

Update requirements Reg. (EC) 139/2014 Issue 3 - Annex to decision 2016-009-R

Whitepaper

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1 Introduction

Numerous amendments come into legal force with the CS-ADR-DSN Issue 3 (2016/027/R) by the EASA. These are several hundred content-based or just editorially changes of (sub-)requirements. eControl enables the verification that the airport operator is always in compliance - in particular with release 3.

In this whitepaper we show how continuous and complete verification management can be achieved with low effort and high transparency for all process related organisational departments.

For these amendments we provide a data package that updates the eControl regulatories and which enables the verification of compliance in accordance with the changes.

2 Version management

The regulation 139/2014 of the CS-ADR-DSN including the updates as well as own operational changes, are relevant in regards to the compliance and its verification towards the competent authorities.

Fundamentally, the eControl Compliance Management provides a consistent platform for entering and documenting all activities connected with the compliance monitoring system.

The variety of regulations are in an hierarchical structure of (sub-)requirements. The eControl delivery scope includes numerous regulations per default, especially EU Regulation 139/2014 and the CS-ADR-DSN, which can be adjusted by the customer if needed.

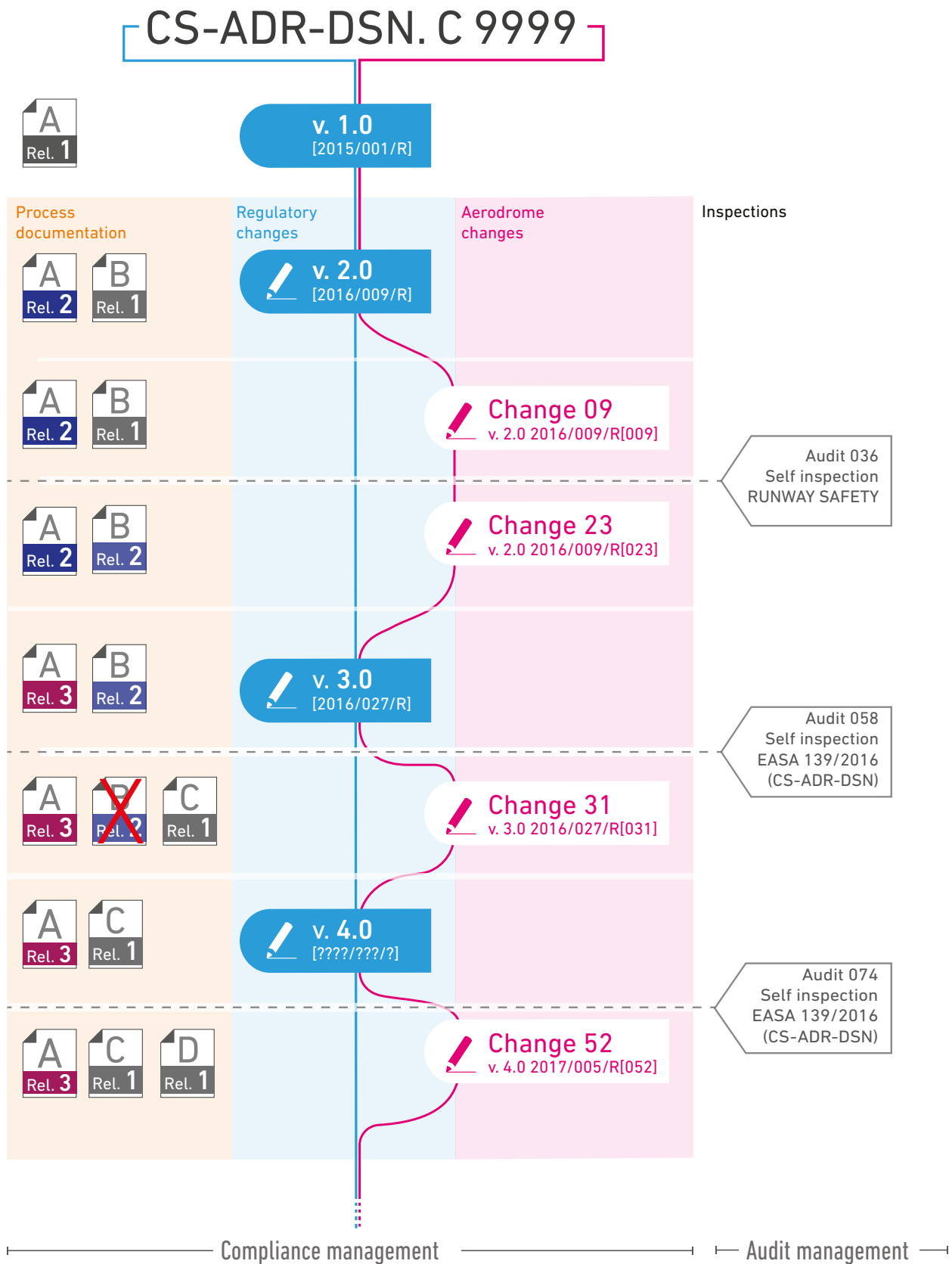
For single (sub-)requirements, each regulatory change can be classified as listed below:

- **Requirement changed**
- **Requirement new**
- **Requirement deleted**

Verification documents in eControl are basically allocated to requirements and sub-requirement whereby overlapping requirement documents can be linked to numerous requirements.

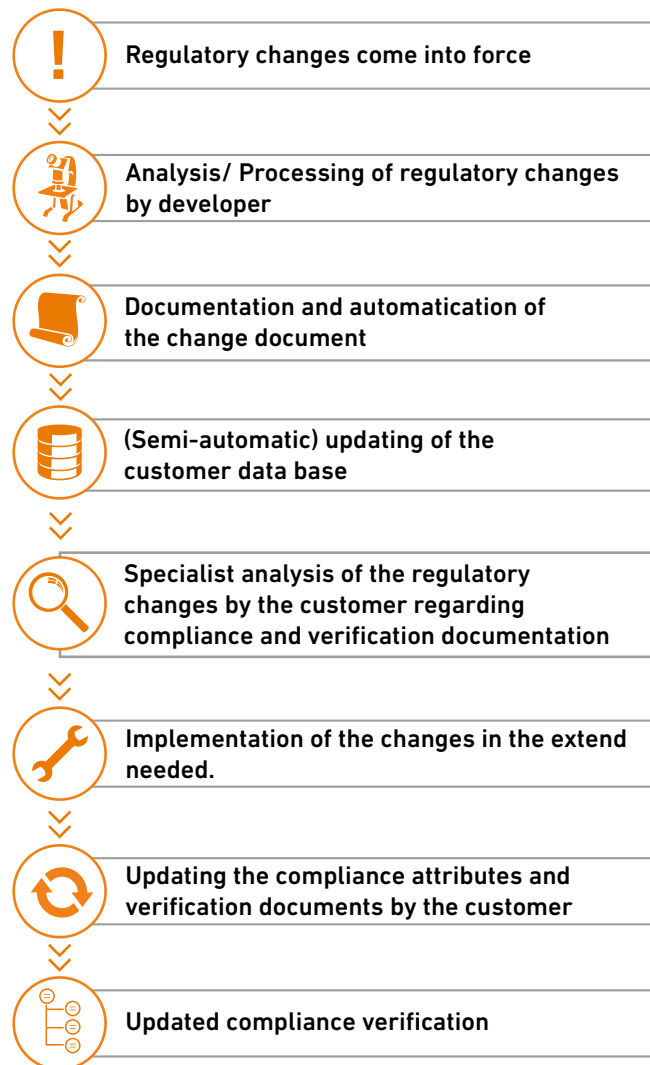
eControl also provides an audit management, to keep up the compliance level. Prepared audit catalogues with different level of detail are provided to simplify the implementation of compliance audits. Of course, these audit catalogues can be supplemented regarding to individual airport specific criterias.

Regulatory changes and operational change management



3 (Semi-) Automatic transition

The changes related to the requirements of the EU (VO) 139/2014 specified in this whitepaper are available in scripted format and can be rolled out in the course of the general operating, including the version information.



The changes on the regulations are clearly defined, standardized and can be provided in the form of change packages by Arconda Systems. After a change package was processed, changes on the standard can be edited and managed with the help of the software. If the structure of 139/2014 and the Certification Specification is changed manually by the customer, it will be not guaranteed that standardized change scripts by Arconda Systems can be applied furthermore.



For further information about risk management with eControl, please refer to our whitepaper: "Compliance Management - Managing changes of EASA and ICAO regulations"¹

Our whitepapers are available as PDF files on our website: www.econtrol.aero/documents

4 Changed, new and deleted (sub-)requirements

4.1 Changed regulations by the example of GM1 ADR-DSN.B.165

The process organisation is explained as per example “GM1 ADR-DSN.B.165”. The text passages in the (sub-)requirement changed by the EASA are underlined.

The updated text of “GM1 ADR-DSN.B.165” is worded as follows:

GM1 ADR-DSN.B.165 - Objects on runway strips

Within the graded portion of the runway strip, measures should be taken to prevent an aeroplane's wheel when sinking into the ground, from striking a hard vertical face. Special problems may arise for runway light fittings or other objects mounted in the strip or at the intersection with a taxiway or another runway. In the case of constructions within the graded portion of the runway strip, such as intersecting runways or taxiways, where the surface should also be flush with the strip surface, they should be delethalized, that is, so constructed as to avoid presenting a buried vertical face to aircraft wheels in soft ground conditions in any direction from which an aircraft is likely to approach. A vertical face can be eliminated by chamfering from the top of those constructions to not less than 30 cm below the strip surface level. Other objects situated within the graded portion of the runway strip, the functions of which do not require them to be at surface level, should be buried to a depth of not less than 30 cm. Where this is not feasible, to eliminate a buried vertical surface, a slope should be provided which extends from the top of the construction to not less than 30 cm below ground level. The slope can be created by using a mixture of compacted gravel or asphalt or crushed aggregates and soil.

4.2 Updated regulations

The updated text of the requirement “GM1 ADR-DSN.B.165” is available in the tabulator “Process”

Process management Business applications> Process management

Process 6 Attributes 2 Versions 3 Documents Measures History ObjectExplorer Rights

ID: 09901984 Proc.-Nr.: GM1 ADR.OPS.B.010(a)(1) Valid from/to: 01/01/1900 / 31/12/2999 External ☐ Active ☒

Designation: AVAILABILITY AND SCOPE OF RESCUE AND FIREFIGHTING SERVICES

Note: Public or private organisations, suitably located and equipped, could be designated to provide the rescue and firefighting service. The fire station housing these organisations should normally be located on the aerodrome, although an off-aerodrome location is not precluded, provided that the response time can be met. The principal objective of rescue and firefighting services is to save lives in the event of an aircraft accident or incident occurring at, or in the immediate surroundings of, the aerodrome. The rescue and firefighting service is provided to create and maintain survivable conditions, to provide egress routes for occupants, and to initiate the rescue of those occupants unable to make their escape without direct aid. The rescue may require the use of equipment and personnel other than those assessed primarily for rescue and firefighting purposes. Ambulance and medical services are out of the scope of rescue and firefighting services as described in ADR.OPS.B.010. The role and responsibilities of ambulance and medical services during an emergency situation should be included in the aerodrome emergency plan (AEP), according to GM3 ADR.OPS.B.005(a).

Parent element: Rescue and firefighting services / (a) (1) Order: GM1 ADR.OPS.B.010(a)(1) Type: Process

Status: Unknown Test interval: Undetermined

Version: 3.0 [Annex to Decision 2016/027/R] Latest test at: Due:

Org.-Unit: Department: Owner: Owner VM: Responsible: Respons. VM: Respons. info:

Description:

The version was incremented automatically to “3.0 [Annex to Decision 2016/027/R]” by the change script provided by the developer.

All changes on (sub-)requirements are documented in detail on the tab page “History”:

Process management Business applications> Process management

Process 5 Attributes 1 Versions Documents Measures History ObjectExplorer Rights

Process 09901984 • AVAILABILITY AND SCOPE OF RESCUE AND FIREFIGHTING SERVICES • Order GM1 ADR.OPS.B.010(a)(1)

☒ Audittrail (☒ Without modification timestamp and -user) ☒ ZIP export

☒ Process data ☒ Attributes ☒ Documents ☒ Measures ☒ Rights ☒ ObjectExplorer

Type	Data field	Value NEW	Value OLD	Time stamp	User
Attribut	EASA Releasemanagement	GRP EASA 139/2014 => READ	No Access [EASA RM]	20.07.2016 09:12	Sorge, Konstantin
Attribut	Prozessstammdaten	GRP EASA 139/2014 Fachadministratoren => WRITE	No Access [EASA RM]	20.07.2016 09:12	Sorge, Konstantin
		Sorge, Konstantin => WRITE	No Access [global]	20.07.2016 09:12	Sorge, Konstantin
	Zuletzt geändert am	08.02.2017 09:21:56	08.02.2017 09:13:40	08.06.2016 09:21	Sorge, Konstantin
	Zuletzt geändert am	08.02.2017 09:13:40	08.02.2017 09:06:51	08.06.2016 09:13	Sorge, Konstantin
	DOC1137	UPLOAD		08.06.2016 09:13	Sorge, Konstantin
	DOC1135 File	00010826_002.xlsx	00010826_001.jpg	08.06.2016 09:13	Sorge, Konstantin
	DOC1135 Zuletzt geändert am	08.02.2017 09:13:40	08.02.2017 08:56:13	08.06.2016 09:13	Sorge, Konstantin
	DOC1135 DOK_FILE_ORG	FirefightingEquipment.xlsx	airport-map-large.jpg	08.06.2016 09:13	Sorge, Konstantin
	DOC1135 DOK_RELEASE	2	1	08.06.2016 09:13	Sorge, Konstantin
	Zuletzt geändert am	08.02.2017 09:06:51	08.02.2017 09:02:05	08.06.2016 09:06	Sorge, Konstantin
	Prozesshinweis	Public or private organisations, suitably located and equipped, could be designated to provide the rescue and firefighting service. The fire station housing these organisations should normally be located on the aerodrome, although an off-aerodrome location is not precluded, provided that the response time can be met. The principal objective of rescue and firefighting services is to save lives in the event of an aircraft accident or incident occurring at, or in the immediate surroundings of, the aerodrome. The rescue and firefighting service is provided to create and maintain survivable conditions, to provide egress routes for occupants, and to initiate the rescue of those occupants unable to make their escape without direct aid. The rescue may require the use of equipment and personnel other than those assessed primarily for rescue and firefighting purposes. Ambulance and medical services are out of the scope of rescue and firefighting services as described in ADR.OPS.B.010. The role and responsibilities of ambulance and medical services during an emergency situation should be included in the aerodrome emergency plan (AEP), according to GM3 ADR.OPS.B.005(a).	Public or private organisations, suitably located and equipped, could be designated to provide the rescue and firefighting service. The fire station housing these organisations should normally be located on the aerodrome, although an off-aerodrome location is not precluded, provided that the response time can be met. The scope of the rescue and firefighting services is to save lives in the event of an aircraft accident or incident occurring at, or in the immediate surroundings of, the aerodrome. The operational objective is to create and maintain survivable conditions, to provide egress routes for occupants, and to initiate the rescue of those occupants unable to make their escape without direct aid.	08.06.2016 09:06	Sorge, Konstantin
	Zuletzt geprüft am	2.0 [Annex to Decision 2016/009/R]	1.0	08.06.2016 09:06	Sorge, Konstantin

4.3 Version overview

The version overview makes clear which verification documents are deposited for the related version of the requirement.

Additionally it is documented, which regulatory changes or which operational change led to a new version.

In the example below it is visible that both verification documents "1135 release 1" and "1136 release 2" were available before the change in version "1.0 INIT". After the version change to "2.0 [Annex to Decision 2016/009/R]", the document 1135 was revised and uploaded again. It now has the release number 2.

The document 1137 was added after updating to version "3.0 [Annex to Decision 2016/027/R]".

The screenshot displays the 'Process management' interface in eControl.aero. The top navigation bar includes tabs for 'Process', 'Attributes', '1 Versions', 'Documents', 'Measures', 'History', 'ObjectExplorer', and 'Rights'. The main header shows the process ID '09901984' and the title 'AVAILABILITY AND SCOPE OF RESCUE AND FIREFIGHTING SERVICES • Order GM1 ADR.OPS.B.010(a)(1)'. Below this, there are checkboxes for 'Show deactivated documents' and 'Show release history'. A tree view on the left lists the versions: '3.0 [Annex to Decision 2016/027/R] Annex to Decision 2016/009/R', '2.0 [Annex to Decision 2016/009/R] Annex to Decision 2016/009/R', and '1.0 INIT'. Each version has associated documents: (001137) Equipment overview ambulance, (001135) AirportMap Firefighting facilities, and (001136) Equipment overview Firefighting. The right pane shows the details for the selected version '3.0 [Annex to Decision 2016/009/R]'. It includes fields for 'Version ID' (7753), 'Version' (3.0 [Annex to Decision 2016/009/R]), 'Effective from' (25.05.2016), 'Version title' (Annex to Decision 2016/009/R), and 'Note'. A large text area contains the decision text, which addresses safety and proportionality issues related to the provision of rescue and firefighting services (RFFS) at aerodromes. Below the text area, there are fields for 'Created at/by' (21/02/2017, Espenhain, Frank), 'Checked by/at', and 'Approved at/by'. At the bottom, it shows 'Created on/by' (28/09/2015 10:46, SMS) and 'Changed on/by' (28/09/2015 10:46, SMS).

The changed requirements can be easily filtered and edited with eControl.

4.4 New Requirements

New requirements are hooked automatically into the tree structure of the requirement in accordance with the structuring system and the sorting order.

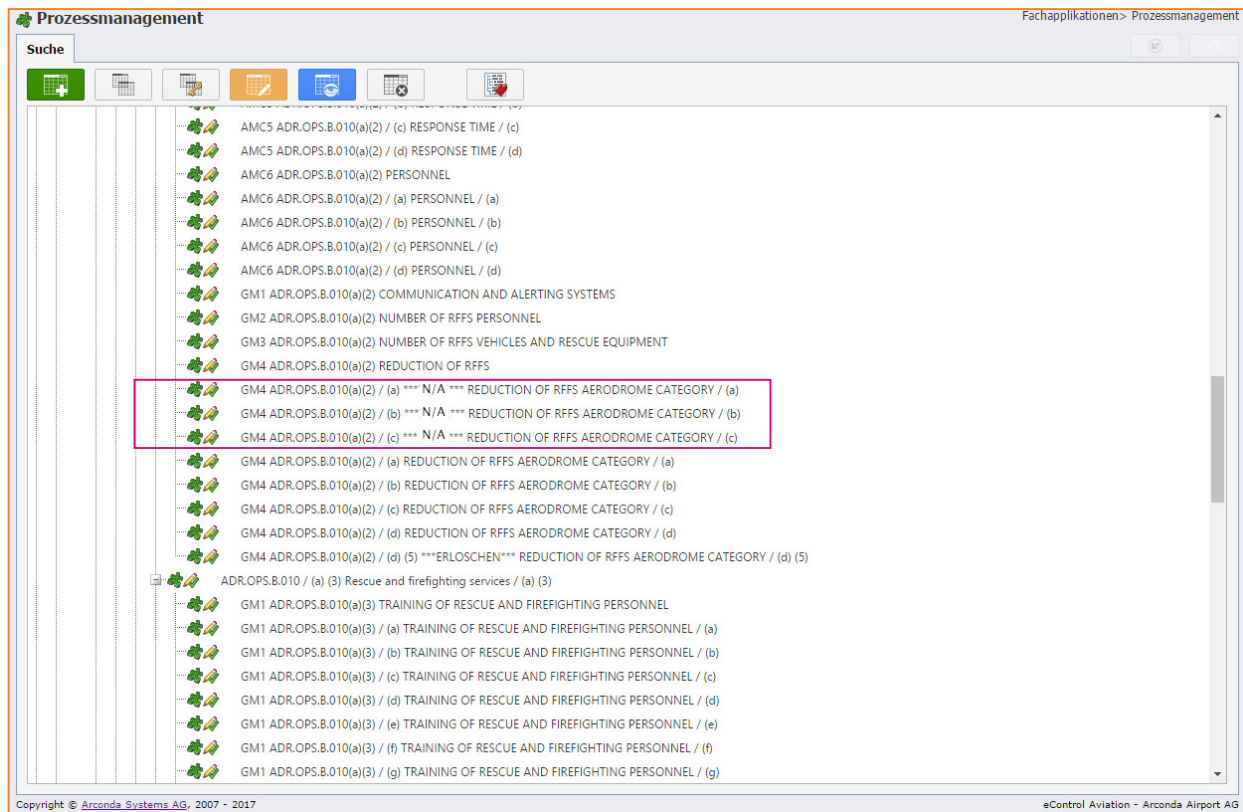
The following tasks have to be taken into consideration:

- Additional allocation of external IDs for new requirements, so that these new requirements also can be clearly identified for future updates
- Automatic assignment of standard compliance categories
- Automatic initialising of the compliance attributes
- Administration of number ranges for the long-term updating service to the requirements and requirement parts
- Requirement text in accordance with legislation/regulation
- Attributes for workflow management of the respective change

4.5 Deleted requirements

Deleted requirements are critical from the perspective of the compliance management, because process attributes and related documents will be closed when deleting or deactivating requirements.

In order to avoid a loss of information, the titles of these requirements are marked with the prefix "***N/A***".



The deleted requirements can be easily edited with eControl. Previously saved information and documents have to be transferred manually to the respective requirements if necessary.

Once this is done the requirements may be deactivated, whereby this process requires the submit of version information.

5 Workflow management

With the help of the scripted versioning by the developer, all requirements and requirement that are affected by a change -in this case 2016/027/R- can be filtered.

To concrete the processing progress of single (sub-)requirements, specific data fields called “compliance attributes” are provided.

The review of the compliance is facilitated by the fact, that the developer has already identified editorial changes which do not need further processing via the attribute “2016/027/R change type”.

The following compliance attributes are provided for the change 2016/027/R.

2016/027/R Change type Textual / Editorial

2016/027/R Verification status unknown / insufficient / incomplete / complete

2016/027/R Notice VR EASA Compliance verification status

The screenshot shows the 'Process management' interface with the 'Attributes' tab selected. The process path is 'Process 09901507 • Aerodrome data / (a) • Order ADR.OPS.A.005 / (a)'. There are two checkboxes: 'Show only used attributes' (checked) and 'Show detailed information' (unchecked). The interface is divided into two main sections: 'EASA Compliance Part' and 'EASA 2016/027/R (3.0)'. Each section contains a table of attributes with their current values and a status icon (green checkmark or red X).

EASA Compliance Part	
EASA Component Node Type	Sub-requirement
EASA Component Certification Basis	Yes
EASA Component Applicability	Partially
EASA Component Degree of Fulfilment	open
EASA Component Proof	
EASA Component Proof Status	unknown
EASA Component Organization Building Component/(Sub-)System 1	
EASA Component Organization Building Component/(Sub-)System 2	
EASA Component Organization Building Component/(Sub-)System 3	
EASA Component Organization Building Component/(Sub-)System 4	
EASA Component Organization Building Component/(Sub-)System 5	

EASA 2016/027/R (3.0)	
2016/027/R Change type	Editorial
2016/027/R Verification status	Complete
2016/027/R Notice	

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Annex

2016/027/R

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BOOK 1 – CERTIFICATION SPECIFICATIONS

001 CS ADR-DSN.A.005 (c) / Aerodrome reference code

Requirement changed

- (c) The code number for element 1 should be determined from Table A-1, column (1), selecting the code number corresponding to the highest value of the aeroplane reference field lengths of the aeroplanes for which the runway is intended. The determination of the aeroplane reference field length is solely for the selection of a code number and is not intended to influence the actual runway length provided.

