stripe | 4 m | 6 m | 6–10 m[b] | 6–10 m[b] |
| Lateral spacing between inner sides of stripes | 6 m[c] | 9 m[c] | 18–22.5 m | 18–22.5 m |

a. …

b. The lateral spacing ~~should~~may be varied within these limits to minimize the contamination of the marking by rubber deposits.

c. …

...

## E.3 Lights

### E.3.1 General

***Lights which ~~should~~may endanger the safety of aircraft***

...

***Laser emissions which ~~should~~may endanger the safety of aircraft***

…

***Lights which ~~should~~may cause confusion (E.3.1.3)***

…

***Aeronautical ground lights which ~~should~~may cause confusion to mariners (E.3.1.4)***

…

E.3.4.3 The lights forming the crossbar shall be as nearly as practicable in a horizontal straight line at right angles to, and bisected by, the line of the centre line lights. The lights of the crossbar shall be spaced so as to produce a linear effect, except that, when a crossbar of 30m is used, gaps ~~should~~may be left on each side of the centre line. These gaps shall be kept to a minimum to meet local requirements and each shall not exceed 6m.

E.3.4.4 The lights forming the centre line shall be placed at longitudinal intervals of 60m, except that, when it is desired to improve the guidance, an interval of 30 m ~~should~~may be used. The innermost light shall be located either 60m or 30m from the threshold, depending on the longitudinal interval selected for the centre line lights.

E.3.4.5 If it is not physically possible to provide a centre line extending for a distance of 420m from the threshold, it should be extended to 300m so as to include the crossbar. If this is not possible, the centre line lights should be extended as far as practicable, and each centre line light shall then consist of a barrette at least 3m in length. Subject to the approach system having a crossbar at 300m from the threshold, an additional crossbar ~~should~~may be provided at 150m from the threshold.

…

E.3.4.11 The lights forming the crossbar shall be as nearly as practicable in a horizontal straight line at right angles to, and bisected by, the line of the centre line lights. The lights of the crossbar shall be spaced so as to produce a linear effect, except that gaps ~~should~~may be left on each side of the centre line. These gaps shall be kept to a minimum to meet local requirements and each shall not exceed 6m.

…

E.3.4.15 Where the serviceability level of the approach lights specified as a maintenance objective in J.5.10 can be demonstrated, each centre line light position ~~should~~may consist of either:

…

E.3.4.19 If the centre line consists of lights as described in E.3.4.14(a) or E.3.4.15(a), additional crossbars of lights to the crossbar provided at 300m from the threshold shall be provided at 150m, 450m, 600m and 750m from the threshold. The lights forming each crossbar shall be as nearly as practicable in a horizontal straight line at right angles to, and bisected by, the line of the centre line lights. The lights shall be spaced so as to produce a linear

effect, except that gaps ~~should~~may be left on each side of the centre line. These gaps shall be kept to a minimum to meet local requirements and each shall not exceed 6 m.

…

E.3.4.22 The approach lighting system shall consist of a row of lights on the extended centre line of the runway, extending, wherever possible, over a distance of 900m from the runway threshold. In addition, the system shall have two side rows of lights, extending 270m from the threshold, and two crossbars, one at 150m and one at 300m from the threshold, all as shown in Figure E-14. Where the serviceability level of the approach lights specified as maintenance objectives in J.5.7 can be demonstrated, the system ~~should~~may have two side rows of lights, extending 240m from the threshold, and two crossbars, one at 150m and one at 300m from the threshold, all as shown in Figure E-15.

…

E.3.4.24 The lights forming the side rows shall be placed on each side of the centre line, at a longitudinal spacing equal to that of the centre line lights and with the first light located 30m from the threshold. Where the serviceability level of the approach lights specified as maintenance objectives in J.5.7 can be demonstrated, lights forming the side rows ~~should~~may be placed on each side of the centre line, at a longitudinal spacing of 60m with the first light located 60m from the threshold. The lateral spacing (or gauge) between the innermost lights of the side rows shall be not less than 18m nor more than 22.5m, and preferably 18m, but in any event shall be equal to that of the touchdown zone lights.