Status 27.01.2016: „Validated“

002 CS ADR-DSN.A.005 (d) / Aerodrome reference code

Requirement changed

- (d) The code letter for element 2 should be determined from Table A-1, column (3), by selecting the code letter which corresponds to the greatest wing-span, or the greatest outer main gear wheel span whichever gives the more demanding code letter of the aeroplanes for which the facility is intended.

Status 27.01.2016: „Validated“

003 CS ADR-DSN.A.010

Requirement changed

intentionally left blank

Status 27.01.2016: „Validated“

004 CS ADR-DSN.B.020 / Choice of maximum permissible crosswind components

Requirement changed

intentionally left blank

Status 27.01.2016: “Validated”

005 CS ADR-DSN.B.025 / Data to be used

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

006 CS ADR-DSN.B.035 / Length of runway and declared distances

Requirement changed

The content remains unchanged. The headline changes to:

Length of runway and declared distances.

Status 27.01.2016: "Validated"

007 CS ADR-DSN.B.055 (b)(1) / Minimum distance between parallel instrument runways

Requirement changed

(b) Apart from provided in (a) above, for segregated parallel operations the specified minimum distance:

(1) 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

Status 27.01.2016: "Validated"

008 CS ADR-DSN.B.060 (c)(2) / Longitudinal slopes of runways

Requirement changed

(c) Along no portion of a runway should the longitudinal slope exceed:

(2) 1.5 % where the code number is 3, except that for the first and last quarter of the length of a precision approach runway Category II or III where the longitudinal slope should not exceed 0.8 %; and

Status 27.01.2016: "Validated"

009 CS ADR-DSN.B.090 (a) / Surface of runways

Requirement changed

- (a) The surface of a runway should be constructed without irregularities that would impair the runway surface friction characteristics or otherwise adversely affect the take-off or landing of an aeroplane.

Status 27.01.2016: "Validated"

010 CS ADR-DSN.B.090 (b) / Surface of runways

Requirement changed

- (b) A paved runway should be so constructed or resurfaced as to provide surface friction characteristics at or above the minimum friction level.

Status 27.01.2016: "Validated"

011 CS ADR-DSN.B.090 (d) / Surface of runways

Requirement changed

- (d) When the surface is grooved or scored, the grooves or scorings should be either perpendicular to the runway centre line or parallel to non-perpendicular transverse joints where applicable.

Status 27.01.2016: "Validated"

012 CS ADR-DSN.B.110 (b) / Surface of runway turn pads

Requirement changed

- (b) The surface of a runway turn pad should be so constructed or resurfaced as to provide surface friction characteristics at least equal to that of the adjoining runway.

Status 27.01.2016: "Validated"

013 CS ADR-DSN.B.135 (a)(1) / Width of runway shoulders

Requirement changed

A change has been made to the structuring number. The content remains unaffected.

(a) The runway shoulders should extend symmetrically on each side of the runway so that the overall width of the runway and its shoulders is not less than:

(1) 60 m where the code letter is D or E; and

Status 27.01.2016: "Validated"

014 CS ADR-DSN.B.135 (a)(2) / Width of runway shoulders

Requirement changed

A change has been made to the structuring number. The content remains unaffected.

(a) The runway shoulders should extend symmetrically on each side of the runway so that the overall width of the runway and its shoulders is not less than:

(2) 75 m where the code letter is F.

Status 27.01.2016: "Validated"

015 CS ADR-DSN.B.155 (a)(1) / Length of runway strip

Requirement changed

A change has been made to the structuring number. The content remains unaffected.

(a) A strip should extend before the threshold and beyond the end of the runway or stopway for a distance of at least:

(1) 60 m where the code number is 2, 3, or 4;

Status 27.01.2016: "Validated"

016 CS ADR-DSN.B.155 (a)(2) / Length of runway strip

Requirement changed

A change has been made to the structuring number. The content remains unaffected.

- (a) A strip should extend before the threshold and beyond the end of the runway or stopway for a distance of at least:
- (2) 60 m where the code number is 1 and the runway is an instrument one; and

Status 27.01.2016: "Validated"

017 CS ADR-DSN.B.155 (a)(3) / Length of runway strip

Requirement changed

A change has been made to the structuring number. The content remains unaffected.

- (a) A strip should extend before the threshold and beyond the end of the runway or stopway for a distance of at least:
- (3) 30 m where the code number is 1 and the runway is a non-instrument one.

Status 27.01.2016: "Validated"

018 CS ADR-DSN.B.165 (b)(1) / Objects on runway strips

Requirement changed

- (b) No fixed object, other than visual aids required for air navigation or those required for aircraft safety purposes and which must be sited on the runway strip, and satisfying the relevant frangibility requirement in Chapter T, should be permitted on a runway strip:
- (1) within 77.5 m of the runway centre line of a precision approach runway Category I, II or III where the code number is 4 and the code letter is F;
or

Status 27.01.2016: "Validated"

019 CS ADR-DSN.B.165 (b)(2) / Objects on runway strips

Requirement changed

- (b) No fixed object, other than visual aids required for air navigation or those required for aircraft safety purposes and which must be sited on the runway strip, and satisfying the relevant frangibility requirement in Chapter T, should be permitted on a runway strip:
- (2) within 60 m of the runway centre line of a precision approach runway Category I, II or III where the code number is 3 or 4; or

Status 27.01.2016: "Validated"

020 CS ADR-DSN.B.165 (b)(3) / Objects on runway strips

Requirement changed

- (b) No fixed object, other than visual aids required for air navigation or those required for aircraft safety purposes and which must be sited on the runway strip, and satisfying the relevant frangibility requirement in Chapter T, should be permitted on a runway strip:
- (3) within 45 m of the runway centre line of a precision approach runway Category I where the code number is 1 or 2.

No mobile object should be permitted on this part of the runway strip during the use of the runway for landing or take-off.

Status 27.01.2016: "Validated"

021 CS ADR-DSN.B.165 (c) / Objects on runway strips

Requirement changed

- (c) To eliminate a buried vertical surface on objects situated on a graded portion of the runway strip, a slope should be provided to minimise hazards to aeroplanes running off the runway.

Status 27.01.2016: "Validated"

022 CS ADR-DSN.B.170

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

023 CS ADR-DSN.B.191 / Drainage characteristics of the movement area and adjacent areas

Requirement new

The safety objective of the drainage systems of the movement area and adjacent areas is to minimise water depth on the surface by draining surface water off the runway in the shortest path practicable and particularly out of the area of the wheel path.

Status 27.01.2016: "Validated"

024 CS ADR-DSN.B.195 (a) / Clearways

Requirement changed

(a) The inclusion of detailed specifications for clearways below is not intended to imply that a clearway has to be provided.

Status 27.01.2016: "Validated"

025 CS ADR-DSN.B.200 (a) / Stopways

Requirement changed

(a) The inclusion of detailed specifications for stopways below is not intended to imply that a stopway has to be provided.

Status 27.01.2016: "Validated"

026 CS ADR-DSN.B.200 (e) / Stopways

Requirement changed

(e) Surface of stopways:

The surface of a paved stopway should be so constructed or resurfaced as to provide surface friction characteristics at or above those of the associated runway.

Status 27.01.2016: "Validated"

027 CS ADR-DSN.B.205 (a) / Radio altimeter operating area

Requirement changed

- (a) A radio altimeter operating area should be established in the pre-threshold area of a precision approach runway Category II and III, and where practicable, in the pre-threshold area of a precision approach runway Category I.

Status 27.01.2016: "Validated"

028 CS ADR-DSN.B.205 (c) / Radio altimeter operating area

Requirement changed

(c) Width of the area:

A radio altimeter operating area should extend laterally, on each side of the extended centre line of the runway, to a distance of 60 m, except that, when special circumstances so warrant, the distance may be reduced to no less than 30 m if a safety assessment indicates that such reduction would not affect the safety of operations of aircraft.

Status 27.01.2016: "Validated"

029 CS ADR-DSN.C.210 (a) / Runway end safety areas (RESA)

Requirement changed

The content remains unchanged. The headline changes to: Runway end safety areas (RESA)

Status 27.01.2016: "Validated"

030 CS ADR-DSN.C.210 (b)(1) / Runway end safety areas (RESA)

Requirement changed

The content remains unchanged. The headline changes to: Runway end safety areas (RESA)

Status 27.01.2016: "Validated"

031 CS ADR-DSN.C.210 (b)(2) / Runway end safety areas (RESA)

Requirement changed

The content remains unchanged. The headline changes to: Runway end safety areas (RESA)

Status 27.01.2016: "Validated"

032 CS ADR-DSN.C.210 (c) / Runway end safety areas (RESA)

Requirement new

(c) Where practicable, a runway end safety area should be provided at each end of a runway strip where the code number is 1 or 2 and the runway is a non-instrument one.

The new headline is used.

Status 27.01.2016: "Validated"

033 CS ADR-DSN.C.215 (a)(1)(i) / Dimensions of runway end safety areas

Requirement changed

(a) Length of runway end safety area

(1) A runway end safety area should extend from the end of a runway strip to a distance of at least 90 m and, as far as practicable, extend to a distance of:

(i) 240 m where the code number is 3 or 4 and

Status 27.01.2016: "Validated"

034 CS ADR-DSN.C.215 (a)(1)(ii) / Dimensions of runway end safety areas

Requirement changed

(a) Length of runway end safety area

- (1) A runway end safety area should extend from the end of a runway strip to a distance of at least 90 m and, as far as practicable, extend to a distance of:
 - (ii) 120 m where the code number is 1 or 2 and the runway is an instrument one; and

Status 27.01.2016: "Validated"

035 CS ADR-DSN.C.215 (a)(2) / Dimensions of runway end safety areas

Requirement new

- (2) A runway end safety area should extend from the end of a runway strip, as far as practicable, to a distance of 30 m where the code number is 1 or 2 and the runway is a non-instrument one.

Status 27.01.2016: "Validated"

036 CS ADR-DSN.C.215 (c) / Dimensions of runway end safety areas

Requirement changed

(c) Width of runway end safety area

The width of a runway end safety area should be at least twice that of the associated runway and, wherever practicable, be equal to that of the graded portion of the associated runway strip.

Status 27.01.2016: "Validated"

037 CS ADR-DSN.C.235 / Strength of runway end safety areas

Requirement changed

A runway end safety area should have a bearing strength sufficient to serve its primary purpose.

Status 27.01.2016: "Validated"

038 CS ADR-DSN.D.290 (b) / Surface of taxiways

Requirement changed

- b) The surface of a paved taxiway should be so constructed or resurfaced as to provide suitable surface friction characteristics.

Status 27.01.2016: "Validated"

039 CS ADR-DSN.D.315 (b) / Width of taxiway strips

Requirement changed

- (b) A taxiway strip should extend symmetrically on each side of the centre line of the taxiway throughout the length of the taxiway to at least the distance from the centre line given in Table D-1, column (11).

Status 27.01.2016: "Validated"

040 CS ADR-DSN.D.335 (b)(1) / Holding bays, runway-holding positions, intermediate holding positions, and road-holding positions

Requirement changed

- (b) A runway-holding position or positions should be established:
 - (1) on the taxiway, if the location or alignment of the taxiway is such that a taxiing aircraft or vehicle can infringe an obstacle limitation surface or ILS/MLS critical/sensitive area or interfere with the operation of radio navigation aids;

Status 27.01.2016: "Validated"

041 CS ADR-DSN.D.340 (c) / Location of holding bays, runway-holding positions, intermediate holding positions, and road-holding positions

Requirement new

- (c) The location of a runway-holding position established in accordance with CS ADR-DSN.D.335 should be such that a holding aircraft or vehicle will not infringe the obstacle free zone, approach surface, take-off climb surface or ILS/MLS critical/sensitive area or interfere with the operation of radio navigation aids.

Status 27.01.2016: "Validated"

042 CS ADR-DSN.E.350 / Size of aprons

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

043 CS ADR-DSN.E.360 (a) / Slopes on aprons

Requirement changed

(a) Slopes on an apron, including those on an aircraft stand taxilane, should be sufficient to prevent accumulation of water on the surface of the apron but should be kept to the minimum required to facilitate effective drainage.

Status 27.01.2016: "Validated"

044 CS ADR-DSN.E.365 (b) / Clearance distances on aircraft stands

Requirement changed

(b) An aircraft stand should provide the following minimum clearances between an aircraft entering or exiting the stand and any adjacent building, aircraft on another stand and other objects:

Code	Letter	Clearance
	A	3m
	B	3m
	C	4.5 m
	D	7.5 m
	E	7.5 m
	F	7.5 m

Status 27.01.2016: "Validated"

045 CS ADR-DSN.H.410 / Outer horizontal surface

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

046 CS ADR-DSN.H.420 (c) / Inner horizontal surface

Requirement changed

- (c) **Characteristics:** The outer limits of the inner horizontal surface are defined by a circle centred on the geometric centre of the runway, by a convex contour composed of circular arcs centred on the intersections of the extended RWY centre line with the end of the RWY strip, joined tangentially by straight lines parallel to the runway centre line, as shown in Figure H-1, or on other points established for such purpose.

Status 27.01.2016: "Validated"

047 CS ADR-DSN.H.440 / Slewled take-off climb surface

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

048 CS ADR-DSN.H.445 (a) / Obstacle free zone (OFZ)

Requirement changed

- (a) An OFZ is intended to protect aeroplanes from fixed and mobile obstacles during Category II and III operations when approaches are continued below decision height, and during any subsequent missed approach or balked landing with all engines operating normally. It is not intended to supplant the requirement of other surfaces or areas where these are more demanding.

The headline changes to: Obstacle free zone (OFZ)

Status 27.01.2016: "Validated"

049 CS ADR-DSN.H.445 (b)(1) / Obstacle free zone (OFZ)

Requirement changed

The content remains unchanged. The headline changes to: Obstacle free zone (OFZ)

Status 27.01.2016: "Validated"

050 CS ADR-DSN.H.445 (b)(2) / Obstacle free zone (OFZ)

Requirement changed

The content remains unchanged. The headline changes to: Obstacle free zone (OFZ)

Status 27.01.2016: "Validated"

051 CS ADR-DSN.H.445 (b)(3) / Obstacle free zone (OFZ)

Requirement changed

The content remains unchanged. The headline changes to: Obstacle free zone (OFZ)

Status 27.01.2016: "Validated"

052 CS ADR-DSN.J.470 (d) / Non-instrument runways

Requirement changed

(d) New objects or extensions of existing objects should not be permitted above the conical surface or inner horizontal surface except when the object would be shielded by an existing immovable object, or if after a safety assessment, it is determined that the object would not adversely affect the safety or significantly affect the regularity of operations of aeroplanes.

Status 27.01.2016: "Validated"

053 CS ADR-DSN.J.470 (e) / Non-instrument runways

Requirement changed

(e) Existing objects above any of the conical surface, inner horizontal surface, approach surface and transitional surfaces should, as far as practicable, be removed except when the object is shielded by an existing immovable object, or if after a safety assessment, it is determined that the object would not adversely affect the safety or significantly affect the regularity of operations of aeroplanes.

Status 27.01.2016: "Validated"

054 CS ADR-DSN.J.475 (f) / Non-precision approach runways

Requirement changed

- (f) Existing objects above any of the surfaces required by paragraph (a) should as far as practicable be removed except when the object would be shielded by an existing immovable object, or if after a safety assessment, it is determined that the object would not adversely affect the safety or significantly affect the regularity of operations of aeroplanes.

Status 27.01.2016: "Validated"

055 CS ADR-DSN.J.480 (a) / Precision approach runways

Requirement changed

- (a) The following obstacle limitation surfaces should be established for a precision approach runway Category I: (...)

Status 27.01.2016: "Validated"

056 CS ADR-DSN.J.480 (b) / Precision approach runways

Requirement changed

- (b) The following obstacle limitation surfaces should be established for a precision approach runway Category II or III: (...)

Status 27.01.2016: "Validated"

057 CS ADR-DSN.J.480 (g) / Precision approach runways

Requirement changed

- (g) New objects or extensions of existing objects should not be permitted above the conical surface and the inner horizontal surface except when an object would be shielded by an existing immovable object, or if after a safety assessment, it is determined that the object would not adversely affect the safety or significantly affect the regularity of operations of aeroplanes.

Status 27.01.2016: "Validated"

058 CS ADR-DSN.J.480 (h) / Precision approach runways

Requirement changed

- (h) Existing objects above an approach surface, a transitional surface, the conical surface and inner horizontal surface should, as far as practicable, be removed except when an object would be shielded by an existing immovable object, or if after a safety assessment, it is determined that the object would not adversely affect the safety or significantly affect the regularity of operations of aeroplanes.

Status 27.01.2016: "Validated"

059 CS ADR-DSN.J.485 (e) / Runways meant for take-off

Requirement changed

- (e) Existing objects that extend above a take-off climb surface should as far as practicable be removed except when an object is shielded by an existing immovable object, or if after a safety assessment, it is determined that the object would not adversely affect the safety or significantly affect the regularity of operations of aeroplanes.

Status 27.01.2016: "Validated"

060 CS ADR-DSN.J.486 (a) / Other objects

Requirement changed

Änderung von CS ADR-DSN.J.490 zu CS ADR-DSN.J.486.

Status 27.01.2016: "Validated"

061 CS ADR-DSN.J.486 (b) / Other objects

Requirement changed

Change from CS ADR-DSN.J.490 to CS ADR-DSN.J.486 and content changes..

- (b) Anything which may, after a safety assessment, endanger aeroplanes on the movement area or in the air within the limits of the inner horizontal and conical surfaces should be regarded as an obstacle and should be removed in so far as practicable.

Status 27.01.2016: "Validated"

062 CS ADR-DSN.J.487 (a) / Objects outside the obstacle limitation surfaces

Requirement new

(a) **Applicability:** The specifications in paragraph (b) below apply only to the area under control of the aerodrome operator.

Status 27.01.2016: "Validated"

063 CS ADR-DSN.J.487 (b) / Objects outside the obstacle limitation surfaces

Requirement new

(b) In areas beyond the limits of the obstacle limitation surfaces, at least those objects which extend to a height of 150 m or more above ground elevation should be regarded as obstacles, unless a safety assessment indicates that they do not constitute a hazard to aeroplanes.

Status 27.01.2016: "Validated"

064 CS ADR-DSN.K.505 / Signal panels and signal area

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

065 CS ADR-DSN.K.510 / Location of signal panels and signal area

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

066 CS ADR-DSN.K.515 / Characteristics of signal panels and signal area

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

067 CS ADR-DSN.L.530 (c)(2)(i) / Runway centre line marking

Requirement changed

(c) Characteristics:

(2) The width of the stripes should be not less than:

(i) 0.90 m on precision approach Category II and III runways;

Status 27.01.2016: "Validated"

068 CS ADR-DSN.L.530 (c)(2)(ii) / Runway centre line marking

Requirement changed

(c) Characteristics:

(2) The width of the stripes should be not less than:

(ii) 0.45 m on non-precision approach runways where the code number is 3 or 4, and precision approach Category I runways; and

Status 27.01.2016: "Validated"

069 CS ADR-DSN.L.535 (a) / Threshold marking

Requirement changed

(a) Applicability: A threshold marking should be provided at the threshold of a runway.

Status 27.01.2016: "Validated"

070 CS ADR-DSN.L.545 (c)(2) / Touchdown zone marking

Requirement changed

(c) Characteristics:

- (2) The lateral spacing between the inner sides of the rectangles should be equal to that of the aiming point marking where provided. Where an aiming point marking is not provided, the lateral spacing between the inner sides of the rectangles should correspond to the lateral spacing specified for the aiming point marking in Table L-1 (columns (2), (3), (4), or (5), as appropriate). The pairs of markings should be provided at longitudinal spacings of 150 m beginning from the threshold, except that pairs of touchdown zone markings coincident with or located within 50 m of an aiming point marking should be deleted from the pattern.

Status 27.01.2016: "Validated"

071 CS ADR-DSN.L.570 (a) / Enhanced taxiway centre line marking

Requirement changed

- (a) Where provided, an enhanced taxiway centre line marking should be installed at each taxiway/runway intersection where it is necessary to denote the proximity of a runway-holding position.

Status 27.01.2016: "Validated"

072 CS ADR-DSN.L.570 (b)(1) / Enhanced taxiway centre line marking

Requirement new

(b) Characteristics:

- (1) Enhanced taxiway centre line marking should be as shown in Figure L-6. An enhanced taxiway centre line marking should extend from the runway-holding position Pattern A (as defined in Figure L-5) to a distance of up to 47 m in the direction of travel away from the runway (see Figure L-6(a)).

Status 27.01.2016: "Validated"

073 CS ADR-DSN.L.570 (b)(2) / Enhanced taxiway centre line marking

Requirement new

(b) Characteristics:

- (2) If the enhanced taxiway centre line marking intersects another runway-holding position marking, such as for a precision approach Category II or III runway, that is located within 47 m of the first runway-holding position marking, the enhanced taxiway centre line marking should be interrupted 0.9 m prior to and after the intersected runway-holding position marking. The enhanced taxiway centre line marking should continue beyond the intersected runway-holding position marking for at least three dashed line segments or 47 m from start to finish, whichever is greater (see Figure L-6(b)).

Status 27.01.2016: "Validated"

074 CS ADR-DSN.L.570 (b)(3) / Enhanced taxiway centre line marking

Requirement new

(b) Characteristics:

- (3) If the enhanced taxiway centre line marking continues through a taxiway/taxiway intersection that is located within 47 m of the runway-holding position marking, the enhanced taxiway centre line marking should be interrupted 1.5 m prior to and after the point where the intersected taxiway centre line crosses the enhanced taxiway centre line. The enhanced taxiway centre line marking should continue beyond the taxiway/taxiway intersection for at least three dashed line segments or 47 m from start to finish, whichever is greater (see Figure L-6(c)).

Status 27.01.2016: "Validated"

075 CS ADR-DSN.L.570 (b)(4) / Enhanced taxiway centre line marking

Requirement new

(b) Characteristics:

- (4) Where two taxiway centre lines converge at or before the runway-holding position marking, the inner dashed line should not be less than 3 m in length (see Figure L-6(d)).

Status 27.01.2016: "Validated"

076 CS ADR-DSN.L.570 (b)(5) / Enhanced taxiway centre line marking

Requirement new

(b) Characteristics:

- (5) Where there are two opposing runway-holding position markings and the distance between the markings is less than 94 m, the enhanced taxiway centre line markings should extend over this entire distance. The enhanced taxiway centre line markings should not extend beyond either runway-holding position marking (see Figure L-6(e)).

Status 27.01.2016: "Validated"

077 CS ADR-DSN.L.575 (a)(2) / Runway-holding position marking

Requirement changed

(a) Characteristics:

- (2) Where a single runway-holding position is provided at an intersection of a taxiway and a precision approach Category I, II or III runway, the runway-holding position marking should be as shown in Figure L-5, pattern A.

Status 27.01.2016: "Validated"

078 CS ADR-DSN.L.575 (a)(6) / Runway-holding position marking

Requirement changed

(a) Characteristics:

- (6) Where a pattern B runway-holding position marking is located on an area where it would exceed 60 m in length, a mandatory instruction marking containing the term 'CAT II' or 'CAT III' as appropriate should be marked on the surface at the ends of the runway-holding position marking and at equal intervals of 45 m maximum between successive marks. The letters should be not less than 1.8 m high and should be placed not more than 0.9 m on the holding side of the runway holding position marking.