…

***Characteristics***

E.3.4.30 The centre line of a precision approach category II and III lighting system for the first 300m from the threshold shall consist of barrettes showing variable white, except that, where the threshold is displaced 300m or more, the centre line ~~should~~may consist of single light sources showing variable white. Where the serviceability level of the approach lights specified as maintenance objectives in J.5.7 can be demonstrated, the centre line of a precision approach category II and III lighting system for the first 300m from the threshold ~~should~~may consist of either:

…

E.3.4.32 Where the serviceability level of the approach lights specified as maintenance objectives in J.5.7 can be demonstrated, beyond 300m from the threshold each centre line light position ~~should~~may consist of either:

…

***Application***

5.3.5.1 A visual approach slope indicator system shall be provided to serve the approach to a runway whether or not the runway is served by other visual approach aids or by non-visual aids, where one or more of the following conditions exist:

…

(b) the pilot of any type of aeroplane ~~should~~may have difficulty in judging the approach due to:

…

…

(c) the presence of objects in the approach area ~~should~~may involve serious hazard if an aeroplane descends below the normal approach path, particularly if there are no non-visual or other visual aids to give warning of such objects;

…

(e) terrain or prevalent meteorological conditions are such that the aeroplane should be subjected to unusual turbulence during approach.

E.3.5.6 Where a runway threshold is temporarily displaced from the normal position and one or more of the conditions specified in E.3.5.1 exist, a PAPI shall be provided except that where the code number is 1 or 2 an APAPI ~~should~~may be provided.

…

***Characteristics of the light units***

…

E.3.5.12 The light distribution of the beam of each light unit shall be of fan shape showing over a wide arc in azimuth in the approach direction. The wing bar light units shall produce a beam of white light from 1°54’ vertical angle up to 6° vertical angle and a beam of red light from 0° to 1°54’ vertical angle. The fly-down light units shall produce a white beam extending from an elevation of 6° down to approximately the approach slope, where it shall have a sharp cut-off. The fly-up light units shall produce a white beam from approximately the approach slope down to 1°54’ vertical angle and a red beam below a 1°54’ vertical angle. The angle of the top of the red beam in the wing bar units and fly-up units ~~should~~may be increased to comply with E.3.5.22.

…

E.3.5.34 Each light unit shall be capable of adjustment in elevation so that the lower limit of the white part of the beam ~~should~~may be fixed at any desired angle of elevation between 1°30’ and at least 4°30’ above the horizontal.

…

**E.3.7 Runway lead-in lighting systems**

…

***Location***

E.3.7.2 A runway lead-in lighting system shall consist of groups of lights positioned so as to define the desired approach path and so that one group ~~should~~may be sighted from the preceding group. The interval between adjacent groups shall not exceed approximately 1600 m.

…

***Characteristics***

E.3.7.4 Each group of lights of a runway lead-in lighting system shall consist of at least three flashing lights in a linear or cluster configuration. The system ~~should~~may be augmented by steady burning lights where such lights would assist in identifying the system.

…

## E.3.9 Runway edge lights

…

***Location***

…

E.3.9.6 The lights shall be uniformly spaced in rows at intervals of not more than 60 m for an instrument runway, and at intervals of not more than 100 m for a non-instrument runway. The lights on opposite sides of the runway axis shall be on lines at right angles to that axis. At intersections of runways, lights shouldmay be spaced irregularly or omitted, provided that adequate guidance remains available to the pilot.

***Characteristics***

E.3.9.7 (a) (b) Runway edge lights shall be fixed lights showing variable white, except that:

…

a section of the lights 600 m or one-third of the runway length, whichever is the less, at the remote end of the runway from the end at which the take-off run is started, ~~should~~may show yellow.

…

E.3.9.9 In all angles of azimuth required in E.3.9.8, runway edge lights shall show at angles up to 15° above the horizontal with an intensity adequate for the conditions of visibility and ambient light in which use of the runway for take-off or landing is intended. In any case, the intensity shall be at least 50 cd except that at an aerodrome without extraneous lighting, the intensity of the lights ~~should~~may be reduced to not less than 25 cd to avoid dazzling the pilot.

## E.3.12 Runway centre line lights

…

***Location***

E.3.12.5 Runway centre line lights shall be located along the centre line of the runway, except that the lights ~~should~~may be uniformly offset to the same side of the runway centre line by not more than 60cm where it is not practicable to locate them along the centre line. The lights shall be located from the threshold to the end at longitudinal spacing of approximately 15 m. Where the serviceability level of the runway centre line lights specified as maintenance objectives in J.5.7 or J.5.11, as appropriate, can be demonstrated and the runway is intended for use in runway visual range conditions of 300 m or greater, the longitudinal spacing ~~should~~may be approximately 30 m.

…

**E.3.15 Rapid exit taxiway indicator lights**

…

***Characteristics***

…

E.3.15.7 Rapid exit taxiway indicator lights shall be supplied with power on a separate circuit to other runway lighting so that they should be used when other lighting is switched off.

…

**E.3.17 Taxiway centre line lights**

…

***Location***

E.3.17.12 Taxiway centre line lights shall be located on the taxiway centre line marking, except that they ~~should~~may be offset by not more than 30 cm where it is not practicable to locate them on the marking.

…

E.3.17.17 The lights shall be spaced at longitudinal intervals of not more than 15 m, except that, where runway centre line lights are not provided, a greater interval not exceeding 30 m ~~should~~may be used.

…

**E.3.18 Taxiway edge lights**

…

***Characteristics***

E.3.18.7 Taxiway edge lights shall be fixed lights showing blue. The lights shall show up to at least 75° above the horizontal and at all angles in azimuth necessary to provide guidance to a pilot taxiing in either direction. At an intersection, exit or curve the lights shall be shielded as far as practicable so that they cannot be seen in angles of azimuth in which they ~~should~~may be confused with other lights.

…

**E.3.19 Runway turn pad lights**

…

***Location***

E.3.19.3 Runway turn pad lights, shall be located on the runway turn pad marking, except that they ~~should~~may be offset by not more than 30cm where it is not practicable to locate them on the marking.

…

***Characteristics***

…

E.3.20.6 A pair of elevated lights shall be added to each end of the stop bar where the inpavement stop bar lights might be obscured from a pilot's view, for example, by rain, or where a pilot ~~should~~may be required to stop the aircraft in a position so close to the lights that they are blocked from view by the structure of the aircraft.

…

**E.3.27 Aircraft stand maneuvering guidance lights**

***Characteristics***

…

E.3.27.7 The lighting circuit, shall be designed so that the lights ~~should~~may be switched on to indicate that an aircraft stand is to be used and switched off to indicate that it is not to be used.

…

**E.3.29 No-entry bar**

…

***Characteristics***

...

E.3.29.5 A pair of elevated lights shall be added to each end of the no-entry bar where the in-pavement no entry bar lights might be obscured from a pilot's view, for example, by rain, or where a pilot ~~should~~may be required to stop the aircraft in a position so close to the lights that they are blocked from view by the structure of the aircraft.

…

E.4.2.14 The inscription on a runway designation sign shall consist of the runway designations of the intersecting runway properly oriented with respect to the viewing position of the sign,

except that a runway designation sign installed in the vicinity of a runway extremity ~~should~~may show the runway designation of the concerned runway extremity only.

…

**E.4.3 Information signs**

***Application***

…

E.4.3.11 A location sign shall be provided in conjunction with a direction sign, except that it ~~should~~may be omitted where an aeronautical study indicates that it is not needed.

**E.4.3 Information signs**

***Characteristics***

E.4.3.34 Where a location sign and direction signs are used in combination:

(a) all direction signs related to left turns shall be placed on the left side of the location sign, and all direction signs related to right turns shall be placed on the right side of the location sign, except that where the junction consists of one intersecting taxiway, the location sign ~~should~~may alternatively be placed on the left-hand side;

…

**E.5.6 Taxiway centre line markers**

**…**

***Location***

E.5.6.4 Taxiway centre line markers shall normally be located on the taxiway centre line marking except that they ~~should~~may be offset by not more than 30 cm where it is not practicable to locate them on the marking.

# APPENDIX F. VISUAL AIDS FOR DENOTING OBSTACLES

## F.1 Objects to be marked and/or lighted

### F.1.1 Objects within the lateral boundaries of the obstacle limitation surfaces

F.1.1.1 Vehicles and other mobile objects, excluding aircraft, on the movement area of an aerodrome are obstacles and shall be marked and, if the vehicles and aerodrome are used at night or in conditions of low visibility, lighted, except that aircraft servicing equipment and vehicles used only on aprons ~~should~~may be exempt.