Status 27.01.2016: "Validated"

079 CS ADR-DSN.L.580 (b)(2) / Intermediate holding position marking

Requirement changed

(b) Location:

(2) The distance between an intermediate holding position marking at the exit boundary of a remote de-icing/anti-icing facility and the centre line of the adjoining taxiway should not be less than the dimension specified in the table below.

Code letter	Distance (metres)
A	15.5
B	20
C	26
D	37
E	43.5
F	51

Status 27.01.2016: "Validated"

080 CS ADR-DSN.L.585 (a) / VOR aerodrome checkpoint marking

Requirement changed

(a) Applicability: When a VOR aerodrome check-point is established, it should be indicated by a VOR aerodrome check-point marking and sign.

Status 27.01.2016: "Validated"

081 CS ADR-DSN.L.597 (a) / Apron service road marking

Requirement new

(a) Applicability: The limits of an apron service road, should be defined by apron service road markings.

Status 27.01.2016: "Validated"

082 CS ADR-DSN.L.597 (b) / Apron service road marking

Requirement new

(b) Location: Apron service road markings should define the areas intended for use by ground vehicles and other aircraft servicing equipment to provide safe separation from aircraft.

Status 27.01.2016: "Validated"

083 CS ADR-DSN.L.597 (c)(1) / Apron service road marking

Requirement new

(c) Characteristics:

- (1) Apron service road markings should be white.

Status 27.01.2016: "Validated"

084 CS ADR-DSN.L.597 (c)(2) / Apron service road marking

Requirement new

(c) Characteristics:

- (2) Apron service road markings should be continuous in length on the edges, continuous or broken in the middle, as appropriate, and at least 10 cm in width.

Status 27.01.2016: "Validated"

085 CS ADR-DSN.L.597 (c)(3) / Apron service road marking

Requirement new

(c) Characteristics:

- (3) When an apron service road crosses a taxiway or aircraft stand taxilane, the apron service road edge marking should be laterally dashed along the crossing. The stripes should be 1.0 m in length, and their width should be equal to the width of the continuous part of the marking.

Status 27.01.2016: "Validated"

086 CS ADR-DSN.L.597 (d) / Apron service road marking

Requirement new

- (d) Apron service road markings should be discontinued when they intersect with other markings on an apron. The interrupted gap should be not more than 1 m on each side from the edge of the interested marking.

Status 27.01.2016: "Validated"

087 CS ADR-DSN.L.600 (a) / Road-holding position marking

Requirement changed

- (a) **Applicability:** A road-holding position marking should be provided at all road entrances or intersections to a runway or a taxiway.

Status 27.01.2016: "Validated"

088 CS ADR-DSN.L.600 (c)(2) / Road-holding position marking

Requirement changed

- (c) **Characteristics:**

- (2) The road-holding position marking at the intersection of a road with a taxiway should be in accordance with the local traffic regulations for a yield right-of-way or mandatory stop.

Status 27.01.2016: "Validated"

089 CS ADR-DSN.M.625 (a) / Approach lighting systems

Requirement changed

- (a) The safety objective of the approach lighting system is to provide alignment and roll guidance, and limited distance-to-go information to enable safe approach to a runway.

The headline changes to: Approach lighting systems

Status 27.01.2016: "Validated"

090 CS ADR-DSN.M.625 (b) / Approach lighting systems

Requirement changed

- (b) **Non-instrument runway**

Applicability: Where physically practicable, a simple approach lighting system as specified in CS ADR-DSN.M.626 should be provided to serve a non-instrument runway where the code number is 3 or 4, and intended for use at night, except when the runway is used only in conditions of good visibility, and sufficient guidance is provided by other visual aids.

The headline changes to: Approach lighting systems

Status 27.01.2016: "Validated"

091 CS ADR-DSN.M.625 (c) / Approach lighting systems

Requirement changed

(c) Non-precision approach runway

Applicability: Where physically practicable, a simple approach lighting system specified in CS ADR-DSN.M.626 should be provided to serve a non-precision approach runway, except when the runway is used only in conditions of good visibility or sufficient guidance is provided by other visual aids.

The headline changes to: Approach lighting systems

Status 27.01.2016: "Validated"

092 CS ADR-DSN.M.625 (d) / Approach lighting systems

Requirement changed

(d) Precision approach runway Category I

Applicability: Where physically practicable, a precision approach Category I lighting system as specified in CS ADR-DSN.M.630 should be provided to serve a precision approach runway Category I.

The headline changes to: Approach lighting systems

Status 27.01.2016: "Validated"

093 CS ADR-DSN.M.625 (e) / Approach lighting systems

Requirement changed

(e) Precision approach runway Categories II and III

Applicability: A precision approach Category II and III lighting system as specified in CS ADR-DSN.M.635 should be provided to serve a precision approach runway Category II or III.

The headline changes to: Approach lighting systems

Status 27.01.2016: "Validated"

094 CS ADR-DSN.M.626 (a)(1) / Simple approach lighting systems

Requirement changed

(a) Location and composition:

- (1) A simple approach lighting system should consist of a row of lights on the extended centre line of the runway extending whenever possible, over a distance of not less than 420 m from the threshold with a row of lights forming a crossbar 18 m or 30 m in length at a distance of 300 m from the threshold (see Figure M-1).

Status 27.01.2016: "Validated"

095 CS ADR-DSN.M.626 (a)(2) / Simple approach lighting systems

Requirement changed

(a) Location and composition:

- (2) The certification specifications, as prescribed in Book 1 provide for the basic characteristics for simple approach lighting systems. For certain aspects of these systems, some latitude is permitted, for example, in the spacing between centre line lights and crossbar.

Status 27.01.2016: "Validated"

096 CS ADR-DSN.M.630 (a) / Precision approach Category I lighting system

Requirement changed

- (a) The safety objective of the approach lighting system is to provide alignment and roll guidance, and limited distance-to-go information to enable safe approach to a runway.

The headline changes to: Precision approach Category I lighting system

Status 27.01.2016: "Validated"

097 CS ADR-DSN.M.630 (b)(1) / Precision approach Category I lighting system

Requirement changed

(b) Location and composition

- (1) General: A precision approach Category I lighting system should consist of a row of lights on the extended centre line of the runway extending wherever possible, over a distance of 900 m from the runway threshold with a row of lights forming a crossbar 30 m in length at a distance of 300 m from the runway threshold (see Figure M-2).

The headline changes to: Precision approach Category I lighting system

Status 27.01.2016: "Validated"

098 CS ADR-DSN.M.630 (c)(1) / Precision approach Category I lighting system

Requirement changed

(c) Characteristics:

- (1) The centre line and crossbar lights of a precision approach Category I lighting system should be fixed lights showing variable white. Each centre line light position should consist of either: (...)

The headline changes to: Precision approach Category I lighting system

Status 27.01.2016: "Validated"

099 CS ADR-DSN.M.630 (c)(3) / Precision approach Category I lighting system

Requirement changed

(c) Characteristics:

- (3) If the centre line consists of lights as described in paragraph (c)(1)(i) or (c)(2)(i) above, additional crossbars of lights to the crossbar provided at 300 m from the threshold should be provided at 150 m, 450 m, 600 m and 750 m from the threshold. The lights forming each crossbar should 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 should be spaced so as to produce a linear effect, except that gaps may be left on each side of the centre line. These gaps should be kept to a minimum to meet local requirements and each should not exceed 6 m.

The headline changes to: Precision approach Category I lighting system

Status 27.01.2016: "Validated"

100 CS ADR-DSN.M.630 (c)(5) / Precision approach Category I lighting system

Requirement changed

(c) Characteristics:

- (5) The characteristics of lights should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-5. The chromaticity of lights should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

The headline changes to: Precision approach Category I lighting system

Status 27.01.2016: "Validated"

101 CS ADR-DSN.M.630 (c)(6) / Precision approach Category I lighting system

Requirement changed

(c) Characteristics:

- (6) If the centre line consists of barrettes as described in paragraph (c)(1)(ii) or (c)(2)(ii) above, each barrette should be supplemented by a capacitor discharge light, except where such lighting is considered unnecessary taking into account the characteristics of the system, and the nature of the meteorological conditions.

The headline changes to: Precision approach Category I lighting system

Status 27.01.2016: "Validated"

102 CS ADR-DSN.M.630 (c)(7) / Precision approach Category I lighting system

Requirement changed

(c) Characteristics:

- (7) Each capacitor discharge light as described in paragraph (c)(6) should be flashed twice a second in sequence, beginning with the outermost light and progressing toward the threshold to the innermost light of the system. The design of the electrical circuit should be such that these lights can be operated independently of the other lights of the approach lighting system.

The headline changes to: Precision approach Category I lighting system

Status 27.01.2016: "Validated"

103 CS ADR-DSN.M.635 (a)(1) bis CS ADR-DSN.M.635 (a)(5) / Precision approach Category I lighting system

Requirement changed

The headline changes to: Precision approach Category II and III lighting system. The content remains unaffected.

Status 27.01.2016: "Validated"

104 CS ADR-DSN.M.635 (a)(6) / Precision approach Category I lighting system

Requirement changed

(a) Location and composition:

(6) If the centre line beyond a distance of 300 m from the threshold consists of lights as described in paragraphs (b)(2)(ii) and (b)(3)(ii) below, additional crossbars of lights should be provided at 450 m, 600 m and 750 m from the threshold. Where such additional crossbars are incorporated in the system, the outer ends of these crossbars should lie on two straight lines that either are parallel to the centre line or converge to meet the runway centre line 300 m from the threshold.

The headline changes to:

Precision approach Category II and III lighting system.

Status 27.01.2016: "Validated"

105 CS ADR-DSN.M.635 (a)(7)(i) bis CS ADR-DSN.M.635 (a)(7)(iii) / Precision approach Category I lighting system

Requirement changed

The headline changes to:

Precision approach Category II and III lighting system.

The content remains unaffected.

Status 27.01.2016: "Validated"

106 CS ADR-DSN.M.635 (b)(1)(i) / Precision approach Category I lighting system

Requirement changed

(b) Characteristics:

- (1) The centre line of a precision approach Category II and III lighting system for the first 300 m from the threshold should consist of barrettes showing variable white, except that where the threshold is displaced 300 m or more, the centre line may consist of single light sources showing variable white. Where the serviceability level of the approach lights specified in CS ADR.DSN.S.895 can be demonstrated, the centre line of a precision approach Category II and III lighting system for the first 300 m from the threshold may consist of:
 - (i) barrettes where the centre line beyond 300 m from the threshold consists of barrettes as described in paragraph (b)(3)(i) below; or

The headline changes to:

Precision approach Category II and III lighting system.

Status 27.01.2016: "Validated"

107 CS ADR-DSN.M.635 (b)(1)(ii) / Precision approach Category I lighting system

Requirement changed

(b) Characteristics:

- (1) The centre line of a precision approach Category II and III lighting system for the first 300 m from the threshold should consist of barrettes showing variable white, except that where the threshold is displaced 300 m or more, the centre line may consist of single light sources showing variable white. Where the serviceability level of the approach lights specified in CS ADR.DSN.S.895 can be demonstrated, the centre line of a precision approach Category II and III lighting system for the first 300 m from the threshold may consist of:
 - (ii) alternate single light sources and barrettes, where the centre line beyond 300 m from the threshold consists of single light sources as described in paragraph (b)(3)(ii) below, with the innermost single light source located 30 m and the innermost barrette located 60 m from the threshold; or

The headline changes to:

Precision approach Category II and III lighting system.

Status 27.01.2016: "Validated"

108 CS ADR-DSN.M.635 (b)(1)(ii) / Precision approach Category I lighting system

Requirement changed

(b) Characteristics:

(1) The centre line of a precision approach Category II and III lighting system for the first 300 m from the threshold should consist of barrettes showing variable white, except that where the threshold is displaced 300 m or more, the centre line may consist of single light sources showing variable white. Where the serviceability level of the approach lights specified in CS ADR.DSN.S.895 can be demonstrated, the centre line of a precision approach Category II and III lighting system for the first 300 m from the threshold may consist of:

(iii) single light sources where the threshold is displaced 300 m or more; all of which should show variable white.

The headline changes to:

Precision approach Category II and III lighting system.

Status 27.01.2016: "Validated"

109 CS ADR-DSN.M.635 (b)(2) bis CS ADR-DSN.M.635 (b)(4) / Precision approach Category I lighting system

Requirement changed

The headline changes to:

Precision approach Category II and III lighting system.

The content remains unaffected.

Status 27.01.2016: "Validated"

110 CS ADR-DSN.M.635 (b)(5) / Precision approach Category I lighting system

Requirement changed

(b) Characteristics:

- (5) If the centre line beyond 300 m from the threshold consists of barrettes as described in paragraphs (b)(2)(i) and (b)(3)(i), each barrette beyond 300 m should be supplemented by a capacitor discharge light, except where such lighting is considered unnecessary taking into account the characteristics of the system and the nature of the meteorological conditions.

The headline changes to:

Precision approach Category II and III lighting system.

Status 27.01.2016: „Validated

111 CS ADR-DSN.M.635 (b)(6) bis CS ADR-DSN.M.635 (b)(9) / Precision approach Category I lighting system

Requirement changed

The headline changes to:

Precision approach Category II and III lighting system.

The content remains unaffected.

Status 27.01.2016: “Validated”

112 CS ADR-DSN.M.635 (b)(10) / Precision approach Category I lighting system

Requirement changed

(b) Characteristics:

- (10) The characteristics of lights should be in accordance with the specifications in CS ADR-DSN.U.940, Figures U-5 or U-6, as appropriate.

The headline changes to:

Precision approach Category II and III lighting system.

Status 27.01.2016: “Validated”

113 CS ADR-DSN.M.635 (b)(11) / Precision approach Category I lighting system

Requirement new

(b) Characteristics:

- (11) The chromaticity of lights should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

Adapting the headline:

Precision approach Category II and III lighting system.

Status 27.01.2016: "Validated"

114 CS ADR-DSN.M.645 (a) / Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI)

Requirement changed

- (a) A PAPI or APAPI should be in accordance with the specifications provided in paragraphs CS ADR-DSN.M.645 to CS ADR-DSN.M.655.

The headline changes to:

Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI).

Status 27.01.2016: "Validated"

115 CS ADR-DSN.M.645 (b)(1) / Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI)

Requirement changed

(b) Definition and positioning:

- (1) The PAPI system should consist of a wing bar of four sharp transition multi-lamp (or paired single lamp) units equally spaced. The APAPI system should consist of a wing bar of two sharp transition multi-lamp (or paired single lamp) units. The PAPI and APAPI system should be located on the left side of the runway unless it is physically impracticable to do so. Where a runway is used by aircraft requiring visual roll guidance which is not provided by other external means, then a second wing bar may be provided on the opposite side of the runway for PAPI or APAPI.

The headline changes to:

Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI).

Status 27.01.2016: "Validated"

116 CS ADR-DSN.M.645 (b)(2) bis CS ADR-DSN.M.645 (b)(4) / Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI)

Requirement changed

The headline changes to:

Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI).

The content remains unaffected.

Status 27.01.2016: "Validated"

117 CS ADR-DSN.M.645 (c)(1) und CS ADR-DSN.M.645 (c)(2)(i) / Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI)

Requirement changed

The headline changes to:

Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI).

The content remains unaffected.

Status 27.01.2016: "Validated"

118 CS ADR-DSN.M.645 (c)(2)(ii) / Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI)

Requirement changed

(c) Characteristics:

(2) Colour:

(ii) At full intensity, the chromaticity of lights units should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1, and the red light should have a Y coordinate not exceeding 0.320.

The headline changes to:

Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI).

Status 27.01.2016: "Validated"

119 CS ADR-DSN.M.645 (c)(3)(i) / Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI)

Requirement changed

(c) Characteristics:

(3) Intensity:

(i) The light intensity distribution of the light units should be as shown in CS ADR-DSN.U.940, Figure U-26.

The headline changes to:

Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI).

Status 27.01.2016: "Validated"

120 CS ADR-DSN.M.645 (c)(3)(ii) bis CS ADR-DSN.M.645 (c)(5) / Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI)

Requirement changed

The headline changes to:

Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI).

The content remains unaffected.

Status 27.01.2016: "Validated"

121 CS ADR-DSN.M.650 (a)(1) / Approach slope and elevation setting of light units for PAPI and APAPI

Requirement changed

(a) Approach slope:

(1) The approach slope as defined in Figure M-5, should be so designed to be appropriate for use by the aeroplanes in the approach.

The headline changes to:

Approach slope and elevation setting of light units for PAPI and APAPI.

Status 27.01.2016: "Validated"

122 CS ADR-DSN.M.650 (a)(2) bis CS ADR-DSN.M.650 (b)(4) / Approach slope and elevation setting of light units for PAPI and APAPI

Requirement changed

The headline changes to:

Approach slope and elevation setting of light units for PAPI and APAPI.

The content remains unaffected.

Status 27.01.2016: "Validated"

123 CS ADR-DSN.M.655 (c) / Obstacle protection surface for PAPI and APAPI

Requirement changed

(c) New objects or extensions of existing objects should not be permitted above an obstacle protection surface except when the new object or extension would be shielded by an existing immovable object, or if after a safety assessment, it is determined that the object would not adversely affect the safety of operations of aeroplanes.

Status 27.01.2016: "Validated"

124 CS ADR-DSN.M.655 (d)(1) bis CS ADR-DSN.M.655 (d)(5) / Obstacle protection surface for PAPI and APAPI

Requirement changed

(d) Where a safety assessment indicates that an existing object extending above an obstacle protection surface could adversely affect the safety of operations of aeroplanes one or more of the following measures should be taken:
(...)

Status 27.01.2016: "Validated"

125 CS ADR-DSN.M.660 (a) / Circling guidance lights

Requirement changed

(a) Applicability: Circling guidance lights should be provided when existing approach and runway lighting systems do not satisfactorily permit identification of the runway and/or approach area to a circling aircraft intending to carry out circling approaches.

Status 27.01.2016: "Validated"

126 CS ADR-DSN.M.675 (d) / Runway edge lights

Requirement changed

- (d) In all angles of azimuth, as prescribed in paragraph (c)(2) above, runway edge lights should show at angles up to 15° above the horizontal with 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 should be at least 50 cd except that at an aerodrome without extraneous lighting the intensity of the lights may be reduced to not less than 25 cd to avoid dazzling the pilot.

Status 27.01.2016: "Validated"

127 CS ADR-DSN.M.675 (d) / Runway edge lights

Requirement changed

- (e) Runway edge lights characteristics on a precision approach runway should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-13 or Figure U-14, as appropriate.

Status 27.01.2016: "Validated"

128 CS ADR-DSN.M.675 (f) / Runway edge lights

Requirement new

- (f) The chromaticity of lights should be in accordance with the specifications in CS ADR-DSN.U.930 and in Figure U-1.

Status 27.01.2016: "Validated"

129 CS ADR-DSN.M.680 (b)(3)(ii) / Runway threshold and wing bar lights

Requirement changed

- (b) Location and positioning of runway threshold:
- (3) Threshold lighting should consist of:
- (ii) on a precision approach runway Category I, at least the number of lights that would be required if the lights were uniformly spaced at intervals of 3 m between the rows of runway edge lights; and

Status 27.01.2016: "Validated"

130 CS ADR-DSN.M.680 (b)(3)(iii) / Runway threshold and wing bar lights

Requirement changed

(b) Location and positioning of runway threshold:

(3) Threshold lighting should consist of:

(iii) on a precision approach runway Category II or III, lights uniformly spaced between the rows of runway edge lights at intervals of not more than 3 m.

Status 27.01.2016: "Validated"

131 CS ADR-DSN.M.680 (b)(4)(i) / Runway threshold and wing bar lights

Requirement changed

(b) Location and positioning of runway threshold:

(4) The lights prescribed in paragraphs (b)(3)(i) and (b)(3)(ii) above should be either:

(i) equally spaced between the rows of runway edge lights, or

Status 27.01.2016: "Validated"

132 CS ADR-DSN.M.680 (b)(4)(ii) / Runway threshold and wing bar lights

Requirement changed

(b) Location and positioning of runway threshold:

(4) The lights prescribed in paragraphs (b)(3)(i) and (b)(3)(ii) above should be either:

(ii) symmetrically disposed about the runway centre line in two groups, with the lights uniformly spaced in each group and with a gap between the groups equal to the gauge of the touchdown zone marking or lighting, where such is provided, or otherwise not more than half the distance between the rows of runway edge lights.

Status 27.01.2016: "Validated"

133 CS ADR-DSN.M.680 (e)(2) / Runway threshold and wing bar lights

Requirement changed

- (e) Characteristics of runway threshold and wing bar lights:
- (2) Runway threshold lights on a precision approach runway should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-7.

Status 27.01.2016: "Validated"

134 CS ADR-DSN.M.680 (e)(3) / Runway threshold and wing bar lights

Requirement changed

- (e) Characteristics of runway threshold and wing bar lights:
- (3) Threshold wing bar lights on a precision approach runway should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-8.

Status 27.01.2016: "Validated"

135 CS ADR-DSN.M.680 (e)(4) / Runway threshold and wing bar lights

Requirement changed

- (e) Characteristics of runway threshold and wing bar lights:
- (4) The chromaticity of lights should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

Status 27.01.2016: "Validated"

136 CS ADR-DSN.M.685 (b)(3) / Runway end lights

Requirement changed

- (b) Location and positioning:
- (3) For a precision approach runway Category III, the spacing between runway end lights, except between the two innermost lights if a gap is used, should not exceed 6 m.

Status 27.01.2016: "Validated"

137 CS ADR-DSN.M.685 (c)(1) / Runway end lights

Requirement changed

(c) Characteristics of runway end lights:

- (1) Runway end lights should be fixed unidirectional lights showing red in the direction of the runway. The intensity and beam spread of the lights should be adequate for the conditions of visibility and ambient light in which use of the runway is intended.

Status 27.01.2016: "Validated"

138 CS ADR-DSN.M.685 (c)(2) / Runway end lights

Requirement changed

(c) Characteristics of runway end lights:

- (2) Runway end lights characteristics on a precision approach runway should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-12.

Status 27.01.2016: "Validated"

139 CS ADR-DSN.M.685 (c)(3) / Runway end lights

Requirement changed

(c) Characteristics of runway end lights:

- (3) Runway end lights on a precision approach runway should be in accordance with the chromaticity specifications in CS ADR-DSN.U.930 and Figure U-1.

Status 27.01.2016: "Validated"

140 CS ADR-DSN.M.690 (b)(1) / Runway centre line lights

Requirement changed

(b) Applicability:

- (1) Runway centre line lights should be provided on a precision approach runway Category II or III.

Status 27.01.2016: "Validated"

141 CS ADR-DSN.M.690 (d)(2) / Runway centre line lights

Requirement changed

(d) Characteristics:

- (2) Runway centre line lights characteristics should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-10 or Figure U-11, as appropriate.

Status 27.01.2016: "Validated"

142 CS ADR-DSN.M.690 (d)(3) / Runway centre line lights

Requirement new

(d) Characteristics:

- (3) Runway centre line lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

Status 27.01.2016: "Validated"

143 CS ADR-DSN.M.690 (e)(3) / Runway centre line lights

Requirement changed

- (e) Centre line guidance for take-off from the beginning of a runway to a displaced threshold should be provided by:
 - (3) barrettes of at least 3 m length, and spaced at uniform intervals of 30 m, as shown in Figure M-8, designed so that their photometric characteristics and intensity setting afford the guidance required during take-off without dazzling the pilot of an aircraft taking off.

Where necessary, provision should be made to extinguish those centre line lights, as prescribed in paragraph (2) above or reset the intensity of the approach lighting system or barrettes when the runway is being used for landing. In no case should only the single source runway centre line lights show from the beginning of the runway to a displaced threshold when the runway is being used for landing.

Status 27.01.2016: "Validated"

144 CS ADR-DSN.M.695 (a) / Runway touchdown zone lights

Requirement changed

- (a) Applicability: Touchdown zone lights should be provided in the touchdown zone of a precision approach runway Category II or III.

Status 27.01.2016: "Validated"

145 CS ADR-DSN.M.695 (c)(4) / Runway touchdown zone lights

Requirement changed

- (c) Characteristics:

- (4) Touchdown zone lights characteristics should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-9.

Status 27.01.2016: "Validated"

146 CS ADR-DSN.M.695 (c)(5) / Runway touchdown zone lights

Requirement new

- (c) Characteristics:

- (5) Touchdown zone lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

Status 27.01.2016: "Validated"

147 CS ADR-DSN.M.696 (a) / Simple touchdown zone lights

Requirement new

- (a) The purpose of simple touchdown zone lights is to provide pilots with enhanced situational awareness in all visibility conditions and to help enable pilots to decide whether to commence a go around if the aircraft has not landed by a certain point on the runway.

Status 27.01.2016: "Validated"

148 CS ADR-DSN.M.696 (b) / Simple touchdown zone lights

Requirement new

- (b) **Applicability:** Except where touchdown zone lights are provided in accordance with CS ADR-DSN.M.695, at a runway where the approach angle is greater than 3.5 degrees and/or the Landing Distance Available combined with other factors increases the risk of an overrun, simple touchdown zone lights should be provided.

Status 27.01.2016: "Validated"

149 CS ADR-DSN.M.696 (c)(1) / Simple touchdown zone lights

Requirement new

- (c) **Location and positioning:**
- (1) Simple touchdown zone lights should be a pair of lights located on each side of the runway centre line 0.3 metres beyond the upwind edge of the final touchdown zone marking.

Status 27.01.2016: "Validated"

150 CS ADR-DSN.M.696 (c)(2) / Simple touchdown zone lights

Requirement new

- (c) **Location and positioning:**
- (2) The lateral spacing between the inner lights of the two pairs of lights should be equal to the lateral spacing selected for the touchdown zone marking.

Status 27.01.2016: "Validated"

151 CS ADR-DSN.M.696 (c)(3) / Simple touchdown zone lights

Requirement new

- (c) **Location and positioning:**
- (3) The spacing between the lights of the same pair should not be more than 1.5 m or half the width of the touchdown zone marking, whichever is greater (see Figure M-8(C)).

Status 27.01.2016: "Validated"

152 CS ADR-DSN.M.696 (c)(4) / Simple touchdown zone lights

Requirement new

(c) Location and positioning:

- (4) Where provided on a runway without touchdown zone markings, simple touchdown zone lights should be installed in such a position that provides the equivalent touchdown zone information.

Status 27.01.2016: "Validated"

153 CS ADR-DSN.M.696 (d)(1) / Simple touchdown zone lights

Requirement new

(d) Characteristics:

- (1) Simple touchdown zone lights should be fixed unidirectional lights showing variable white and aligned so as to be visible to the pilot of a landing aeroplane in the direction of approach to the runway.

Status 27.01.2016: "Validated"

154 CS ADR-DSN.M.696 (d)(2) / Simple touchdown zone lights

Requirement new

(d) Characteristics:

- (2) Simple touchdown zone lights characteristics should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-9.

Status 27.01.2016: "Validated"

155 CS ADR-DSN.M.696 (d)(3) / Simple touchdown zone lights

Requirement new

(d) Characteristics:

- (3) Simple touchdown zone lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

Status 27.01.2016: "Validated"

156 CS ADR-DSN.M.700 / Rapid exit taxiway indicator lights

Requirement changed

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Status 27.01.2016: "Validated"

157 CS ADR-DSN.M.705 (a) / Stopway lights

Requirement changed

(a) **Applicability:** Stopway lights should be provided for a stopway intended for use at night.

Status 27.01.2016: "Validated"

158 CS ADR-DSN.M.705 (b)(1) / Stopway lights

Requirement changed

(b) **Location:**

(1) Stopway lights should be placed along the full length of the stopway and should be in two parallel rows that are equidistant from the centre line and coincident with the rows of the runway edge lights. The spacing between the lights should be in accordance with CS ADR-DSN.M.675((b)(4). Stopway lights placed along the edge of the stopway should consist of at least one pair of lights.

Status 27.01.2016: "Validated"

159 CS ADR-DSN.M.705 (b)(2) / Stopway lights

Requirement changed

(b) **Location:**

(2) At least four uni-directional stopway lights equally spaced across the width of the stopway should be provided across the end of a stopway on a line at right angles to the stopway axis as near to the end of the stopway as possible and, in any case, not more than 3 m outside the end.

Status 27.01.2016: "Validated"

160 CS ADR-DSN.M.705 (c)(1) / Stopway lights

Requirement changed

(c) Characteristics:

- (1) Stopway lights should be fixed unidirectional lights showing red in the direction of the runway.

Status 27.01.2016: "Validated"

161 CS ADR-DSN.M.705 (c)(2) / Stopway lights

Requirement changed

(c) Characteristics:

- (2) Stopway lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

Status 27.01.2016: "Validated"

162 CS ADR-DSN.M.710 (b)(2) / Taxiway centre line lights

Requirement changed

(b) Applicability:

- (2) Taxiway centre line lights should be provided on a taxiway intended for use at night in runway visual range conditions of 350 m or greater, and particularly on complex taxiway intersections and exit taxiways, except that these lights need not be provided where taxiway edge lights, and centre line marking provide adequate guidance.

Status 27.01.2016: "Validated"

163 CS ADR-DSN.M.710 (c)(1) / Taxiway centre line lights

Requirement changed

(c) Characteristics:

- (1) Except as provided for in paragraph (c)(3) below, taxiway centre line lights on a taxiway other than an exit taxiway and on a runway forming part of a standard taxi-route should be fixed lights showing green with beam dimensions such that the light is visible only from aeroplanes on, or in the vicinity of the taxiway.

Status 27.01.2016: "Validated"

164 CS ADR-DSN.M.710 (c)(2) / Taxiway centre line lights

Requirement changed

(c) Characteristics:

- (2) Taxiway centre line lights on an exit taxiway should be fixed lights. Alternate taxiway centre line lights should show green and yellow from their beginning near the runway centre line to the perimeter of the ILS/MLS critical/sensitive area, or the lower edge of the inner transitional surface, whichever is farthest from the runway; and thereafter all lights should show green, as shown in Figure M-10. The first light in the exit centre line should always show green and the light nearest to the perimeter should always show yellow.

Status 27.01.2016: "Validated"

165 CS ADR-DSN.M.710 (c)(3)(i) / Taxiway centre line lights

Requirement new

(c) Characteristics:

- (3) Where necessary to denote the proximity to a runway, taxiway centre line lights should be fixed lights showing alternating green and yellow from the perimeter of the ILS/MLS critical/sensitive area or the lower edge of the inner transitional surface, whichever is farthest from the runway, to the runway and continue alternating green and yellow until:
 - (i) their end point near the runway centre line; or

Status 27.01.2016: "Validated"

166 CS ADR-DSN.M.710 (c)(3)(ii) / Taxiway centre line lights

Requirement new

(c) Characteristics:

- (3) Where necessary to denote the proximity to a runway, taxiway centre line lights should be fixed lights showing alternating green and yellow from the perimeter of the ILS/MLS critical/sensitive area or the lower edge of the inner transitional surface, whichever is farthest from the runway, to the runway and continue alternating green and yellow until:
 - (ii) in the case of the taxiway centre line lights crossing the runway, to the opposite perimeter of the ILS/MLS critical/sensitive area or the lower edge of the inner transitional surface, whichever is farthest from the runway.

Status 27.01.2016: "Validated"

167 CS ADR-DSN.M.710 (c)(4) / Taxiway centre line lights

Requirement changed

(c) Characteristics:

- (4) Taxiway centre line lights should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-16, U-17, or U-18, as appropriate, for taxiways intended for use in runway visual range conditions of less than a value of 350 m; Figure U-19 or Figure U-20, as appropriate, for other taxiways.

Status 27.01.2016: "Validated"

168 CS ADR-DSN.M.710 (c)(6) / Taxiway centre line lights

Requirement changed

(c) Characteristics:

- (6) Where taxiway centre line lights are specified as components of an advanced surface movement guidance and control system and where, from an operational point of view, higher intensities are required to maintain ground movements at a certain speed in very low visibilities or in bright daytime conditions, taxiway centre line lights should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-21, U-22, or U-23, as appropriate.

Status 27.01.2016: "Validated"

169 CS ADR-DSN.M.710 (c)(8) / Taxiway centre line lights

Requirement new

(c) Characteristics:

- (8) Taxiway centre line lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

Status 27.01.2016: "Validated"

170 CS ADR-DSN.M.715 (b)(3) / Taxiway centre line lights on taxiways, runways, rapid exit taxiways, or on other exit taxiways

Requirement changed

(b) Taxiway centre line lights on taxiways:

- (3) On a taxiway curve the spacing of taxiway centre line lights should be as specified in the Table M-3.

Status 27.01.2016: "Validated"

171 CS ADR-DSN.M.715 (c)(1) / Taxiway centre line lights on taxiways, runways, rapid exit taxiways, or on other exit taxiways

Requirement changed

(c) Taxiway centre line lights on rapid exit taxiways:

- (1) Taxiway centre line lights on a rapid exit taxiway should commence at a point at least 60 m before the beginning of the taxiway centre line curve, and continue beyond the end of the curve to a point on the centre line of the taxiway where an aeroplane can be expected to reach normal taxiing speed, as shown in Figure M-10. The lights on that portion parallel to the runway centre line should always be at least 60 cm from any row of runway centre line lights, as shown in Figure M-9.

Status 27.01.2016: "Validated"

172 CS ADR-DSN.M.715 (f) / Taxiway centre line lights on taxiways, runways, rapid exit taxiways, or on other exit taxiways

Requirement changed

(f) Positioning of taxiway centre line lights on taxiway:

The spacing on a particular section of taxiway centre line lighting (straight or curved section) should be such that a clear indication of the taxiway centre line is provided, particularly on a curved section.

Status 27.01.2016: "Validated"

173 CS ADR-DSN.M.720 (c)(4) / Taxiway edge lights

Requirement new

(c) Characteristics:

(4) Taxiway edge lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

Status 27.01.2016: "Validated"

174 CS ADR-DSN.M.725 (a) / Runway turn pad lights

Requirement changed

(a) The safety objective of runway turn pad lights is to provide additional guidance on a runway turn pad to enable an aeroplane to complete a safe 180-degree turn, and align with the runway centre line.

Status 27.01.2016: "Validated"

175 CS ADR-DSN.M.725 (b)(1) / Runway turn pad lights

Requirement changed

(b) Applicability:

(1) Runway turn pad lights should be provided for continuous guidance on a runway turn pad intended for use in runway visual range conditions less than a value of 350 m to enable an aeroplane to complete a 180-degree turn, and align with the runway centre line.

Status 27.01.2016: "Validated"

176 CS ADR-DSN.M.725 (b)(2) / Runway turn pad lights

Requirement changed

(b) Applicability:

- (2) Runway turn pad lights should be provided on a runway turn pad intended for use at night, except that these lights need not be provided where taxiway edge lights and runway turn pad marking provide adequate guidance.

Status 27.01.2016: "Validated"

177 CS ADR-DSN.M.725 (d)(2) / Runway turn pad lights

Requirement changed

(d) Characteristics:

- (2) Runway turn pad lights should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-17 or Figure U-18, as appropriate.

Status 27.01.2016: "Validated"

178 CS ADR-DSN.M.725 (d)(3) / Runway turn pad lights

Requirement new

(d) Characteristics:

- (3) Runway turn pad lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

Status 27.01.2016: "Validated"

179 CS ADR-DSN.M.730 (a)(1)(i) / Stop bars

Requirement changed

(a) Applicability:

- (1) A stop bar should be provided at every runway-holding position serving a runway when it is intended that the runway should be used in runway visual range conditions less than a value of 550 m, except where:
 - (i) appropriate aids and procedures are available to assist in preventing inadvertent incursions of traffic onto the runway; or

The requirement's headline has been changed to:

Stop bars.

The content remains unaffected.

Status 27.01.2016: "Validated"

180 CS ADR-DSN.M.730 (a)(1)(ii)(A) und CS ADR-DSN.M.730 (a)(1)(ii)(B) / Stop bars

Requirement changed

The requirement's headline has been changed to:

Stop bars.

The content remains unaffected.

Status 27.01.2016: "Validated"

181 CS ADR-DSN.M.730 (a)(2) / Stop bars

Requirement new

(a) Applicability:

- (2) Where there is more than one stop bar associated with a taxiway/runway intersection, only one should be illuminated at any given time.

The new headline is adapted:

Stop bars.

Status 27.01.2016: "Validated"

182 CS ADR-DSN.M.730 (a)(3) / Stop bars

Requirement changed

(a) Applicability:

- (3) A stop bar should be provided at an intermediate holding position when it is desired to supplement markings with lights, and to provide traffic control by visual means.

The requirement's headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

183 CS ADR-DSN.M.730 (b) / Stop bars

Requirement changed

The requirement's headline has been changed to:

Stop bars.

The content remains unaffected.

Status 27.01.2016: "Validated"

184 CS ADR-DSN.M.730 (c)(1) / Stop bars

Requirement changed

(c) Characteristics:

- (1) Stop bars should consist of lights spaced at uniform intervals of not more than 3 m across the taxiway, showing red in the intended direction(s) of approach to the intersection or runway-holding position.

The requirement's headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

185 CS ADR-DSN.M.730 (c)(2) / Stop bars

Requirement changed

The requirement's headline has been changed to:

Stop bars.

The content remains unaffected.

Status 27.01.2016: "Validated"

186 CS ADR-DSN.M.730 (c)(3) / Stop bars

Requirement changed

(c) Characteristics:

- (3) The intensity in red light and beam spreads of stop bar lights should be in accordance with the specifications in CS ADR-DSN.U.940, Figures U-16 to U-20, as appropriate.

The requirement's headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

187 CS ADR-DSN.M.730 (c)(4) / Stop bars

Requirement changed

(c) Characteristics:

- (4) Where stop bars are specified as components of an advanced surface movement guidance and control system, and where, from an operational point of view, higher intensities are required to maintain ground movements at a certain speed in very low visibilities or in bright daytime conditions, the intensity in red light and beam spreads of stop bar lights should be in accordance with the specifications in CS ADR-DSN.U.940, Figures U-21, U-22 or U-23, as appropriate.

The requirement's headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

188 CS ADR-DSN.M.730 (c)(5) / Stop bars

Requirement changed

(c) Characteristics:

- (5) Where a wide beam fixture is required, the intensity in red light and beam spreads of stop bar lights should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-21 or Figure U-23, as appropriate.

The requirement's headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

189 CS ADR-DSN.M.730 (c)(6)(i) / Stop bars

Requirement changed

(c) Characteristics:

- (6) The lighting circuit should be designed so that:
 - (i) stop bars located across entrance taxiways are selectively switchable;

The requirement's headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

190 CS ADR-DSN.M.730 (c)(6)(ii) / Stop bars

Requirement changed

(c) Characteristics:

- (6) The lighting circuit should be designed so that:
 - (ii) stop bars located across taxiways intended to be used only as exit taxiways are switchable selectively or in groups;

The requirement's headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

191 CS ADR-DSN.M.730 (c)(6)(iii) / Stop bars

Requirement changed

(c) Characteristics:

(6) The lighting circuit should be designed so that:

(iii) when a stop bar is illuminated, any taxiway centre line lights installed beyond the stop bar should be extinguished for a distance of at least 90 m; and

The requirement's headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

192 CS ADR-DSN.M.730 (c)(6)(iv) / Stop bars

Requirement changed

(c) Characteristics:

(6) The lighting circuit should be designed so that:

(iv) stop bars are interlocked with the taxiway centre line lights so that when the centre line lights beyond the stop bar are illuminated, the stop bar is extinguished and vice versa.

The requirement's headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

193 CS ADR-DSN.M.730 (c)(7) / Stop bars

Requirement new

(c) Characteristics:

(7) Stop bar lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

The new headline is adapted:

Stop bars.

Status 27.01.2016: "Validated"

194 CS ADR-DSN.M.735 (c)(1) / Intermediate holding position lights

Requirement changed

(c) Characteristics of intermediate holding position lights:

- (1) Intermediate holding position lights should consist of three fixed unidirectional lights showing yellow in the direction of approach to the intermediate holding position with a light distribution similar to taxiway centre line lights if provided.

Status 27.01.2016: "Validated"

195 CS ADR-DSN.M.735 (c)(2) / Intermediate holding position lights

Requirement changed

(c) Characteristics of intermediate holding position lights:

- (2) The lights should be disposed symmetrically about and at right angle to the taxiway centre line, with individual lights spaced 1.5 m apart.

Status 27.01.2016: "Validated"

196 CS ADR-DSN.M.735 (c)(3) / Intermediate holding position lights

Requirement new

(c) Characteristics of intermediate holding position lights:

- (3) Intermediate holding position lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and in Figure U-1.

Status 27.01.2016: "Validated"

197 CS ADR-DSN.M.740 (c) / De-icing/anti-icing facility exit lights

Requirement changed

- (c) Characteristics: Where provided, de-icing/anti-icing facility exit lights should consist of in-pavement fixed unidirectional lights spaced at intervals of 6 m showing yellow in the direction of the approach to the exit boundary with a light distribution similar to taxiway centre line lights (see Figure M-11).

Status 27.01.2016: "Validated"

198 CS ADR-DSN.M.740 (d) / De-icing/anti-icing facility exit lights

Requirement new

(d) De-icing/anti-icing facility exit lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

Status 27.01.2016: "Validated"

199 CS ADR-DSN.M.745 (a) / Runway guard lights

Requirement changed

(a) The purpose of runway guard lights is to warn pilots and drivers of vehicles when they are operating on taxiways, that they are about to enter an active runway. There are two standard configurations of runway guard lights as illustrated in Figure M-12.

Status 27.01.2016: "Validated"

200 CS ADR-DSN.M.745 (b)(1)(i) / Runway guard lights

Requirement changed

(b) Applicability:

(1) Runway guard lights, Configuration A, should be provided at each taxiway/runway intersection associated with a runway intended for use in:

(i) runway visual range conditions less than a value of 550 m where a stop bar is not installed; and

Status 27.01.2016: "Validated"

201 CS ADR-DSN.M.745 (b)(2) / Runway guard lights

Requirement changed

(b) Applicability:

(2) As part of runway incursion prevention measures, runway guard lights, Configuration A or B, should be provided at each taxiway/runway intersection where runway incursion hot spots have been identified, and used under all weather conditions during day and night.

Status 27.01.2016: "Validated"

202 CS ADR-DSN.M.745 (b)(3) / Runway guard lights

Requirement changed

(b) Applicability:

(3) Configuration B runway guard lights should not be collocated with a stop bar.

Status 27.01.2016: "Validated"

203 CS ADR-DSN.M.745 (d)(13) / Runway guard lights

Requirement new

(d) Characteristics:

(13) Runway guard lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

Status 27.01.2016: "Validated"

204 CS ADR-DSN.M.750 (a) / Apron floodlighting

Requirement changed

(a) The purpose of apron floodlighting is to facilitate safe operations on an apron, on a de-icing/anti-icing facility, and on a designated isolated aircraft parking position intended to be used at night.

Status 27.01.2016: "Validated"

205 CS ADR-DSN.M.760 (a)(1) / Advanced visual docking guidance system

Requirement changed

(a) Application:

(1) Advanced visual docking guidance system (A-VDGS) should be provided where it is operationally desirable to confirm the correct aircraft type for which guidance is being provided, and/or to indicate the stand centre line in use, where more than one is provided for.

Status 27.01.2016: "Validated"

206 CS ADR-DSN.M.760 (b)(4)(i) bis CS ADR-DSN.M.760 (b)(4)(vi) / Advanced visual docking guidance system

Requirement changed

(b) Characteristics:

- (4) The information on displacement of the aircraft relative to the stand centre line and distance to the stopping position, when displayed, should be provided with the accuracy specified in Table M-4. Symbols and graphics used to depict guidance information should be intuitively representative of the type of information provided. (...)

Status 27.01.2016: "Validated"

207 CS ADR-DSN.M.770 (c)(2) / Road-holding position light

Requirement changed

(c) Characteristics:

- (2) The lights used to delineate lead-in, turning, and lead-out lines should be spaced at intervals of not more than 7.5 m on curves and 15 m on straight sections.

Status 27.01.2016: "Validated"

208 CS ADR-DSN.M.771 (a) / No-entry bar

Requirement new

- (a) **Applicability:** A no-entry bar should be provided across a taxiway which is intended to be used as an exit only taxiway. The purpose of a no-entry bar is to assist in preventing inadvertent access of traffic to that taxiway.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

209 CS ADR-DSN.M.771 (b) / No-entry bar

Requirement new

- (b) Location: A no-entry bar should be located across the taxiway at the end of an exit only taxiway where it is desired to prevent traffic from entering the taxiway in the wrong direction.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

210 CS ADR-DSN.M.771 (c)(1) / No-entry bar

Requirement new

- (c) Characteristics:

- (1) A no-entry bar should consist of unidirectional lights spaced at uniform intervals of no more than 3 m showing red in the intended direction(s) of approach to the runway.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

211 CS ADR-DSN.M.771 (c)(2)(i) / No-entry bar

Requirement new

- (c) Characteristics:

- (2) The lighting circuit should be so designed that:

- (i) no-entry bars are switchable selectively or in groups;

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

212 CS ADR-DSN.M.771 (c)(2)(ii) / No-entry bar

Requirement new

(c) Characteristics:

(2) The lighting circuit should be so designed that:

(ii) when a no-entry bar is illuminated, any taxiway centre line lights installed beyond the no-entry bar, when viewed towards the runway, should be extinguished for a distance of at least 90 m; and

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

213 CS ADR-DSN.M.771 (c)(2)(iii) / No-entry bar

Requirement new

(c) Characteristics:

(2) The lighting circuit should be so designed that:

(iii) when a no-entry bar is illuminated, any stop bar installed between the no-entry bar and the runway should be extinguished.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

214 CS ADR-DSN.M.771 (c)(3) / No-entry bar

Requirement new

(c) Characteristics:

(3) The intensity in red light and beam spreads of no-entry bar lights should be in accordance with the specifications in CS ADR-DSN.U.940, Figures U-16 to U-20, as appropriate.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

215 CS ADR-DSN.M.771 (c)(4) / No-entry bar

Requirement new

(c) Characteristics:

(4) No-entry bar lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

216 CS ADR-DSN.N.775 (b)(1) / General

Requirement changed

(b) Application:

(1) Signs should be provided to convey a mandatory instruction, information on a specific location, or destination on a movement area or to provide other information necessary for the implementation of surface movement guidance and control system (SMGCS) at an aerodrome.