…

F.1.1.4 A fixed obstacle that extends above a take-off climb surface within 3000 m of the inner edge of the take-off climb surface shall be marked and, if the runway is used at night, lighted, except that:

(a) such marking and lighting ~~should~~may be omitted when the obstacle is shielded by another fixed obstacle;

(b) the marking ~~should~~may be omitted when the obstacle is lighted by medium-intensity obstacle lights, Type A, by day and its height above the level of the surrounding ground does not exceed 150 m;

(c) the marking ~~should~~may be omitted when the obstacle is lighted by high-intensity obstacle lights by day; and

(d) the lighting ~~should~~may be omitted where the obstacle is a lighthouse and an aeronautical study indicates the lighthouse light to be sufficient.

F.1.1.5 A fixed object, other than an obstacle, adjacent to a take-off climb surface shall be marked and, if the runway is used at night, lighted, if such marking and lighting is considered necessary to ensure its avoidance, except that the marking ~~should~~may be omitted when:

…

F.1.1.6 A fixed obstacle that extends above an approach surface within 3000 m of the inner edge or above a transitional surface shall be marked and, if the runway is used at night, lighted, except that:

(b)

(a) such marking and lighting ~~should~~may be omitted when the obstacle is shielded by another fixed obstacle;

(c)

(d) the marking ~~should~~may be omitted when the obstacle is lighted by medium-intensity obstacle lights, Type A, by day and its height above the level of the surrounding ground does not exceed 150 m;

the marking ~~should~~may be omitted when the obstacle is lighted by high-intensity obstacle lights by day; and

the lighting ~~should~~may be omitted where the obstacle is a lighthouse and an aeronautical study indicates the lighthouse light to be sufficient.

…

F.1.1.7 A fixed obstacle that extends above a horizontal surface shall be marked and, if the aerodrome is used at night, lighted, except that:

such marking and lighting ~~should~~may be omitted when:

(a) the obstacle is shielded by another fixed obstacle; or

for a circuit extensively obstructed by immovable objects or terrain, procedures have been established to ensure safe vertical clearance below prescribed flight paths; or

(2) an aeronautical study shows the obstacle not to be of operational significance;

(3) the marking ~~should~~may be omitted when the obstacle is lighted by medium-intensity obstacle lights, Type A, by day and its height above the level of the surrounding ground

(4) does not exceed 150 m;

(b) the marking ~~should~~may be omitted when the obstacle is lighted by high-intensity obstacle lights by day; and

(c) the lighting ~~should~~may be omitted where the obstacle is a lighthouse and an

(d) aeronautical study indicates the lighthouse light to be sufficient.

## F.1.2 Objects outside the lateral boundaries of the obstacle limitation surfaces

F.1.2.1 Obstacles in accordance with D.3.2 should be marked and lighted, except that the marking ~~should~~may be omitted when the obstacle is lighted by high-intensity obstacle lights by day.

…

F.2.1.3 The number and arrangement of low-, medium- or high-intensity obstacle lights at each level to be marked shall be such that the object is indicated from every angle in azimuth. Where a light is shielded in any direction by another part of the object, or by an adjacent object, additional lights shall be provided on that adjacent object or the part of the object that is shielding the light, in such a way as to retain the general definition of the object to be lighted. If the shielded light does not contribute to the definition of the object to be lighted, it ~~should~~may be omitted.

…

F.2.3.18 Where, in the opinion of the appropriate authority, the use of high-intensity obstacle lights, Type A, or medium-intensity obstacle lights, Type A, at night ~~should~~may dazzle pilots in the vicinity of an aerodrome (within approximately 10000 m radius) or cause significant environmental concerns, a dual obstacle lighting system shall be provided. This system shall be composed of high-intensity obstacle lights, Type A, or medium-intensity obstacle lights, Type A, as appropriate, for daytime and twilight use and medium-intensity obstacle lights, Type B or C, for night-time use.

…

F.2.3.27 Where high-intensity obstacle lights, Type A, are used, they shall be spaced at uniform intervals not exceeding 105 m between the ground level and the top light(s) specified in F.2.3.10, except that where an object to be marked is surrounded by buildings, the elevation of the tops of the buildings ~~should~~may be used as the equivalent of the ground level when determining the number of light levels.