Status 27.01.2016: "Validated"

217 CS ADR-DSN.N.775 (b)(2)(ii) / General

Requirement changed

(b) Application:

(2) A variable message sign should be provided where:

(ii) there is a need for variable predetermined information to be displayed on the sign to meet the requirements of the implementation of surface movement guidance and control system (SMGCS) at an aerodrome.

Status 27.01.2016: "Validated"

218 CS ADR-DSN.N.775 (c)(10)(ii) / General

Requirement changed

(c) Characteristics:

(10) Sign luminance should be as follows:

(ii) Where operations are conducted in accordance with CS ADR-DSN.N.775(c)(5), (ii) and (c)(6), average sign luminance should be at least:

Red	10 cd/m ²
Yellow	50 cd/m ²
White	100 cd/m ²

Note: In runway visual range conditions less than a value of 400 m, there will be some degradation in the performance of signs.

Status 27.01.2016: "Validated"

219 CS ADR-DSN.N.780 (a)(2) / Mandatory instruction signs

Requirement changed

(a) Application:

(2) Mandatory instruction signs should include runway designation signs, Category I, II, or III holding position signs, runway-holding position signs, road-holding position signs, and NO ENTRY signs.

Status 27.01.2016: "Validated"

220 CS ADR-DSN.N.780 (a)(4) / Mandatory instruction signs

Requirement changed

(a) Application:

(4) A pattern 'B' runway-holding position marking should be supplemented with a Category I, II, or III holding position sign.

Status 27.01.2016: "Validated"

221 CS ADR-DSN.N.780 (b)(2) / Mandatory instruction signs

Requirement changed

(b) Location:

- (2) A Category I, II, or III holding position sign should be located on each side of the runway-holding position marking facing the direction of the approach to the critical area.

Status 27.01.2016: "Validated"

222 CS ADR-DSN.N.780 (c)(3) / Mandatory instruction signs

Requirement changed

(c) Characteristics:

- (3) The inscription on a Category I, II, III, or joint II/III holding position sign should consist of the runway designator followed by CAT I, CAT II, CAT III, or CAT II/III as appropriate.

Status 27.01.2016: "Validated"

223 CS ADR-DSN.N.785 (b)(1) / Information signs

Requirement changed

(b) Location:

- (1) Except as specified in paragraph (b)(3) below, information signs should wherever practicable, be located on the left-hand side of the taxiway in accordance with Table N-1.

Status 27.01.2016: "Validated"

224 CS ADR-DSN.N.785 (c)(9) / Information signs

Requirement changed

(c) Characteristics:

- (9) Where necessary to identify each of a series of intermediate holding positions on the same taxiway, the location sign should consist of the taxiway designation and a progressive number.

Status 27.01.2016: "Validated"

225 CS ADR-DSN.N.785 (c)(13) / Information signs

Requirement changed

(c) Characteristics:

- (13) The use of numbers alone on the manoeuvring area should be reserved for the designation of runways.

Status 27.01.2016: "Validated"

226 CS ADR-DSN.Q.840 (a) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement changed

- (a) **Applicability:** The specifications for objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces apply only to the area under control of the aerodrome operator.

The headline was changed to:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

227 CS ADR-DSN.Q.840 (b) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement new

- (b) Elevated aeronautical ground lights within the movement area should be marked so as to be conspicuous by day. Obstacle lights should not be installed on elevated ground lights or signs in the movement area.

The new headline is adapted:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

228 CS ADR-DSN.Q.840 (c) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement new

- (c) All obstacles within the distance specified in Table D-1, column (11), (12) or (13), from the centre line of a taxiway, an apron taxiway or aircraft stand taxilane should be marked and, if the taxiway, apron taxiway or aircraft stand taxilane is used at night, lighted.

The new headline is adapted:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

229 CS ADR-DSN.Q.840 (d)(1) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement changed

- (d) A fixed obstacle that extends above a take-off climb, approach or transitional surface within 3 000 m of the inner edge of the take-off climb or approach surface should be marked and if the runway is used at night, lighted, except that:
- (1) such marking and lighting may be omitted when the obstacle is shielded by another fixed obstacle;

The headline was changed to:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

230 CS ADR-DSN.Q.840 (d)(2) und CS ADR-DSN.Q.840 (d)(4) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement changed

The headline was changed to:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

The content remains unaffected.

Status 27.01.2016: "Validated"

231 CS ADR-DSN.Q.840 (d)(3) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement changed

- (d) A fixed obstacle that extends above a take-off climb, approach or transitional surface within 3 000 m of the inner edge of the take-off climb or approach surface should be marked and if the runway is used at night, lighted, except that:
- (3) the marking may be omitted when the obstacle is lighted by high-intensity obstacle lights by day if medium intensity lights, Type A, are deemed insufficient; and

The headline was changed to:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

232 CS ADR-DSN.Q.840 (e)(1) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement changed

- (e) A fixed object, other than an obstacle, adjacent to a take-off climb, approach or transitional surface should 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 may be omitted when:
- (1) the object 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; or

The headline was changed to:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"p

233 CS ADR-DSN.Q.840 (e)(2) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement changed

- (e) A fixed object, other than an obstacle, adjacent to a take-off climb, approach or transitional surface should 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 may be omitted when:
- (2) the object is lighted by high-intensity obstacle lights by day if medium intensity lights, Type A, are deemed insufficient.

The headline was changed to:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

234 CS ADR-DSN.Q.840 (f)(1)(i) bis CS ADR-DSN.Q.840 (f)(2) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement changed

- (f) A fixed obstacle that extends above a horizontal surface should be marked and if the aerodrome is used at night, lighted, except that: (...)

The headline was changed to:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

235 CS ADR-DSN.Q.840 (f)(3) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement changed

- (f) A fixed obstacle that extends above a horizontal surface should be marked and if the aerodrome is used at night, lighted, except that: (...)
- (3) the marking may be omitted when the obstacle is lighted by high-intensity obstacle lights by day if medium intensity lights, Type A, are deemed insufficient; and

The headline was changed to:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

236 CS ADR-DSN.Q.840 (f)(4) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement new

- (f) A fixed obstacle that extends above a horizontal surface should be marked and if the aerodrome is used at night, lighted, except that: (...)
- (4) the lighting may be omitted where the obstacle is a lighthouse and a safety assessment indicates the lighthouse light to be sufficient.

The new headline is adapted:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

237 CS ADR-DSN.Q.840 (g) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement changed

- (g) A fixed object that extends above an obstacle protection surface should be marked and, if the runway is used at night, lighted, except that such marking and lighting may be omitted when the obstacle is shielded by another fixed obstacle.

The headline was changed to:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

238 CS ADR-DSN.Q.841 (a) / Objects to be marked and/or lighted outside the lateral boundaries of the obstacle limitation surfaces

Requirement new

- (a) **Applicability:** The specifications for objects to be marked and/or lighted outside the lateral boundaries of the obstacle limitation surfaces apply only to the area under control of the aerodrome operator.

The headline reads:

Objects to be marked and/or lighted outside the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

239 CS ADR-DSN.Q.841 (b) / Objects to be marked and/or lighted outside the lateral boundaries of the obstacle limitation surfaces

Requirement new

- (b) Obstacles in accordance with CS ADR-DSN.J.487 should be marked and lighted, except that the marking may be omitted when the obstacle is lighted by high-intensity obstacle lights by day.

The headline reads:

Objects to be marked and/or lighted outside the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

240 CS ADR-DSN.Q.841 (c) / Objects to be marked and/or lighted outside the lateral boundaries of the obstacle limitation surfaces

Requirement new

- (c) When considered as an obstacle, other objects outside the obstacle limitation surfaces should be marked and/or lighted.

The headline reads:

Objects to be marked and/or lighted outside the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

241 CS ADR-DSN.Q.845 (a) / Marking of fixed objects

Requirement changed

- (a) General: All fixed objects to be marked should, whenever practicable, be coloured but if this is not practicable, markers or flags should be displayed on or above them, except those objects that are sufficiently conspicuous by their shape, size, or colour need not be otherwise marked.

The headline was changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

242 CS ADR-DSN.Q.845 (b)(1) / Marking of fixed objects

Requirement changed

(b) Marking by colour

- (1) An object should be coloured to show a chequered pattern if it has essentially unbroken surfaces, and its projection on any vertical plane equals or exceeds 4.5 m in both dimensions. The pattern should consist of rectangles of not less than 1.5 m and not more than 3 m on a side, the corners being of the darker colour. The colours of the pattern should contrast with each other and with the background against which they should be seen.

The headline was changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

243 CS ADR-DSN.Q.845 (b)(2)(i) / Marking of fixed objects

Requirement changed

(b) Marking by colour

- (2) An object should be coloured to show alternating contrasting bands if:
- (i) it has essentially unbroken surfaces, and has one dimension, horizontal or vertical, greater than 1.5 m, and the other dimension, horizontal or vertical, less than 4.5 m; or

The headline was changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

244 CS ADR-DSN.Q.845 (b)(2)(ii) / Marking of fixed objects

Requirement changed

(b) Marking by colour

- (2) An object should be coloured to show alternating contrasting bands if:
- (ii) it is of skeletal type with either a vertical or a horizontal dimension greater than 1.5 m.

The headline was changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

245 CS ADR-DSN.Q.845 (b)(3) / Marking of fixed objects

Requirement changed

(b) Marking by colour

- (3) The bands should be perpendicular to the longest dimension and have a width approximately $\frac{1}{7}$ of the longest dimension or 30 m, whichever is less. The colours of the bands should contrast with the background against which they should be seen. Orange and white should be used, except where such colours are not conspicuous when viewed against the background. The bands on the extremities of the object should be of the darker colour (see Figures Q-1 and Q-2). The dimensions of the marking band widths are shown in Table Q-4.

The headline was changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

246 CS ADR-DSN.Q.845 (b)(4) / Marking of fixed objects

Requirement changed

(b) Marking by colour

- (4) An object should be coloured in a single conspicuous colour if its projection on any vertical plane has both dimensions less than 1.5 m. Orange or red should be used, except where such colours merge with the background.

The headline was changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

247 CS ADR-DSN.Q.845 (c)(1) / Marking of fixed objects

Requirement changed

(c) Marking by flags

- (1) Flags used to mark fixed objects should be displayed around, on top of, or around the highest edge of the object. When flags are used to mark extensive objects or groups of closely spaced objects, they should be displayed at least every 15 m. Flags should not increase the hazard presented by the object they mark.

The headline was changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

248 CS ADR-DSN.Q.845 (c)(2) / Marking of fixed objects

Requirement changed

(c) Marking by flags

(2) Flags used to mark fixed objects should not be less than 0.6 m on each side.

The headline was changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

249 CS ADR-DSN.Q.845 (c)(3) / Marking of fixed objects

Requirement changed

(c) Marking by flags

(3) Flags used to mark fixed objects should be orange in colour or a combination of two triangular sections, one orange and the other white, or one red and the other white. Except where such colours merge with the background, other conspicuous colours should be used.

The headline was changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

250 CS ADR-DSN.Q.845 (d)(1) / Marking of fixed objects

Requirement changed

(d) Marking by markers

(1) Markers displayed on or adjacent to objects should be located in conspicuous positions so as to retain the general definition of the object and should be recognisable in clear weather from a distance of at least 1 000 m for an object to be viewed from the air and 300 m for an object to be viewed from the ground in all directions in which an aircraft is likely to approach the object. The shape of markers should be distinctive to the extent necessary to ensure that they are not mistaken for markers employed to convey other information, and they should be such that the hazard presented by the object they mark is not increased.

The headline was changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

251 CS ADR-DSN.Q.845 (d)(2) / Marking of fixed objects

Requirement changed

(d) Marking by markers

- (2) A marker should be of one colour. When more than one markers are installed, white and red, or white and orange markers should be displayed alternately. The colour selected should contrast with the background against which it should be seen.

The headline was changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

252 CS ADR-DSN.Q.846 (a) / Lighting of fixed objects

Requirement new

- (a) The presence of objects which should be lighted, as specified in CS ADR-DSN.Q.840 and CS ADR-DSN.Q.841 should be indicated by low-, medium- or high-intensity obstacle lights, or a combination of such lights.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

253 CS ADR-DSN.Q.846 (b) / Lighting of fixed objects

Requirement new

- (b) Low-intensity obstacle lights, Types A, B, C and D, medium-intensity obstacle lights, Types A, B and C and high-intensity obstacle lights Types A and B, should be in accordance with the specifications in Table Q-1, CS ADR-DSN.U.930 and Figure U-1.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

254 CS ADR-DSN.Q.846 (c) / Lighting of fixed objects

Requirement new

- (c) The number and arrangement of low-, medium- or high-intensity obstacle lights at each level to be marked should 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 should 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 may be omitted.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

255 CS ADR-DSN.Q.846 (d) / Lighting of fixed objects

Requirement new

- (d) In case of an object to be lighted one or more low-, medium- or high-intensity obstacle lights should be located as close as practicable to the top of the object.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

256 CS ADR-DSN.Q.846 (e) / Lighting of fixed objects

Requirement new

- (e) In the case of chimney or other structure of like function, the top lights should be placed sufficiently below the top so as to minimise contamination by smoke, etc. (see Figure Q-2).

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

257 CS ADR-DSN.Q.846 (f) / Lighting of fixed objects

Requirement new

- (f) In the case of a tower or antenna structure indicated by high-intensity obstacle lights by day with an appurtenance such as a rod or an antenna greater than 12 m where it is not practicable to locate a high-intensity obstacle light on the top of the appurtenance, such a light should be located at the highest practicable point, and, if practicable, a medium-intensity obstacle light, Type A, mounted on the top.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

258 CS ADR-DSN.Q.846 (g)(1) / Lighting of fixed objects

Requirement new

- (g) In the case of an extensive object or of a group of closely spaced objects to be lighted that are:
- (1) Penetrating a horizontal obstacle limitation surface (OLS) or located outside an OLS, the top lights should be so arranged as to at least indicate the points or edges of the object highest in relation to OLS or above the ground, and so as to indicate the general definition and the extent of the objects; and

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

259 CS ADR-DSN.Q.846 (g)(2) / Lighting of fixed objects

Requirement new

- (g) In the case of an extensive object or of a group of closely spaced objects to be lighted that are:
- (2) Penetrating a sloping OLS, the top lights should be so arranged as to at least indicate the points or edges of the object highest in relation to the OLS, and so as to indicate the general definition and the extent of the objects. If two or more edges are of the same height, the edge nearest the landing area should be marked.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

260 CS ADR-DSN.Q.846 (h) / Lighting of fixed objects

Requirement new

- (h) When the obstacle limitation surface concerned is sloping and the highest point above the obstacle limitation surface is not the highest point of the object, additional obstacle lights should be placed on the highest point of the object.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

261 CS ADR-DSN.Q.846 (i)(1) / Lighting of fixed objects

Requirement new

- (i) Where lights are applied to display the general definition of an extensive object or a group of closely spaced objects, and
- (1) Low-intensity lights are used, they should be spaced at longitudinal intervals not exceeding 45 m.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

262 CS ADR-DSN.Q.846 (i)(2) / Lighting of fixed objects

Requirement new

- (i) Where lights are applied to display the general definition of an extensive object or a group of closely spaced objects, and
- (2) Medium-intensity lights are used, they should be spaced at longitudinal intervals not exceeding 900 m.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

263 CS ADR-DSN.Q.846 (j) / Lighting of fixed objects

Requirement new

- (j) High-intensity obstacle lights, Type A, and medium-intensity obstacle lights, Types A and B, located on an object should flash simultaneously.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

264 CS ADR-DSN.Q.846 (k) / Lighting of fixed objects

Requirement new

- (k) The installation setting angles for high-intensity obstacle lights, Type A, should be in accordance with Table Q-5.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

265 CS ADR-DSN.Q.847 (a) / Lighting of fixed objects with a height less than 45 m above ground level

Requirement new

- (a) Low-intensity obstacle lights, Type A or B, should be used where the object is a less extensive one and its height above the surrounding ground is less than 45 m.

The headline reads:

Lighting of fixed objects with a height less than 45 m above ground level

Status 27.01.2016: "Validated"

266 CS ADR-DSN.Q.847 (b) / Lighting of fixed objects with a height less than 45 m above ground level

Requirement new

- (b) Where the use of low-intensity obstacle lights, Type A or B, would be inadequate, or an early special warning is required, then medium- or high-intensity obstacle lights should be used.

The headline reads:

Lighting of fixed objects with a height less than 45 m above ground level

Status 27.01.2016: "Validated"

267 CS ADR-DSN.Q.847 (c) / Lighting of fixed objects with a height less than 45 m above ground level

Requirement new

- (c) Low-intensity obstacle lights, Type B, should be used either alone or in combination with medium-intensity obstacle lights, Type B, in accordance with subparagraph (d), below.

The headline reads:

Lighting of fixed objects with a height less than 45 m above ground level

Status 27.01.2016: "Validated"

268 CS ADR-DSN.Q.847 (d) / Lighting of fixed objects with a height less than 45 m above ground level

Requirement new

- (d) Medium-intensity obstacle lights, Type A, B, or C, should be used where the object is an extensive one. Medium-intensity obstacle lights, Types A and C, should be used alone, whereas medium-intensity obstacle lights, Type B, should be used either alone or in combination with low-intensity obstacle lights, Type B.

The headline reads:

Lighting of fixed objects with a height less than 45 m above ground level

Status 27.01.2016: "Validated"

269 CS ADR-DSN.Q.848 (a) / Lighting of fixed objects with a height 45 m to a height less than 150 m above ground level

Requirement new

- (a) Medium-intensity obstacle lights, Type A, B, or C, should be used where the object is an extensive one. Medium-intensity obstacle lights, Types A and C, should be used alone, whereas medium-intensity obstacle lights, Type B, should be used either alone or in combination with low-intensity obstacle lights, Type B.

The headline reads:

Lighting of fixed objects with a height 45 m to a height less than 150 m above ground level

Status 27.01.2016: "Validated"

270 CS ADR-DSN.Q.848 (b) / Lighting of fixed objects with a height 45 m to a height less than 150 m above ground level

Requirement new

- (b) Where an object is indicated by medium-intensity obstacle lights, Type A, and the top of the object is more than 105 m above the level of the surrounding ground, or the elevation of tops of nearby buildings (when the object to be marked is surrounded by buildings), additional lights should be provided at intermediate levels. These additional intermediate lights should be spaced, as equally as practicable, between the top lights and ground level or the level of tops of nearby buildings as appropriate, with the spacing not exceeding 105 m.

The headline reads:

Lighting of fixed objects with a height 45 m to a height less than 150 m above ground level

Status 27.01.2016: "Validated"

271 CS ADR-DSN.Q.848 (c) / Lighting of fixed objects with a height 45 m to a height less than 150 m above ground level

Requirement new

- (c) Where an object is indicated by medium-intensity obstacle lights, Type B, and the top of the object is more than 45 m above the level of the surrounding ground or the elevation of tops of nearby buildings (when the object to be marked is surrounded by buildings), additional lights should be provided at intermediate levels. These additional intermediate lights should be alternately low-intensity obstacle lights, Type B, and medium-intensity obstacle lights, Type B, and should be spaced as equally as practicable, between the top lights and ground level or the level of tops of nearby buildings as appropriate, with the spacing not exceeding 52 m.

The headline reads:

Lighting of fixed objects with a height 45 m to a height less than 150 m above ground level

Status 27.01.2016: "Validated"

272 CS ADR-DSN.Q.848 (d) / Lighting of fixed objects with a height 45 m to a height less than 150 m above ground level

Requirement new

- (d) Where an object is indicated by medium-intensity obstacle lights, Type C, and the top of the object is more than 45 m above the level of the surrounding ground or the elevation of tops of nearby buildings (when the object to be marked is surrounded by buildings), additional lights should be provided at intermediate levels. These additional intermediate lights should be spaced as equally as practicable, between the top lights and ground level or the level of tops of nearby buildings, as appropriate, with the spacing not exceeding 52 m.

The headline reads:

Lighting of fixed objects with a height 45 m to a height less than 150 m above ground level

Status 27.01.2016: "Validated"

273 CS ADR-DSN.Q.848 (e) / Lighting of fixed objects with a height 45 m to a height less than 150 m above ground level

Requirement new

- (e) Where high-intensity obstacle lights, Type A, are used, they should be spaced at uniform intervals not exceeding 105 m between the ground level and the top light(s) specified in paragraph CS ADR-DSN.Q.846(d), except that where an object to be marked is surrounded by buildings, the elevation of the tops of the buildings may be used as the equivalent of the ground level when determining the number of light levels.

The headline reads:

Lighting of fixed objects with a height 45 m to a height less than 150 m above ground level

Status 27.01.2016: "Validated"

274 CS ADR-DSN.Q.849 (a) / Lighting of fixed objects with a height 150 m or more above ground level

Requirement new

- (a) High-intensity obstacle lights, Type A, should be used to indicate the presence of an object if its height above the level of the surrounding ground exceeds 150 m and a safety assessment indicates such lights to be essential for the recognition of the object by day.

The headline reads:

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

Status 27.01.2016: "Validated"

275 CS ADR-DSN.Q.849 (b) / Lighting of fixed objects with a height 150 m or more above ground level

Requirement new

- (b) Where high-intensity obstacle lights, Type A, are used, they should be spaced at uniform intervals not exceeding 105 m between the ground level and the top light(s) specified in CS ADR-DSN.Q.846(d), except where an object to be marked is surrounded by buildings, the elevation of the tops of the buildings may be used as the equivalent of the ground level when determining the number of light levels.

The headline reads:

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

Status 27.01.2016: "Validated"

276 CS ADR-DSN.Q.849 (c) / Lighting of fixed objects with a height 150 m or more above ground level

Requirement new

- (c) Where an object is indicated by medium-intensity obstacle lights, Type A, additional lights should be provided at intermediate levels. These additional intermediate lights should be spaced, as equally as practicable, between the top lights and ground level or the level of tops of nearby buildings, as appropriate, with the spacing not exceeding 105 m.

The headline reads:

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

Status 27.01.2016: "Validated"

277 CS ADR-DSN.Q.849 (d) / Lighting of fixed objects with a height 150 m or more above ground level

Requirement new

- (d) Where an object is indicated by medium-intensity obstacle lights, Type B, additional lights should be provided at intermediate levels. These additional intermediate lights should be alternately low-intensity obstacle lights, Type B, and medium-intensity obstacle lights, Type B, and should be spaced, as equally as practicable, between the top lights and ground level or the level of tops of nearby buildings, as appropriate, with the spacing not exceeding 52 m.

The headline reads:

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

Status 27.01.2016: "Validated"

278 CS ADR-DSN.Q.849 (e) / Lighting of fixed objects with a height 150 m or more above ground level

Requirement new

- (e) Where an object is indicated by medium-intensity obstacle lights, Type C, additional lights should be provided at intermediate levels. These additional intermediate lights should be spaced, as equally as practicable, between the top lights and ground level or the level of tops of nearby buildings, as appropriate, with the spacing not exceeding 52 m.

The headline reads:

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

Status 27.01.2016: "Validated"

279 CS ADR-DSN.Q.850 (a) / Lighting of other objects

Requirement changed

- (a) Low-intensity obstacle lights, Type C, should be displayed on vehicles and other mobile objects excluding aircraft.

The headline was changed to:

Lighting of other objects.

Status 27.01.2016: "Validated"

280 CS ADR-DSN.Q.850 (b) / Lighting of other objects

Requirement changed

- (b) Low-intensity obstacle lights, Type C, displayed on vehicles associated with emergency or security should be flashing-blue and those displayed on other vehicles should be flashing-yellow.

The headline was changed to:

Lighting of other objects.

Status 27.01.2016: "Validated"

281 CS ADR-DSN.Q.850 (c) / Lighting of other objects

Requirement changed

(c) Low-intensity obstacle lights, Type D, should be displayed on follow-me vehicles.

The headline was changed to:

Lighting of other objects.

Status 27.01.2016: "Validated"

282 CS ADR-DSN.Q.850 (d) / Lighting of other objects

Requirement changed

(d) Low-intensity obstacle lights on objects with limited mobility such as aerobridges should be fixed-red, and, as a minimum, be in accordance with the specifications for low-intensity obstacle lights, Type A, in Table Q-1. The intensity of the lights should be sufficient to ensure conspicuity considering the intensity of the adjacent lights and the general levels of illumination against which they would normally be viewed.

The headline was changed to:

Lighting of other objects.

Status 27.01.2016: "Validated"

283 CS ADR-DSN.Q.851 (a) / Marking and lighting of wind turbines

Requirement new

(a) **Applicability:** When considered as an obstacle a wind turbine should be marked and/or lighted.

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

284 CS ADR-DSN.Q.851 (b) / Marking and lighting of wind turbines

Requirement new

- (b) Marking: The rotor blades, nacelle and upper 2/3 of the supporting mast of wind turbines should be painted white, or if after a safety assessment, it is determined that other colour will improve safety.

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

285 CS ADR-DSN.Q.851 (c)(1) / Marking and lighting of wind turbines

Requirement new

(c) Lighting:

- (1) Where lighting is deemed necessary for a single wind turbine or short line of wind turbines, the installation should be in accordance with paragraph (c)(2)(v) below, or as determined by a safety assessment.

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

286 CS ADR-DSN.Q.851 (c)(2)(i) / Marking and lighting of wind turbines

Requirement new

(c) Lighting:

- (2) When lighting is deemed necessary in the case of a wind farm (i.e. a group of two or more wind turbines), the wind farm should be regarded as an extensive object and lights should be installed:

- (i) to identify the perimeter of the wind farm;

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

287 CS ADR-DSN.Q.851 (c)(2)(ii) / Marking and lighting of wind turbines

Requirement new

(c) Lighting:

- (2) When lighting is deemed necessary in the case of a wind farm (i.e. a group of two or more wind turbines), the wind farm should be regarded as an extensive object and lights should be installed:
- (ii) respecting the maximum spacing, in accordance with CS ADR-DSN.Q.846(i), between the lights along the perimeter, or if after a safety assessment, it is determined that a greater spacing can be used;

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

288 CS ADR-DSN.Q.851 (c)(2)(iii) / Marking and lighting of wind turbines

Requirement new

(c) Lighting:

- (2) When lighting is deemed necessary in the case of a wind farm (i.e. a group of two or more wind turbines), the wind farm should be regarded as an extensive object and lights should be installed:
- (iii) so that, where flashing lights are used, they flash simultaneously throughout the wind farm;

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

289 CS ADR-DSN.Q.851 (c)(2)(iv) / Marking and lighting of wind turbines

Requirement new

(c) Lighting:

(2) When lighting is deemed necessary in the case of a wind farm (i.e. a group of two or more wind turbines), the wind farm should be regarded as an extensive object and lights should be installed:

(iv) so that, within a wind farm, any wind turbines of significantly higher elevation are also identified wherever they are located; and

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

290 CS ADR-DSN.Q.851 (c)(2)(v)(A) / Marking and lighting of wind turbines

Requirement new

(c) Lighting:

(2) When lighting is deemed necessary in the case of a wind farm (i.e. a group of two or more wind turbines), the wind farm should be regarded as an extensive object and lights should be installed:

(v) at locations prescribed in (i), (ii) and (iv):

(A) for wind turbines of less than 150 m in overall height (hub height plus vertical blade height), medium intensity lighting on the nacelle;

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

291 CS ADR-DSN.Q.851 (c)(2)(v)(B) / Marking and lighting of wind turbines

Requirement new

(c) Lighting:

(2) When lighting is deemed necessary in the case of a wind farm (i.e. a group of two or more wind turbines), the wind farm should be regarded as an extensive object and lights should be installed:

(v) at locations prescribed in (i), (ii) and (iv):

(B) for wind turbines from 150 m to 315 m in overall height, in addition to the medium intensity light installed on the nacelle, a second light serving as an alternate should be provided in case of failure of the operating light; the lights should be installed to assure that the output of either light is not blocked by the other;

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

292 CS ADR-DSN.Q.851 (c)(2)(v)(C) / Marking and lighting of wind turbines

Requirement new

(c) Lighting:

(2) When lighting is deemed necessary in the case of a wind farm (i.e. a group of two or more wind turbines), the wind farm should be regarded as an extensive object and lights should be installed:

(v) at locations prescribed in (i), (ii) and (iv):

(C) in addition, for wind turbines from 150 m to 315 m in overall height, an intermediate level at half the nacelle height of at least three low intensity Type E lights, as specified in CS ADR-DSN.Q.846(c), that are configured to flash at the same rate as the light on the nacelle; low-intensity Type A or B lights may be used if an safety assessment shows that low intensity Type E lights are not suitable.

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

293 CS ADR-DSN.Q.851 (c)(3) / Marking and lighting of wind turbines

Requirement new

(c) Lighting:

- (3) The obstacle lights should be installed on the nacelle in such a manner as to provide an unobstructed view for aircraft approaching from any direction.

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

294 CS ADR-DSN.Q.852 (a) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

- (a) Marking: The wires, cables, etc. to be marked should be equipped with markers; the supporting tower should be coloured.

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

295 CS ADR-DSN.Q.852 (b) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

- (b) Marking by colours: The supporting towers of overhead wires, cables, etc. that require marking should be marked in accordance with CS ADR-DSN.Q.845(b), except that the marking of the supporting towers may be omitted when they are lighted by high-intensity obstacle lights by day.

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

296 CS ADR-DSN.Q.852 (c)(1) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

(c) Marking by markers:

- (1) Markers displayed on or adjacent to objects should be located in conspicuous positions so as to retain the general definition of the object and should be recognisable in clear weather from a distance of at least 1 000 m for an object to be viewed from the air and 300 m for an object to be viewed from the ground in all directions in which an aircraft is likely to approach the object. The shape of markers should be distinctive to the extent necessary to ensure that they are not mistaken for markers employed to convey other information, and they should be such that the hazard presented by the object they mark is not increased.

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

297 CS ADR-DSN.Q.852 (c)(2) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

(c) Marking by markers:

- (2) A marker displayed on an overhead wire, cable, etc., should be spherical and have a diameter of not less than 60 cm.

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

298 CS ADR-DSN.Q.852 (c)(3)(i) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

(c) Marking by markers:

(3) The spacing between two consecutive markers, or between a marker and a supporting tower, should be appropriate to the diameter of the marker. The spacing should normally not exceed:

(i) 30 m where the marker diameter is 60 cm, increasing progressively with increase of the marker diameter to:

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

299 CS ADR-DSN.Q.852 (c)(3)(ii) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

(c) Marking by markers:

(3) The spacing between two consecutive markers, or between a marker and a supporting tower, should be appropriate to the diameter of the marker. The spacing should normally not exceed:

(ii) 35 m where the marker diameter is 80 cm; and

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

300 CS ADR-DSN.Q.852 (c)(3)(iii) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

(c) Marking by markers:

(3) The spacing between two consecutive markers, or between a marker and a supporting tower, should be appropriate to the diameter of the marker. The spacing should normally not exceed:

(iii) further progressive increases to a maximum of 40 m where the marker diameter is of at least 130 cm.

Where multiple wires, cables, etc., are involved, a marker should be located not lower than the level of the highest wire at the point marked.

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

301 CS ADR-DSN.Q.852 (d)(1)(i) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

(d) Lighting:

(1) High-intensity obstacle lights, Type B, should be used to indicate the presence of the tower supporting overhead wires, cables, etc. where:

(i) a safety assessment indicates such light to be essential for the recognition of the presence of wires, cables, etc.; or

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

302 CS ADR-DSN.Q.852 (d)(1)(i) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

(d) Lighting:

- (1) High-intensity obstacle lights, Type B, should be used to indicate the presence of the tower supporting overhead wires, cables, etc. where:
- (ii) it has not been found practicable to install marker on the wires, cables, etc.

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

303 CS ADR-DSN.Q.852 (d)(2)(i) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

(d) Lighting:

- (2) Where high-intensity obstacle lights, Type B, are used, they should be located at three levels:
- (i) at the top of the tower;

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

304 CS ADR-DSN.Q.852 (d)(2)(ii) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

(d) Lighting:

(2) Where high-intensity obstacle lights, Type B, are used, they should be located at three levels:

(ii) at the lowest level of the catenary of the wires or cables; and

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

305 CS ADR-DSN.Q.852 (d)(2)(iii) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

(d) Lighting:

(2) Where high-intensity obstacle lights, Type B, are used, they should be located at three levels:

(iii) at approximately midway between these two levels.

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

306 CS ADR-DSN.Q.852 (d)(3) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

(d) Lighting:

- (3) High-intensity obstacle lights, Type B, indicating the presence of a tower supporting overhead wires, cables, etc., should flash sequentially; first the middle light, second the top light, and last the bottom light. The intervals between flashes of the lights should approximate the following ratios:

Flash interval between	Ratio of cycle time
Middle and top light	1/13
Top and bottom light	2/13
Bottom and middle light	10/13

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

307 CS ADR-DSN.Q.852 (d)(4) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

(d) Lighting:

- (4) The installation setting angles for high-intensity obstacle lights, Types B, should be in accordance with Table Q-5.

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

308 CS ADR-DSN.R.855 (a) / Closed runways and taxiways, or parts thereof

Requirement changed

(a) Applicability:

A closed marking should be displayed on a runway, or taxiway, or portion thereof which is permanently closed to the use of all aircraft.

Status 27.01.2016: "Validated"

309 CS ADR-DSN.R.855 (c) / Closed runways and taxiways, or parts thereof

Requirement changed

- (c) Characteristics of closed markings: The closed marking should be of the form and proportions as detailed in Figure R-1, Illustration (a), when displayed on a runway, and should be of the form and proportions as detailed in Figure R-1, Illustration (b), when displayed on a taxiway. The marking should be white when displayed on a runway and should be yellow when displayed on a taxiway.

Status 27.01.2016: "Validated"

310 CS ADR-DSN.R.855 (d) / Closed runways and taxiways, or parts thereof

Requirement changed

- (d) When a runway, or taxiway, or portion thereof is permanently closed, all normal runway and taxiway markings should be obliterated.

Status 27.01.2016: "Validated"

311 CS ADR-DSN.R.860 (a) / Non-load-bearing surfaces

Requirement changed

- (a) Shoulders for taxiways, runway turn pads, holding bays and aprons, and other non-load-bearing surfaces which cannot readily be distinguished from load-bearing surfaces and which, if used by aircraft, might result in damage to the aircraft, should have the boundary between such areas and the load-bearing surface marked by a taxi side stripe marking.

Status 27.01.2016: "Validated"

312 CS ADR-DSN.S.880 (a) und CS ADR-DSN.S.880 (b) / Electrical power supply systems

Requirement changed

The requirement's headline has been changed to: Electrical power supply systems.

The content remains unaffected.

Status 27.01.2016: "Validated"

313 CS ADR-DSN.S.880 (c) / Electrical power supply systems

Requirement changed

- (c) At an aerodrome where the primary runway is a non-precision approach runway, a secondary power supply capable of meeting the requirements of Table S-1 should be provided except that a secondary power supply for visual aids need not be provided for more than one non-precision approach runway.

Status 27.01.2016: "Validated"

314 CS ADR-DSN.S.880 (d)(1) bis CS ADR-DSN.S.880 (d)(6) / Electrical power supply systems

Requirement changed

The requirement's headline has been changed to:

Electrical power supply systems.

The content remains unaffected.

Status 27.01.2016: "Validated"

315 CS ADR-DSN.S.890 (d) / Monitoring

Requirement changed

- (d) For a runway meant for use in runway visual range conditions less than a value of 550 m, the lighting systems detailed in Table S-1 should be monitored automatically so as to provide an indication when the serviceability level of any element falls below a minimum serviceability level specified in CS ADR-DSN.S.895(c) to (g). This information should be automatically relayed to the maintenance crew.

Status 27.01.2016: "Validated"

316 CS ADR-DSN.S.890 (e) / Monitoring

Requirement changed

- (e) For a runway meant for use in runway visual range conditions less than a value of 550 m, the lighting systems detailed in Table S-1 should be monitored automatically to provide an indication when the serviceability level of any element falls below a minimum level, below which operations should not continue. This information should be automatically relayed to the air traffic services unit and displayed in a prominent position.

Status 27.01.2016: "Validated"

317 CS ADR-DSN.S.895 (c)(1)(i) / Serviceability levels

Requirement changed

- (c) The system of preventive maintenance employed for a precision approach runway Category II or III should 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:
 - (i) precision approach Category II and III lighting system, the inner 450 m;

Status 27.01.2016: "Validated"

318 CS ADR-DSN.S.895 (c)(1)(ii) bis CS ADR-DSN.S.895 (c)(6) / Serviceability levels

Requirement changed

- (c) The system of preventive maintenance employed for a precision approach runway Category II or III should 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:
 - (...)

Status 27.01.2016: "Validated"

319 CS ADR-DSN.S.895 (f)(1) / Serviceability levels

Requirement changed

- (f) The system of preventive maintenance employed for a precision approach runway Category I should have as its objective that, during any period of Category I operations, all approach and runway lights are serviceable and that, in any event, at least 85 % of the lights are serviceable in each of the following:
- (1) precision approach Category I lighting system;

Status 27.01.2016: "Validated"

320 CS ADR-DSN.S.895 (f)(2) bis CS ADR-DSN.S.895 (f)(2) bis / Serviceability levels

Requirement changed

- (f) The system of preventive maintenance employed for a precision approach runway Category I should have as its objective that, during any period of Category I operations, all approach and runway lights are serviceable and that, in any event, at least 85 % of the lights are serviceable in each of the following:

(...)

Status 27.01.2016: "Validated"

321 CS ADR-DSN.T.900 / Emergency access and service roads

Requirement changed

Emergency access roads and service roads should be equipped with a road-holding position, in accordance with CS ADR-DSN.L.600, CS ADR-DSN.M.770 and CS ADR-DSN.N.800, as appropriate, at all intersections with runway and taxiways.

Status 27.01.2016: "Validated"

322 CS ADR-DSN.T.915 (d)(1) / Siting of equipment and installations on operational areas

Requirement changed

(d) Unless its function requires it to be there for air navigation or for aircraft safety purposes, or if after a safety assessment, it is determined that it would not adversely affect the safety or significantly affect the regularity of operations of aeroplanes, no equipment or installation should be located within 240 m from the end of the strip and within:

(1) 60 m of the extended centre line where the code number is 3 or 4; or

Status 27.01.2016: "Validated"

323 CS ADR-DSN.T.915 (d)(2) / Siting of equipment and installations on operational areas

Requirement changed

(d) Unless its function requires it to be there for air navigation or for aircraft safety purposes, or if after a safety assessment, it is determined that it would not adversely affect the safety or significantly affect the regularity of operations of aeroplanes, no equipment or installation should be located within 240 m from the end of the strip and within:

(2) 45 m of the extended centre line where the code number is 1 or 2;

of a precision approach runway Category I, II or III.

Status 27.01.2016: "Validated"

324 CS ADR-DSN.T.915 (e) / Siting of equipment and installations on operational areas

Requirement changed

(e) Any equipment or installation required for air navigation or for aircraft safety purposes which should be located on or near a strip of a precision approach runway Category I, II, or III and which:

(...)

Status 27.01.2016: "Validated"

BOOK 2: GUIDANCE MATERIAL FOR AERODROMES

325 GM1 ADR-DSN.A.005 (c) / Aerodrome Reference Code

Requirement changed

- (c) In addition to the reference code, other aircraft characteristics, such as aircraft length and tail height, may also have an impact on the design of an aerodrome. Additionally, some characteristics of a piece of infrastructure are directly related to one element of the code (wingspan or wheel span) but are not impacted by other. The aerodrome designer should consider all the relationships between aircraft characteristics and aerodromes and piece of infrastructures characteristics.

Status 27.01.2016: "Validated"

326 GM1 ADR-DSN.A.005 (e) / Aerodrome Reference Code

Requirement changed

- (e) It is recognised that not all areas of the aerodrome should need to correspond to the critical aeroplane that determines the Aerodrome Reference Code. Elements of the aerodrome infrastructure that do not meet the requirements of the Aerodrome Reference Code for the design aeroplane should be designated with an appropriate code letter for its dimensions. Limitations should be identified to aircraft size permitted or operating limitations. ICAO, Annex 14 does not provide sufficient flexibility for infrastructure intended for different sizes of aircraft. It only addresses the 'design aircraft'. This enables all areas of the aerodrome to reflect the aerodrome reference code.

Status 27.01.2016: "Validated"

327 GM1 ADR-DSN.A.005 (f) / Aerodrome Reference Code

Requirement changed

- (f) Further guidance on aerodrome reference code is given in ICAO Doc 9157, Aerodrome Design Manual, Part 1, Runways.

Status 27.01.2016: "Validated"

328 GM1 ADR-DSN.A.010

Requirement changed

Intentionally left blank

Status 27.01.2016: "Validated"

329 GM1 ADR-DSN.B.015 (e) / Number, siting, and orientation of runways

Requirement changed

(e) One important factor is the usability factor, as determined by the wind distribution which is specified hereunder. Another important factor is the alignment of the runway to facilitate the provision of approaches conforming to the approach surface specifications in CS ADR-DSN.H.425. Further guidance on these and other factors is given in ICAO Annex 14, Attachment A, Section 1. When a new instrument runway is being located, particular attention needs to be given to areas over which aeroplanes should be required to fly when following instrument approach and missed approach procedures so as to ensure that obstacles in these areas or other factors should not restrict the operation of the aeroplanes for which the runway is intended.

Status 27.01.2016: "Validated"

330 GM1 ADR-DSN.B.035 (a)(1) bis GM1 ADR-DSN.B.035 (a)(3) / Length of the runway and declared distances

Requirement changed

The headline changes to:

Length of the runway and declared distances.

The content remains unaffected.

Status 27.01.2016: "Validated"

331 GM1 ADR-DSN.B.035 (a)(4) / Length of the runway and declared distances

Requirement changed

(a) Length of the runway:

(4) When performance data on aeroplanes for which the runway is intended, are not known, guidance on the determination of the actual length of a primary runway by application of general correction factors is given in ICAO Doc 9157, Aerodrome Design Manual, Part 1, Runways.

Status 27.01.2016: "Validated"

332 GM1 ADR-DSN.B.045 (b) / Width of runways

Requirement changed

(b) Factors affecting runway width are given in ICAO Doc 9157, Aerodrome Design Manual, Part 1, Runways.

Status 27.01.2016: "Validated"

333 GM1 ADR-DSN.B.055 / Minimum distance between parallel instrument runways

Requirement new

Guidance on procedures and facilities requirements for simultaneous operations on parallel or near-parallel instrument runways are contained in ICAO, PANS-ATM, Doc 4444, Chapter 6 and ICAO, PANS-OPS, Doc 8168, Volume I, Part III, Section 2, and Volume II, Part I, Section 3; Part II, Section 1; and Part III, Section 3, and relevant guidance is contained in ICAO Doc, 9643, Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR).

Status 27.01.2016: "Validated"

334 GM1 ADR-DSN.B.070 / Sight distance for slopes of runways

Requirement changed

Runway longitudinal slopes and slopes changes are so designed that the pilot in the aircraft has an unobstructed line of sight over all or as much of the runway as possible, thereby enabling him to see aircraft or vehicles on the runway, and to be able to manoeuvre and take avoiding action.

The headline has been changed to:

Sight distance for slopes of runways.

Status 27.01.2016: "Validated"

335 GM1 ADR-DSN.B.080 / Transverse slopes on runways

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

336 GM1 ADR-DSN.B.085 (d)(1)(i) bis GM1 ADR-DSN.B.085 (e) / Runway strength

Requirement deleted

Only the listed points were deleted.

Status 27.01.2016: "Validated"

337 GM1 ADR-DSN.B.090 (a) / Surface of runways

Requirement changed

- (a) Pavement forming part of the movement area needs to be of sufficient strength to allow aircraft to operate without risk of damage either to the pavement or to the aircraft. Pavements subject to overload conditions should deteriorate at an increasing rate depending upon the degree of overload. To control this, it is necessary to classify both pavement and aircraft under a system whereby the load-bearing capacity of the pavement and the loads imposed by the aircraft can be compared. The method used is the Aircraft Classification Number – Pavement Classification Number (ACN/PCN) method. The ACN/PCN method has been developed by ICAO as an international method of reporting the bearing strength of pavements.

Status 27.01.2016: "Validated"

338 GM1 ADR-DSN.B.090 (c) / Surface of runways

Requirement new

- (c) Additional guidance on surface of runways is given in ICAO Doc 9157, Aerodrome Design Manual, Part 3, Pavements.

Status 27.01.2016: "Validated"

339 GM1 ADR-DSN.B.090 (d) / Surface of runways

Requirement new

- (d) Macrottexture and microtexture should be taken into consideration in order to provide the required surface friction characteristics. Additional guidance is given in GM1 ADR-DSN.B.191. Additional guidance on design and methods for improving runway surface texture is given in ICAO Doc 9157, Aerodrome Design Manual, Part 3, Pavements.

Status 27.01.2016: "Validated"

340 GM1 ADR-DSN.B.090 (e) / Surface of runways

Requirement new

- (e) The surface of a paved runway should be evaluated when constructed or re-surfaced to determine that the surface friction characteristics achieve the design objectives.

Status 27.01.2016: "Validated"

341 GM1 ADR-DSN.B.105 / Strength of runway turn pads

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

342 GM1 ADR-DSN.B.110 / Surface of runway turn pads

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

343 GM1 ADR-DSN.B.120 / Strength of shoulders for runway turn pads

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

344 GM1 ADR-DSN.B.125 (c)(2) / Runway shoulders

Requirement changed

- (c) However, for runways where the code letter is D, there may be circumstances where the shoulder need not be paved. Where the runway is not used by 4-engined aircraft, it may be possible to contain the risk from erosion or the ingestion of debris in the absence of paved shoulders. In such cases:
- (2) A programme of inspections of the shoulders and runway may be implemented to confirm its continuing serviceability, and ensure that there is no deterioration that could create a risk of foreign object debris (FOD), or otherwise hazard aircraft operations.

Status 27.01.2016: "Validated"

345 GM1 ADR-DSN.B.130 / Slopes on runway shoulders

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

346 GM1 ADR-DSN.B.135 / Width of runway shoulders

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

347 GM1 ADR-DSN.B.140 / Strength of runway shoulders

Requirement changed

Additional guidance on strength of runway shoulders is given in ICAO Doc 9157, Aerodrome Design Manual Part 1, Runways.