…

***Lighting of objects with a height 150 m or more above ground level***

F.2.3.29 Where high-intensity obstacle lights, Type A, are used, they shall be spaced at uniform intervals not exceeding 105 m between the ground level and the top light(s) specified in F.2.3.10, except that where an object to be marked is surrounded by buildings, the elevation of the tops of the buildings ~~should~~may be used as the equivalent of the ground level when determining the number of light levels.

F.2.3.30 Where, in the opinion of the appropriate authority, the use of high-intensity obstacle lights, Type A, at night ~~should~~may dazzle pilots in the vicinity of an aerodrome (within approximately 10000 m radius) or cause significant environmental concerns, medium-intensity obstacle lights, Type C, shall be used alone, whereas medium intensity obstacle lights, Type B, shall be used either alone or in combination with low-intensity obstacle lights, Type B.

…

**F.2.5 Overhead wires, cables, etc., and supporting towers**

…

*Marking by colours*

F.2.5.2 The supporting towers of overhead wires, cables, etc., that require marking shall be marked in accordance with F.2.3.1 to F.2.3.4, except that the marking of the supporting towers ~~should~~may be omitted when they are lighted by high-intensity obstacle lights by day.

…

***Lighting***

…

F.2.5.11 Where, in the opinion of the appropriate authority, the use of high-intensity obstacle lights, Type B, at night ~~should~~may dazzle pilots in the vicinity of an aerodrome (within approximately 10000 m radius) or cause significant environmental concerns, a dual obstacle lighting system shall be provided. This system shall be composed of high-intensity obstacle lights, Type B, for daytime and twilight use and medium-intensity obstacle lights, Type B, for night time use. Where medium-intensity lights are used they shall be installed at the same level as the high-intensity obstacle light Type B.

**APPENDIX G. VISUAL AIDS FOR DENOTING RESTRICTED USE AREAS**

…

**G.1.2 Closed runway marking**

***Application***

…

G.1.2.2 A closed runway marking shall be displayed on a temporarily closed runway or portion thereof, except that such marking ~~should~~shall be omitted when the closing is of short duration and adequate warning by air traffic services is provided.

**G.1.3 Closed taxiway marking**

**…**

G.1.3.2 A closed taxiway marking shall be displayed on a temporarily closed taxiway or portion thereof, except that such marking ~~should~~shall be omitted when the closing is of short duration and adequate warning by air traffic services is provided.

…

## APPENDIX H. ELECTRICAL SYSTEMS

***Visual aids***

***Application***

…

H.1.10 The following aerodrome facilities shall be provided with a secondary power supply capable of supplying power when there is a failure of the primary power supply:

(a) …

…

(i) illumination of apron areas over which passengers ~~should~~may walk.

**H.3 Monitoring**

...

H.3.2 Where lighting systems are used for aircraft control purposes, such systems shall be monitored automatically so as to provide an indication of any fault which ~~should~~may affect the control functions. This information shall be automatically relayed to the air traffic services unit.

...

## APPENDIX I. AERODROME OPERATIONAL SERVICES, EQUIPMENT AND INSTALLATIONS

…

***Extinguishing agents***

...

I.2.11 The amounts of water for foam production and the complementary agents to be provided on the rescue and firefighting vehicles shall be in accordance with the aerodrome category determined

under I.2.3, I.2.4, I.2.5, I.2.6 and Table I-2, except that for aerodrome categories 1 and 2 up to 100 percent of the water ~~should~~shall be substituted with complementary agent.

For the purpose of agent substitution, 1 kg of complementary agent shall be taken as equivalent to 1.0 L of water for production of a foam meeting performance level A.

...

I.2.31 Any vehicles, other than the first responding vehicles(s), required to deliver the amounts of extinguishing agents specified in Table I-2 ~~should~~shall ensure continuous agent application and shall arrive no more than three minutes from the initial call.

## I.3 Disabled aircraft removal

...

I.3.2 The disabled aircraft removal plan shall be based on the characteristics of the aircraft that ~~should~~may normally be expected to operate at the aerodrome, and include among other things:

(a) a list of equipment and personnel on, or in the vicinity of, the aerodrome which would be available for such purpose; and

(b) arrangements for the rapid receipt of aircraft recovery equipment kits available from other aerodromes.

## I.4 Wildlife strike hazard reduction

...