Status 27.01.2016: "Validated"

348 GM1 ADR-DSN.B.150 / Runway strip to be provided

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

349 GM1 ADR-DSN.B.155 / Length of runway strip

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

350 GM1 ADR-DSN.B.160 / Width of runway strip

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

351 GM1 ADR-DSN.B.165 / Objects on runway strips

Requirement changed

Within the graded portion of the runway strip, measures should be taken to prevent an aeroplane's wheel when sinking into the ground, from striking a hard vertical face. Special problems may arise for runway light fittings or other objects mounted in the strip or at the intersection with a taxiway or another runway. In the case of constructions within the graded portion of the runway strip, such as intersecting runways or taxiways, where the surface should also be flush with the strip surface, they should be delethalised, that is, so constructed as to avoid presenting a buried vertical face to aircraft wheels in soft ground conditions in any direction from which an aircraft is likely to approach. A vertical face can be eliminated by chamfering from the top of those constructions to not less than 30 cm below the strip surface level. Other objects situated within the graded portion of the runway strip, the functions of which do not require them to be at surface level, should be buried to a depth of not less than 30 cm. Where this is not feasible, to eliminate a buried vertical surface, a slope should be provided which extends from the top of the construction to not less than 30 cm below ground level. The slope can be created by using a mixture of compacted gravel or asphalt or crushed aggregates and soil.

Status 27.01.2016: "Validated"

352 GM1 ADR-DSN.B.170

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

353 GM1 ADR-DSN.B.175 (a) / Grading of runway strips

Requirement changed

- (a) For a precision approach runway, where the code number is 3 or 4, it may be desirable a greater width of that portion of a strip to be graded should be considered. Figure GM-B-4 shows the shape and dimensions of a wider strip that may be considered for such a runway. This strip has been designed using information on aircraft running off runways. The portion to be graded extends to a distance of 105 m from the centre line, except that the distance is gradually reduced to 75 m from the centre line at both ends of the strip, for a length of 150 m from the runway end.

Status 27.01.2016: "Validated"

354 GM1 ADR-DSN.B.175 (b) / Grading of runway strips

Requirement new

- (b) Where the areas in paragraph (a) above have paved surface, they should be able to withstand the occasional passage of the critical aeroplane for runway pavement design.

Status 27.01.2016: "Validated"

355 GM1 ADR-DSN.B.175 (c) / Grading of runway strips

Requirement new

- (c) The area adjacent to the end of a runway may be referred to as a blast pad.

Status 27.01.2016: "Validated"

356 GM1 ADR-DSN.B.175 (d) / Grading of runway strips

Requirement new

(d) Additional guidance on grading is given in ICAO Doc 9157, Aerodrome Design Manual Part 1, Runways.

Status 27.01.2016: "Validated"

357 GM1 ADR-DSN.B.180 / Longitudinal Slopes on runway strips

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

358 GM1 ADR-DSN.B.185 / Transverse slopes on runway strips

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

359 GM1 ADR-DSN.B.190 / Strength of runway strips

Requirement changed

Since the graded portion of a strip is provided to minimise the hazard to an aircraft running off the runway, it should grant sufficient strength in such a manner as to prevent the collapse of the nose landing gear of the aircraft. The surface should be prepared in such a manner as to provide drag to an aircraft and below the surface, it should have sufficient bearing strength to avoid damage to the aircraft. To meet these divergent needs, the following guidelines are provided for preparing the strip. It is noted, that a depth of 15 cm is a depth to which the nose gear may sink without collapsing. Therefore, it is recommended that the soil at a depth of 15 cm below the finished strip surface should be prepared to have a sufficient stability, demonstrated by bearing strength of California Bearing Ratio (CBR) value of 15 to 20. The intention of this is to prevent the nose gear from damage. The top 15 cm may be of lesser strength which would facilitate deceleration of aircraft. There are also other methods for soil investigation. In case of a deeper sinking than 15 cm, the maximum wheel sinking without collapsing should be examined by using different methods of soil investigation.

Status 27.01.2016: "Validated"

360 GM1 ADR-DSN.B.191 (a) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (a) Rapid drainage of surface water is a primary safety consideration in the design, construction and maintenance of movement area and adjacent areas.

Status 27.01.2016: "Validated"

361 GM1 ADR-DSN.B.191 (b)(1) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (b) There are two distinct drainage processes:
 - (1) natural drainage of the surface water from the top of the pavement surface until it reaches the final recipient such as rivers or other water bodies; and

Status 27.01.2016: "Validated"

362 GM1 ADR-DSN.B.191 (b)(2) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (b) There are two distinct drainage processes:
 - (2) dynamic drainage of the surface water trapped under a moving tire until it reaches outside the tire-to-ground contact area.

Both drainage processes can be controlled through design, construction and maintenance of the pavements in order to prevent accumulation of water on the pavement surface.

Status 27.01.2016: "Validated"

363 GM1 ADR-DSN.B.191 (c) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (c) Surface drainage is a basic requirement and serves to minimise water depth on the surface. Adequate surface drainage is provided primarily by an appropriately sloped surface (in both the longitudinal and transverse directions). The resulting combined longitudinal and transverse slope is the path for the drainage runoff. This path can be shortened by adding transverse grooves.

Status 27.01.2016: "Validated"

364 GM1 ADR-DSN.B.191 (d) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (d) Dynamic drainage is achieved through built-in texture in the pavement surface. The rolling tire builds up water pressure and squeezes the water out the escape channels provided by the texture. The dynamic drainage of the tire-to-ground contact area may be improved by adding transverse grooves provided that they are subject to rigorous maintenance.

Status 27.01.2016: "Validated"

365 GM1 ADR-DSN.B.191 (e)(1) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (e) Through construction, the drainage characteristics of the surface are built into the pavement. These surface characteristics are:

- (1) Slopes;

Status 27.01.2016: "Validated"

366 GM1 ADR-DSN.B.191 (e)(2)(i) / Drainage characteristics of the movement area and adjacent areas

Requirement new

(e) Through construction, the drainage characteristics of the surface are built into the pavement. These surface characteristics are:

(2) Texture:

(i) Microtexture;

Status 27.01.2016: "Validated"

367 GM1 ADR-DSN.B.191 (e)(2)(ii) / Drainage characteristics of the movement area and adjacent areas

Requirement new

(e) Through construction, the drainage characteristics of the surface are built into the pavement. These surface characteristics are:

(2) Texture:

(ii) Macrotexture.

Status 27.01.2016: "Validated"

368 GM1 ADR-DSN.B.191 (f) / Drainage characteristics of the movement area and adjacent areas

Requirement new

(f) Slopes for the various parts of the movement area and adjacent parts are described in Chapters B to G and figures are given as per cent. Further guidance is given in ICAO Doc 9157, Aerodrome Design Manual, Part 1, Runways, Chapter 5.

Status 27.01.2016: "Validated"

369 GM1 ADR-DSN.B.191 (g) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (g) Texture in the literature is described as microtexture or macrotexture. These terms are understood differently in various part of the aviation industry.

Status 27.01.2016: "Validated"

370 GM1 ADR-DSN.B.191 (h) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (h) Microtexture is the texture of the individual stones and is hardly detectable by the eye. Microtexture is considered a primary component in skid resistance at slow speeds. On a wet surface at higher speeds a water film may prevent direct contact between the surface asperities and the tire due to insufficient drainage from the tire-to-ground contact area. Microtexture is a built-in quality of the pavement surface. By specifying crushed material that will withstand polishing microtexture, drainage of thin water films are ensured for a longer period of time. Resistance against polishing is expressed in terms of the polished stone values (PSV) which is in principle a value obtained from a friction measurement in accordance with international standards. These standards define the PSV minima that will enable a material with a good microtexture to be selected. A major problem with microtexture is that it can change within short time periods without being easily detected. A typical example of this is the accumulation of rubber deposits in the touchdown area which will largely mask microtexture without necessarily reducing macrotexture.

Status 27.01.2016: "Validated"

371 GM1 ADR-DSN.B.191 (k) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (k) Macrotexture is the texture among the individual stones. This scale of texture may be judged approximately by the eye. Macrotexture is primarily created by the size of aggregate used or by surface treatment of the pavement and is the major factor influencing drainage capacity at high speeds. Materials should be selected so as to achieve good macrotexture.

Status 27.01.2016: "Validated"

372 GM1 ADR-DSN.B.191 (l) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (l) The primary purpose of grooving a runway surface is to enhance surface drainage. Natural drainage can be slowed down by surface texture, but grooving can speed up the drainage by providing a shorter drainage path and increasing the drainage rate.

Status 27.01.2016: "Validated"

373 GM1 ADR-DSN.B.191 (m) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (m) For measurement of macrotexture, simple methods such as the 'sand and grease patch' methods described in ICAO Doc 9137, Airport Services Manual, Part 2, Pavement Surface Conditions were developed. These methods were used for the early research on which current airworthiness requirements are based and which refer to a classification categorising macrotexture from A to E. This classification was developed, using sand or grease patch measuring techniques, and issued in 1971 by the Engineering Sciences Data Unit (ESDU).

Status 27.01.2016: "Validated"

374 GM1 ADR-DSN.B.191 (n) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (n) Using this classification, the threshold value between microtexture and macrotexture is 0.1 mm mean texture depth (MTD). Related to this scale, the normal wet runway aircraft performance is based upon texture giving drainage and friction qualities midway between classification B and C (0.25 mm). Improved drainage through better texture might qualify for a better aircraft performance class. However, such credit must be in accordance with aeroplane manufacturers' documentation. Presently credit is given to grooved or porous friction course runways following design, construction and maintenance criteria. The harmonised certification standards of some States refer to texture giving drainage and friction qualities midway between classification D and E (1.0 mm).

Status 27.01.2016: "Validated"

375 GM1 ADR-DSN.B.191 (o) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (o) For construction, design and maintenance, various international standards are used. Currently ISO 13473-1: 'Characterization of pavement texture by use of surface profiles – Part 1: Determination of Mean Profile Depth' links the volumetric measuring technique with non-contact profile measuring techniques giving comparable texture values. These standards describe the threshold value between microtexture and macrotexture as 0.5 mm. The volumetric method has a validity range from 0.25 to 5 mm MTD. The profilometry method has a validity range from 0 to 5 mm mean profile depth (MPD). The values of MPD and MTD differ due to the finite size of the glass spheres used in the volumetric technique and because the MPD is derived from a two-dimensional profile rather than a three-dimensional surface. Therefore, a transformation equation must be established for the measuring equipment used to relate MPD to MTD.

Status 27.01.2016: "Validated"

376 GM1 ADR-DSN.B.191 (p) / Drainage characteristics of the movement area and adjacent areas

Requirement new

- (p) The ESDU scale groups runway surfaces based on macrotexture from A through E, where E represents the surface with best dynamic drainage capacity. The ESDU scale thus reflects the dynamic drainage characteristics of the pavement. Grooving any of these surfaces enhances the dynamic drainage capacity. The resulting drainage capacity of the surface is thus a function of the texture (A through E) and grooving. The contribution from grooving is a function of the size of the grooves and the spacing between the grooves. Aerodromes exposed to heavy or torrential rainfall must ensure that the pavement and adjacent areas have drainage capability to withstand these rainfalls or put limitations on the use of the pavements under such extreme situations. These airports should seek to have the maximum allowable slopes and the use of aggregates providing good drainage characteristics. They should also consider grooved pavements in the E classification to ensure that safety is not impaired.

Status 27.01.2016: "Validated"

377 GM1 ADR-DSN.B.200 (c) / Stopways

Requirement changed

- (c) The economy of a stopway can be entirely lost if, after each usage, it should be regraded and compacted. Therefore, it should be designed to withstand at least a certain number of loadings of the aeroplane which the stopway is intended to serve without inducing structural damage to the aeroplane. Notwithstanding that a stopway may have a paved surface, it is not intended that PCN Figures need to be developed for a stopway. Further guidance is given in ICAO Doc 4444, PANS-OPS.

Status 27.01.2016: "Validated"

378 GM1 ADR-DSN.B.205 (b) / Radio altimeter operating area

Requirement changed

- (b) With a radio altimeter operating area in the pre-threshold area of a precision approach runway the margin to calculate the decision altitude should be smaller and the usability of the adjacent runway may be enhanced.

Status 27.01.2016: "Validated"

379 GM1 ADR-DSN.B.205 (c) / Radio altimeter operating area

Requirement changed

- (c) Further guidance on radio altimeter operating area is given in ICAO Doc 9365, Manual of All-Weather Operations, Section 5.2. Guidance on the use of radio altimeter is given in the ICAO, PANS-OPS, Volume II, Part II, Section 1.

Status 27.01.2016: "Validated"

380 GM1 ADR-DSN.C.210 (a)(1) / Runway end safety areas (RESA)

Requirement changed

(a) General

- (1) A runway end safety area should provide an area long and wide enough, and suitable to contain overruns and undershoots resulting from a reasonably probable combination of adverse operational factors. On a precision approach runway, the ILS localiser is normally the first upstanding obstacle, and the runway end safety area should extend up to this facility. In other circumstances, the first upstanding obstacle may be a road, a railroad, or other constructed or natural feature. The provisions of a runway end safety area should take such obstacle into consideration.

Status 27.01.2016: "Validated"

381 GM1 ADR-DSN.C.210 (a)(1) / Runway end safety areas (RESA)

Requirement changed

(a) General

- (1) A runway end safety area should provide an area long and wide enough, and suitable to contain overruns and undershoots resulting from a reasonably probable combination of adverse operational factors. On a precision approach runway, the ILS localiser is normally the first upstanding obstacle, and the runway end safety area should extend up to this facility. In other circumstances, the first upstanding obstacle may be a road, a railroad, or other constructed or natural feature. The provisions of a runway end safety area should take such obstacle into consideration.

The headline was changed to:

Runway end safety areas (RESA).

Status 27.01.2016: "Validated"

382 GM1 ADR-DSN.C.210 (a)(2) bis GM1 ADR-DSN.C.210 (a)(5)(xi) / Runway end safety areas (RESA)

Requirement changed

The headline was changed to:

Runway end safety areas (RESA).

Status 27.01.2016: "Validated"

383 GM1 ADR-DSN.C.210 (b)(1)(i) bis GM1 ADR-DSN.C.210 (b)(2)(ii) / Runway end safety areas (RESA)

Requirement changed

The headline was changed to:

Runway end safety areas (RESA).

Status 27.01.2016: "Validated"

384 GM1 ADR-DSN.C.210 (b)(2)(iii) / Runway end safety areas (RESA)

Requirement changed

(b) Assessment of runway end safety areas

(2) Combined with this, measures may be considered that would reduce the severity of the consequences should an event occur. Wherever practicable, aerodrome operators should seek to optimise the RESA. This may be achieved through a combination of:

(iii) reducing runway declared distances in order to provide the necessary RESA may be a

viable option where the existing runway length exceeds that required for the existing or projected design aircraft. If the take-off distance required for the critical aircraft operating at the aerodrome is less than the take-off distance available, there may be an opportunity to reduce the relevant runway declared distances. Where provision of a runway end safety area would be particularly prohibitive to implement consideration would have to be given to reducing some of the declared distances of the runway for the provision of a runway end safety area and/or installation of an arresting system;

Status 27.01.2016: "Validated"

385 GM1 ADR-DSN.C.210 (b)(2)(iv) bis GM1 ADR-DSN.C.210 (b)(6) / Runway end safety areas (RESA)

Requirement changed

The headline was changed to:

Runway end safety areas (RESA).

Status 27.01.2016: "Validated"

386 GM1 ADR-DSN.C.210 (c)(1) / Runway end safety areas (RESA)

Requirement changed

(c) Arresting systems on runway end safety areas

- (1) In recent years, recognising the difficulties associated with achieving a standard runway end safety area (RESA) at all aerodromes, research programmes have been undertaken on the use of various materials for arresting systems. Furthermore, research programmes have been undertaken to evaluate and develop arrestor systems using engineered materials. This research was driven by the recognition that many runways where natural obstacles, local development, and/or environmental constraints inhibit the provision of RESA and lead to limited dimension of RESA. Additionally, there had been accidents at some aerodromes where the ability to stop an overrunning aeroplane within the RESA would have prevented major damage to aeroplane and/or injuries to passengers.

The headline was changed to:

Runway end safety areas (RESA).

Status 27.01.2016: "Validated"

387 GM1 ADR-DSN.C.210 (c)(2) / Runway end safety areas (RESA)

Requirement changed

(c) Arresting systems on runway end safety areas

- (2) The research programmes, as well as evaluation of actual aeroplane overruns into arresting system, have demonstrated that the performance of some arresting systems can be predictable and effective in arresting aeroplane overruns.

The headline was changed to:

Runway end safety areas (RESA).

Status 27.01.2016: "Validated"

388 GM1 ADR-DSN.C.210 (c)(3) / Runway end safety areas (RESA)

Requirement changed

(c) Arresting systems on runway end safety areas

- (3) Arresting system designs should be supported by a validated design method that can predict the performance of the system. The design method should be derived from field or laboratory tests. Testing may be based either on passage of an actual aircraft or an equivalent single wheel load through a test bed. The design should consider multiple aircraft parameters, including but not limited to allowable aircraft gear loads, gear configuration, tire contact pressure, aircraft centre of gravity, and aircraft speed. The model should calculate imposed aircraft gear loads, g-forces on aircraft occupants, deceleration rates, and stopping distances within the arresting system. Any rebound of the crushed material that may lessen its effectiveness, should also be considered.

The headline was changed to:

Runway end safety areas (RESA).

Status 27.01.2016: "Validated"

389 special (c)(4) / Runway end safety areas (RESA)

Requirement changed

(c) Arresting systems on runway end safety areas

- (4) Demonstrated performance of an arresting system can be achieved by a validated design method which can predict the performance of the system. The design and performance should be based on the type of aeroplane anticipated to use the associated runway that imposes the greatest demand upon the arresting system. The design of an arresting system should be based on a critical (or design) aircraft which is defined as aircraft using the associated runway that imposes the greatest demand upon the arresting system. This is usually but not always, the heaviest/largest aircraft that regularly uses the runway. Arresting system performance is dependent not only on aircraft weight but allowable aeroplane gear loads, gear configuration, tire contact pressure, aeroplane centre of gravity and aeroplane speed. Accommodating undershoots should also be addressed. All configurations should be considered in optimising the arresting system design. The aerodrome operator and arresting system manufacturer should consult regarding the selection of the design aeroplane that should optimise the arresting system for a particular aerodrome. Additionally, the design should allow the safe operation of fully loaded rescue and fire fighting vehicles, including their ingress and egress.

The headline was changed to:

Runway end safety areas (RESA).

Status 27.01.2016: "Validated"

390 GM1 ADR-DSN.C.210 (c)(5) / Runway end safety areas (RESA)

Requirement changed

(c) Arresting systems on runway end safety areas

(5) Additional information is given in ICAO Doc 9157, Aerodrome Design Manual, Part 1, Runways.

The headline was changed to:

Runway end safety areas (RESA).

Status 27.01.2016: "Validated"

391 GM1 ADR-DSN.C.210 (c)(6) und GM1 ADR-DSN.C.210 (c)(7) / Runway end safety areas (RESA)

Requirement deleted

Formerly point 5 and 6 were deleted and transisted point 7 and 5.

The headline was changed to:

Runway end safety areas (RESA).

Status 27.01.2016: "Validated"

392 GM1 ADR-DSN.C.225 (b) / Clearing and grading of runway end safety areas

Requirement changed

(b) Guidance on clearing and grading of runway end safety areas is given in ICAO Doc 9157, Aerodrome Design Manual, Part 1, Runways.

Status 27.01.2016: "Validated"

393 GM1 ADR-DSN.C.235 (b) / Strength of runway end safety areas

Requirement changed

(b) Guidance on the strength of a runway end safety area is given in the GM1 ADR-DSN.B.190 Strength of runway strips and in ICAO Doc 9157, Aerodrome Design Manual, Part 1, Runways.

Status 27.01.2016: "Validated"

394 GM1 ADR-DSN.D.240 (e)(1) / Taxiways general

Requirement changed

- (e) A perimeter taxiway is ideally designed according to the following criteria:
- (1) Sufficient space is required between the landing threshold and the taxiway centre line where it crosses under the approach path, to enable the critical aeroplane to pass under the approach without violating the approach surface.

Status 27.01.2016: "Validated"

395 GM1 ADR-DSN.D.240 (g) / Taxiways general

Requirement changed

- (g) The runway/taxiway junction configuration should be simple, for example with single taxiway entrances; this is particularly relevant for taxiways crossing runways.

Status 27.01.2016: "Validated"

396 GM1 ADR-DSN.D.240 (h)(1) / Taxiways general

Requirement changed

- (h) The main design principles for entry and exit taxiways are:
- (1) Taxiways should be perpendicular to the runway centre line if possible.

Status 27.01.2016: "Validated"

397 GM1 ADR-DSN.D.240 (i)(1) / Taxiways general

Requirement changed

- (i) Aerodrome infrastructure can also be used to support design, whether by the systems installed or by their operating characteristics. Examples include:
- (1) Stopbars and runway guard lights should be provided at all entrances, and preferably illuminated H24 and in all weather conditions. Runway incursions do not happen only under restricted visibilities. In fact, more incursions happen when the weather is good.

Status 27.01.2016: "Validated"

398 GM1 ADR-DSN.D.240 (j) / Taxiways general

Requirement changed

(j) Guidance on layout of taxiways is given in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays.

Status 27.01.2016: "Validated"

399 GM1 ADR-DSN.D.250 (c) / Taxiways curves

Requirement changed

(c) An example of widening taxiways to achieve the wheel clearance specified is illustrated in Figure GM-D-1. Guidance on the values of suitable dimensions is given in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays).

Status 27.01.2016: "Validated"

400 GM1 ADR-DSN.D.255 / Junction and intersection of taxiways

Requirement changed

Consideration should be given to the aeroplane datum length when designing fillets. Guidance on the design of fillets and the definition of the term aeroplane datum length are given in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays.

Status 27.01.2016: "Validated"

401 GM1 ADR-DSN.D.260 (a) / Taxiway minimum separation distance

Requirement changed

(a) Guidance on factors which may be considered in the safety assessment is given in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays.

Status 27.01.2016: "Validated"

402 GM1 ADR-DSN.D.260 (c) / Taxiway minimum separation distance

Requirement changed

(c) The separation distances, as prescribed in Table D-1, column (10), do not necessarily provide the capability of making a normal turn from one taxiway to another parallel taxiway. Guidance for this condition is given in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays.

Status 27.01.2016: "Validated"

403 GM1 ADR-DSN.D.265 / Longitudinal slopes on taxiways

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

404 GM1 ADR-DSN.D.270 / Longitudinal slope changes on taxiways

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

405 GM1 ADR-DSN.D.275 / Sight distance of taxiways

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

406 GM1 ADR-DSN.D.285 / Strength of taxiways

Requirement changed

Information regarding pavement bearing strength, including the ACN/PCN classification system may be found in GM1 ADR-DSN.B.085.

Due consideration being given to the fact that a taxiway should be subjected to a greater density of traffic and as a result of slow moving and stationary aeroplanes, to higher stresses than the runway it serves.

Status 27.01.2016: "Validated"

407 GM1 ADR-DSN.D.290 / Surface of taxiways

Requirement changed

Suitable surface friction characteristics are those surface properties required on taxiways that assure safe operation of aeroplanes.

Status 27.01.2016: "Validated"

408 GM1 ADR-DSN.D.295 (a) / Rapid exit taxiways

Requirement changed

(a) The following guidance applies particularly to rapid exit taxiways (see Figure D-1). The general requirements for taxiways, as prescribed in Book 1 are also applicable to rapid exit taxiways. Guidance on the provision, location and design of rapid exit taxiways is included in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays.

Status 27.01.2016: "Validated"

409 GM1 ADR-DSN.D.295 (b) / Rapid exit taxiways

Requirement changed

(b) The locations of rapid exit taxiways along a runway are based on several criteria described in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays, in addition to different speed criteria.