I.4.4 The appropriate authority shall take action to eliminate or to prevent the establishment of garbage disposal dumps or any other source which ~~should~~may attract wildlife to the aerodrome, or its vicinity, unless an appropriate wildlife assessment indicates that they are unlikely to create conditions conducive to a wildlife hazard problem. Where the elimination of existing sites is not possible, the appropriate authority shall ensure that any risk to aircraft posed by these sites is assessed and reduced to as low as reasonably practicable.

I.4.5 The appropriate authority shall give due consideration to aviation safety concerns related to land developments in the vicinity of the aerodrome that ~~should~~may attract wildlife.

...

## I.7 Ground handling

I.7.1 The holder of an aerodrome operating certificate shall regularly assess the impact of ground handling operations on aviation safety in accordance with risk management requirements under rule 100.59.

I.7.2 The holder of an aerodrome operating certificate shall establish criteria for safety oversight of ground handling in accordance with Part 100.

## I.~~7~~8 Aerodrome vehicle operations

I.~~7~~8.1 ...

I.~~7~~8.2 ...

I.~~7~~8.3 ...

I.~~7~~8.4 ...

I.~~7~~8.5 ...

**I.~~8~~9 Surface movement guidance and control systems**

...

I.~~8~~9.1 ...

I.~~8~~9.2 ...

I.~~8~~9.3 ...

I.~~8~~9.4 ...

I.~~8~~9.5 ...

I.~~8~~9.6 ...

I.~~8~~9.7 Surface movement radar for the manoeuvring area ~~should~~shall be provided at an aerodrome intended for use in runway visual range conditions less than a value of 350m.

I.~~8~~9.8 Surface movement radar for the manoeuvring area ~~should~~shall be provided at an aerodrome other than that in I.~~8~~9.7 when traffic density and operating conditions are such that regularity of traffic flow cannot be maintained by alternative procedures and facilities.

**I.~~9~~10 Siting of equipment and installations on operational areas**

I.~~9~~10.1 ...

I.~~9~~10.2 ...

I.~~9~~10.3 ....

I.~~9~~10.4 ...

I.~~9~~10.5 ...

I.~~9~~10.6 ...

**I.~~10~~11 Fencing**

I.~~10~~11.1 ...

I.~~10~~11.2 ...

I.~~10~~11.3 ...

I.~~10~~11.4 ...

I.~~10~~11.5 ...

### I.~~11~~12 Security lighting

At an aerodrome where it is deemed desirable for security reasons, a fence or other barrier provided for the protection of international civil aviation and its facilities ~~should~~shall be illuminated at a minimum essential level. Consideration ~~should~~shall be given to locating lights so that the ground area on both sides of the fence or barrier, particularly at access points, is illuminated.

### I.1~~2~~3 Autonomous runway incursion warning system (ARIWS)

I.1~~2~~3.1 ...

I.1~~2~~3.2 ...

## APPENDIX J. AERODROME MAINTENANCE

...

### J.3 Removal of contaminants

...

J.2.5 Runway surface friction characteristics ~~should~~shall also be monitored considering aeroplane braking performance, such as aircraft braking action report (ABAR) and other technologies, when available.

…

J.3.2 Chemicals which ~~should~~may have harmful effects on aircraft or pavements, or chemicals which ~~should~~may have toxic effects on the aerodrome environment, shall not be used.

...

J.5.7 The system of preventive maintenance employed for a precision approach runway category II or III shall have as its objective that, during any period of category II or III operations, all approach and runway lights are serviceable and that, in any event, at least:

(a) 95 percent of the lights are serviceable in each of the following particular significant elements:

(1) precision approach category II and III lighting system, the inner 45~~0m~~0 m;

(2) runway centre line lights;

(3) runway threshold lights; and

(4) runway edge lights;

(b) 90 percent of the lights are serviceable in the touchdown zone lights;

(c) 85 percent of the lights are serviceable in the approach lighting system beyond 450 m; and

(d) 75 percent of the lights are serviceable in the runway end lights.

In order to provide continuity of guidance, the allowable percentage of unserviceable lights shall not be permitted in such a way as to alter the basic pattern of the lighting system. Additionally, an unserviceable light shall not be permitted adjacent to another unserviceable light, except in a barrette or a crossbar where two adjacent unserviceable lights ~~should~~may be permitted.