Status 27.01.2016: "Validated"

410 GM1 ADR-DSN.D.305 / Taxiway shoulders

Requirement changed

Guidance on characteristics of taxiway shoulders and on shoulder treatment is given in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays.

Status 27.01.2016: "Validated"

411 GM1 ADR-DSN.D.310 / Taxiway Strip

Requirement changed

A taxiway strip should be so prepared or constructed as to minimise hazards arising from differences in load bearing capacity to aeroplanes which the taxiway is intended to serve in the event of an aeroplane accidentally running off the taxiway.

Guidance on characteristics of taxiway strips is given in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays.

Status 27.01.2016: "Validated"

412 GM1 ADR-DSN.D.315 / Width of taxiway strips

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

413 GM1 ADR-DSN.D.325 / Grading of taxiway strips

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

414 GM1 ADR-DSN.D.330 / Slopes on taxiway strips

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

415 GM1 ADR-DSN.D.335 (e) / Holding bays, runway-holding positions, intermediate holding positions, and road-holding positions

Requirement changed

- (e) Further guidance is given in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays and ICAO Doc 4444, Procedures for Air Navigation Services – Air Traffic Management.

Status 27.01.2016: "Validated"

416 GM1 ADR-DSN.D.340 (c) / Location of holding bays, runway-holding positions, intermediate holding positions, and road-holding positions

Requirement changed

- (c) An aircraft taxiing could endanger aircraft operations when the aircraft is too close to the runway during take-off and landings. It is so advised to check if the aircraft taking off or landing could be hindered. For this OLS and specially approach surfaces, take-off climb surfaces and OFZ are the first aspects to consider. An aircraft taxiing could also endanger aircraft operations when the aircraft location and orientation are so that the aircraft interfere with navigation aids. It is specific to instrument runways and especially important for precision approach runways. The non-penetration of critical/sensitive areas is the first check. The areas within which this degradable interference of course or path signals are possible need to be defined and recognised. For the purposes of developing protective zoning criteria for ILS, these areas are critical areas and sensitive areas. The ILS critical area is an area of defined dimensions about the localizer and glide path antennas where vehicles, including aircraft, are excluded during all ILS operations. The critical area is protected, since the presence of vehicles and/or aircraft inside the critical area boundaries would cause unacceptable disturbance to the ILS signal. The ILS sensitive area is an area extending beyond the critical area where the parking and/or movement of vehicles, including aircraft, is controlled to prevent the possibility of unacceptable interference to the ILS signal during ILS operations.

Status 27.01.2016: "Validated"

417 GM1 ADR-DSN.D.340 (e) / Location of holding bays, runway-holding positions, intermediate holding positions, and road-holding positions

Requirement changed

- (e) If the affected runway is used under precision approach procedures, it should be also verified that the distance between a holding bay, runway-holding position established at a taxiway/runway intersection or road-holding position and the centre line of a runway is so that a holding aircraft or vehicle should not infringe the obstacle-free zone and the critical/sensitive areas of precision approach navigation aids (e.g. ILS/MLS).

Status 27.01.2016: "Validated"

418 GM1 ADR-DSN.D.340 (h) / Location of holding bays, runway-holding positions, intermediate holding positions, and road-holding positions

Requirement changed

- (h) In radiotelephony phraseologies, the expression 'holding point' is used to designate the runway-holding position.

Status 27.01.2016: "Validated"

419 GM1 ADR-DSN.D.340 (i) / Location of holding bays, runway-holding positions, intermediate holding positions, and road-holding positions

Requirement new

- (i) Further guidance is given in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays.

Status 27.01.2016: "Validated"

420 GM1 ADR-DSN.E.345 / General

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

421 GM1 ADR-DSN.E.350 (b)(7) / Size of aprons

Requirement changed

(b) The amount of area required for a particular apron layout depends upon the following factors:

(7) taxiways and apron service roads.

Status 27.01.2016: "Validated"

422 GM1 ADR-DSN.E.350 (c) / Size of aprons

Requirement changed

(c) Passenger aircraft services that are carried out during the time the aircraft is parked in a stand position include: galley; toilet and potable water service; baggage handling; fuelling; provision of air conditioning, oxygen, electrical power supply and starting air; and aircraft towing. Most of these functions have a vehicle and/or equipment associated with them, or have some type of fixed installation established to conduct these services. Further guidance is given in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays, par. 3.4.6.

Status 27.01.2016: "Validated"

423 GM1 ADR-DSN.E.350 (d) / Size of aprons

Requirement changed

(d) Consideration should be given to providing sufficient area on the star-board side of the aircraft to support the level of activity that take place in the turnaround operation. Further guidance is given in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays, par. 3.4.6.

Status 27.01.2016: "Validated"

424 GM1 ADR-DSN.E.350 (d) / Size of aprons

Requirement changed

(d) Consideration should be given to providing sufficient area on the star-board side of the aircraft to support the level of activity that take place in the turnaround operation. Further guidance is given in ICAO Doc 9157, Aerodrome Design Manual, Part 2, Taxiways, Aprons and Holding Bays, par. 3.4.6.

Status 27.01.2016: "Validated"

425 GM1 ADR-DSN.E.360 (b) / Slopes on aprons

Requirement changed

- (b) Slopes on apron have the same purpose as other pavement slopes, meaning to prevent the accumulation of water (or possible fluid contaminant) on the surface and to facilitate rapid drainage of surface water (or possible fluid contaminant). Nevertheless, the design of the apron, especially for the parts containing airplane stands, should specifically take into account the impact of the slopes on the airplane during its braking at the stand and during its start for departure (with push-back or with its own engines). The aims are, on the one hand, to avoid that an airplane passes its stop point and goes on the apron service road or to the closest building and on the other hand, to save fuel and optimise the manoeuvrability of the airplane or of the push-back device.

Status 27.01.2016: "Validated"

426 GM1 ADR-DSN.E.365 (c) / Clearance distances on aircraft stands

Requirement new

- (c) Any aircraft passing behind an aircraft parked on an aircraft stand should keep the required clearance distances defined in Table D-1.

Status 27.01.2016: "Validated"

427 GM1 ADR-DSN.G.380 (b) / Location

Requirement changed

- (b) To further maximise departure flow rates for all aeroplanes, the location and size of de-icing/anti-icing facilities should be such that they allow for bypass taxiing during de-icing/anti-icing operations. Additional guidance is given

Status 27.01.2016: "Validated"

428 GM1 ADR-DSN.G.385 (a) / Size of de-icing/anti-icing pads

Requirement changed

- (a) It is recommended that the aerodrome have facilities with a de-icing/anti-icing capability equivalent to the maximum peak hour departure rate that can be managed by the ATC units during de-icing/anti-icing operations. Additional guidance is given in ICAO Doc 9640, Manual of aircraft ground de-icing/anti-icing operations, paragraph 8.3.

Status 27.01.2016: "Validated"

429 GM1 ADR-DSN.H.410 (b) / Outer horizontal surface

Requirement changed

- (a) The outer horizontal surface should extend from the periphery of the conical surface as shown in Figure GM-H-1. An outer horizontal surface is a specified portion of a horizontal plane around an aerodrome beyond the limits of the conical surface. It represents the level above which consideration needs to be given to the control of new obstacles in order to facilitate practicable and efficient instrument approach procedures, and together with the conical and inner horizontal surfaces to ensure safe visual manoeuvring in the vicinity of an aerodrome.

Status 27.01.2016: "Validated"

430 GM1 ADR-DSN.H.410 (e) / Outer horizontal surface

Requirement changed

- (e) Guidance on Outer Horizontal Surface is included in ICAO Doc 9137, Airport Services Manual, Part 6, Control of Obstacles.

Status 27.01.2016: "Validated"

431 GM1 ADR-DSN.H.415 / Conical surface

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

432 GM1 ADR-DSN.H.420 (c) / Inner horizontal surface

Requirement changed

- (c) For runways less than 1 800 m in length, the inner horizontal surface may be defined as a circle centred on the midpoint of the runway.

Status 27.01.2016: "Validated"

433 GM1 ADR-DSN.H.420 (e) / Inner horizontal surface

Requirement changed

- (e) For relatively level runways the selection of elevation datum location is not critical, but when the thresholds differ by more than 6 m, the elevation datum should regard to the factors as the elevation of the most frequent used altimeter setting datum points, minimum circling altitudes in use or required and the nature of operations at the aerodrome. For more complex inner horizontal surfaces, with runways on different levels, as shown in Figure GM-H-2, a common elevation is not essential, but where surfaces overlap, the lower surface should be regarded as dominant.

Status 27.01.2016: "Validated"

434 GM1 ADR-DSN.H.420 (f) / Inner horizontal surface

Requirement changed

- (f) Further guidance is given in ICAO Doc 9137, Airport Services Manual, Part 6, Control of Obstacles.

Status 27.01.2016: "Validated"

435 GM1 ADR-DSN.H.425 / Approach surface

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

436 GM1 ADR-DSN.H.435 / Take-off climb surface

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

437 GM1 ADR-DSN.H.440 / Slewed take-off climb surface

Requirement changed

The edge of a Take-off climb surface may be slewed in the direction of a turn away from the extended runway centre line up to a maximum of 15° splay. The portion of take-off climb surface encompassing the new departure track should be the same shape and dimensions as the original take-off climb surface measured relative to the new departure track. The opposite edge of the take-off climb surface should remain unchanged unless there is another turning departure towards that side as well, in which case, the edge may be slewed in that direction too.

Status 27.01.2016: "Validated"

438 GM1 ADR-DSN.H.445 / Obstacle-free zone (OFZ)

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

439 GM1 ADR-DSN.H.450 / Inner approach surface

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

440 GM1 ADR-DSN.H.460 / Balked landing surface

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

441 GM1 ADR-DSN.J.470 (b) / Non-instrument runways

Requirement changed

- (b) Because of transverse or longitudinal slopes on a strip, in certain cases the inner edge or portions of the inner edge of the approach surface may be below the corresponding elevation of the strip. It is not intended that the strip be graded to conform with the inner edge of the approach surface, nor is it intended that terrain or objects which are above the approach surface beyond the end of the strip, but below the level of the strip, be removed unless it is considered that they may endanger aeroplanes.

Status 27.01.2016: "Validated"

442 GM1 ADR-DSN.J.475 (b) / Non-precision approach runways

Requirement changed

- (b) Circumstances in which the shielding principle may reasonably be applied are described in ICAO Doc 9137, Airport Services Manual, Part 6, Control of Obstacles.

Status 27.01.2016: "Validated"

443 GM1 ADR-DSN.J.475 (c) / Non-precision approach runways

Requirement changed

- (c) Because of transverse or longitudinal slopes on a strip, in certain cases the inner edge or portions of the inner edge of the approach surface may be below the corresponding elevation of the strip. It is not intended that the strip be graded to conform with the inner edge of the approach surface, nor is it intended that terrain or objects which are above the approach surface beyond the end of the strip, but below the level of the strip, be removed unless it is considered they may endanger aeroplanes.

Status 27.01.2016: "Validated"

444 GM1 ADR-DSN.J.480 (a)(1) bis GM1 ADR-DSN.J.480 (a)(3) / Precision approach runways

Requirement changed

- (a) The following obstacle limitation surfaces should be established for a precision approach runway Category I:

(...)

Status 27.01.2016: "Validated"

445 GM1 ADR-DSN.J.480 (c) / Precision approach runways

Requirement changed

- (c) Guidance on obstacle limitation surfaces for precision approach runways is given in ICAO Doc 9137, Airport Services Manual, Part 6, Control of Obstacles.

Status 27.01.2016: "Validated"

446 GM1 ADR-DSN.J.480 (d) / Precision approach runways

Requirement changed

- (d) Circumstances in which the shielding principle may reasonably be applied are described in ICAO Doc 9137, Airport Services Manual, Part 6, Control of Obstacles.

Status 27.01.2016: "Validated"

447 GM1 ADR-DSN.J.480 (f) / Precision approach runways

Requirement changed

- (f) For information on code letter F aeroplanes equipped with digital avionics that provide steering commands to maintain an established track during the go-around manoeuvre. Additional guidance is given in ICAO Circular, 301, New Larger Aeroplanes – Infringement of the Obstacle Free Zone.

Status 27.01.2016: "Validated"

448 GM1 ADR-DSN.J.485 (c) / Runways meant for take-off

Requirement changed

- (c) Circumstances in which the shielding principle may reasonably be applied are described in ICAO Doc 9137, Airport Services Manual, Part 6, Control of Obstacles.

Status 27.01.2016: "Validated"

449 GM1 ADR-DSN.J.485 (d) / Runways meant for take-off

Requirement changed

- (d) Because of transverse slopes on a strip or clearway, in certain cases portions of the inner edge of the take-off climb surface may be below the corresponding elevation of the strip or clearway. It is not intended that the strip or clearway be graded to conform with the inner edge of the take-off climb surface, nor is it intended that terrain or objects which are above the take-off climb surface beyond the end of the strip or clearway, but below the level of the strip or clearway, be removed unless it is considered that they may endanger aeroplanes. Similar considerations apply at the junction of a clearway and strip where differences in transverse slopes exist.

Status 27.01.2016: "Validated"

450 GM1 ADR-DSN.J.486 / Other objects

Requirement changed

In certain circumstances, objects that do not project above any of the obstacle limitation surfaces may constitute a hazard to aeroplanes as, for example, where there are one or more isolated objects in the vicinity of an aerodrome.

Status 27.01.2016: "Validated"

451 GM1 ADR-DSN.J.487 (a) / Objects outside the obstacle limitation surfaces

Requirement new

- (a) Beyond the limits of the obstacle limitation surfaces the safety assessment should be conducted for the proposed constructions that extend above the established limits in order to protect safe operation of aircraft.

Status 27.01.2016: "Validated"

452 GM1 ADR-DSN.J.487 (b) / Objects outside the obstacle limitation surfaces

Requirement new

- (b) The safety assessment may have regard to the nature of operations concerned and may distinguish between day and night operations.

Status 27.01.2016: "Validated"

453 GM1 ADR-DSN.K.490 (a) / Wind direction indicator

Requirement changed

- (a) Wind direction indicators are important visual aids for all runway ends. Large wind direction indicators are particularly important at aerodromes where landing information is not available through radio communications. On the other hand, landing direction indicators are seldom used due to the necessity and, consequently, responsibility, of changing their direction as wind direction shifts. Visual ground signals for runway and taxiway serviceability are contained in ICAO Annex 2. Additional guidance is given in ICAO Doc 9157, Aerodrome Design Manual, Part 4, Visual Aids, Chapter 3.

Status 27.01.2016: "Validated"

454 GM1 ADR-DSN.K.515 (b) / Characteristics of signal panels and signal area

Requirement changed

- (b) The signal area should be constructed of cement concrete reinforced with an adequate quantity of steel to avoid cracks resulting from unequal settlement. The top surface should be finished smooth with a steel trowel and coated with paint of appropriate colour. The colour of the signal area should be chosen to contrast with the colours of the signal panels to be displayed thereon. More guidance is given in ICAO Doc 9157, Aerodrome Design Manual Part 4, Visual Aids, Chapter 3.

Status 27.01.2016: "Validated"

455 GM1 ADR-DSN.L.520 (c)(1) bis GM1 ADR-DSN.L.520 (f) / General – Colour and conspicuity

Requirement deleted

The given points were deleted without replacement.

Status 27.01.2016: "Validated"

456 GM1 ADR-DSN.L.525 / Runway designation marking

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

457 GM1 ADR-DSN.L.535 / Threshold marking

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

458 GM1 ADR-DSN.L.540 / Aiming point marking

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

459 GM1 ADR-DSN.L.555 / Taxiway centre line marking

Requirement changed

The term 'continuous guidance' is not intended to require that taxiway centre line markings are provided onto aircraft stands. Instead, it is intended that the centre line marking be provided on taxiways leading to aircraft stands or other apron areas from which visual cues or other means exist, such as lead-in arrows and stand number indicators, to enable aircrew to manoeuvre the aircraft onto a stand or other parking area.

Status 27.01.2016: "Validated"

460 GM1 ADR-DSN.L.560 / Interruption of runway markings

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

461 GM1 ADR-DSN.L.565 / Runway turn pad marking

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

462 GM1 ADR-DSN.L.570 / Enhanced taxiway centre line marking

Requirement changed

The provision of enhanced taxiway centre line marking may form part of runway-incursion prevention measures.

Status 27.01.2016: "Validated"

463 GM1 ADR-DSN.L.570 (b) und (c) / Enhanced taxiway centre line marking

Requirement changed

The given points were deleted without replacement.

Status 27.01.2016: "Validated"

464 GM1 ADR-DSN.L.580 / Intermediate holding position marking

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

465 GM1 ADR-DSN.L.585 / VOR aerodrome checkpoint marking

Requirement changed

Further guidance on the selection of sites for VOR aerodrome checkpoints is given in ICAO Annex 10, Volume I, Attachment E.

Status 27.01.2016: "Validated"

466 GM1 ADR-DSN.L.595 (a) / Apron safety lines

Requirement new

(a) Ground equipment and vehicles should be kept outside predetermined limits when aircraft are manoeuvring or when the equipment is left unattended.

Status 27.01.2016: "Validated"

467 GM1 ADR-DSN.L.595 (b)(1) / Apron safety lines

Requirement new

- (b) Safety lines are required on an apron to mark the limits of parking areas for ground equipment, apron service roads and passengers' paths, etc. These lines are narrower and of a different colour to differentiate them from the guidelines used for aircraft.
- (1) Wing tip clearance lines. These lines should delineate the safety zone clear of the path of the critical aeroplane wing tip. The line should be drawn at appropriate distance outside the normal path of the wing tip of the critical aeroplane;

Status 27.01.2016: "Validated"

468 GM1 ADR-DSN.L.595 (b)(2) / Apron safety lines

Requirement new

- (b) Safety lines are required on an apron to mark the limits of parking areas for ground equipment, apron service roads and passengers' paths, etc. These lines are narrower and of a different colour to differentiate them from the guidelines used for aircraft.
- (2) Equipment limit lines. These lines are used to indicate the limits of areas which are intended for parking vehicles and aircraft servicing equipment when they are not in use.

Status 27.01.2016: "Validated"

469 GM1 ADR-DSN.L.595 (c)(1) / Apron safety lines

Requirement new

- (c) Several methods may be used to identify which side of a safety line is safe for storage of such vehicles and equipment:
- (1) Spurs or an additional line (a discontinuous line of the same colour or a continuous line of a different conspicuous colour) may be provided on one side of the safety line. The side on which such spurs or an additional line is located is considered safe for parking vehicles and equipment;

Status 27.01.2016: "Validated"

470 GM1 ADR-DSN.L.595 (c)(2) / Apron safety lines

Requirement new

- (c) Several methods may be used to identify which side of a safety line is safe for storage of such vehicles and equipment:
- (2) The words 'Equipment Limit' may be painted on the side used by ground equipment and readable from that side;

Status 27.01.2016: "Validated"

471 GM1 ADR-DSN.L.595 (c)(3) / Apron safety lines

Requirement new

- (c) Several methods may be used to identify which side of a safety line is safe for storage of such vehicles and equipment:
- (3) Passenger path lines. These lines are used to indicate to passengers and escorting personnel the route that needs to be followed, when walking on the apron, in order to be clear of hazards. A pair of lines with zebra hatching between them may be used.

Status 27.01.2016: "Validated"

472 GM1 ADR-DSN.L.597 (a) / Apron service road marking

Requirement new

- (a) The term service road encompasses also other types of roads, such as the perimeter service roads, which are used to provide access to security or maintenance services etc. of the aerodrome. However, such types of service roads do not fall under the term 'apron service road'.

Status 27.01.2016: "Validated"

473 GM1 ADR-DSN.L.597 (b) / Apron service road marking

Requirement new

- (b) When an apron service road crosses a taxiway, a separate road-holding position sign, in accordance with CS ADR-DSN.N.800, or road-holding position marking, in accordance with CS ADR-DSN.L.600, should indicate that vehicles are required to stop.

Status 27.01.2016: "Validated"

474 GM1 ADR-DSN.L.597 (c) / Apron service road marking

Requirement new

(c) Markings located on an apron are prescribed in CS ADR-DSN.L.555, CS ADR-DSN.L.590 and CS ADR-DSN.L.595.

Status 27.01.2016: "Validated"

475 GM1 ADR-DSN.L.600 (a) / Road-holding position marking

Requirement changed

(a) Where a road that accesses a runway or a taxiway is unpaved, it may not be possible to install markings. In such cases, a road-holding position signs and/or lights should be installed, combined with appropriate instructions on how the driver of a vehicle should proceed.

Status 27.01.2016: "Validated"

476 GM1 ADR-DSN.M.620 / Aeronautical beacons

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

477 GM1 ADR-DSN.M.625 (a)(1) / Approach lighting systems

Requirement changed

(a) Types and characteristics

(1) The approach lighting patterns that have been generally adopted are shown in Figures M-1 and M-2. A diagram of the inner 300 m of the precision approach Category II and III lighting system is shown in Figures M-3A and M-3B.

The headline has been changed to:

Approach lighting systems.

Status 27.01.2016: "Validated"

478 GM1 ADR-DSN.M.625 (a)(2) / Approach lighting systems

Requirement changed

(a) Types and characteristics

- (2) The approach lighting configuration is to be provided irrespective of the location of the threshold, i.e. whether the threshold is at the extremity of the runway or displaced from the runway extremity. In both cases, the approach lighting system should extend up to the threshold. However, in the case of a displaced threshold, inset lights are used from the runway extremity up to the threshold to obtain the specified configuration. These inset lights are designed to satisfy the structural requirements specified in CS ADR.DSN.M.615(d)(1). The characteristics of these inset lights should be in accordance with the specifications in CS ADR-DSN.U.940, Figures U-5 or U-6, as appropriate and the chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

The headline has been changed to:

Approach lighting systems.

Status 27.01.2016: "Validated"

479 GM1 ADR-DSN.M.625 (a)(3) bis GM1 ADR-DSN.M.625 (c)(3) / Approach lighting systems

Requirement changed

The headline has been changed to:

Approach lighting systems.

Status 27.01.2016: "Validated"

480 GM1 ADR-DSN.M.625 (c)(4)(i) und (ii) / Approach lighting systems

Requirement changed

- (4) In order to avoid giving a misleading impression of the plane of the ground, the lights should not be mounted below a gradient of 1 in 66 downwards from the threshold to a point 300 m out, and below a gradient of 1 in 40 beyond the 300 m point. For a precision approach Category II and III lighting system, more stringent criteria may be necessary, e.g. negative slopes not permitted within 450 m of the threshold.

(...)

The headline has been changed to:

Approach lighting systems.

Status 27.01.2016: "Validated"

481 GM1 ADR-DSN.M.625 (c)(5) bis GM1 ADR-DSN.M.625 (e)(2) / Approach lighting systems

Requirement changed

The headline has been changed to:

Approach lighting systems.

Status 27.01.2016: "Validated"

482 GM1 ADR-DSN.M.625 (e)(3) / Approach lighting systems

Requirement changed

(3) In such cases, every effort should be made to provide as much approach lighting system as possible. Restrictions on operations could be imposed on runways equipped with reduced lengths of approach lighting. There are many factors which determine at what height the pilot should have decided to continue the approach to land or execute a missed approach. It should be understood that the pilot does not make an instantaneous judgement upon reaching a specified height. The actual decision to continue the approach and landing sequence is an accumulative process which is only concluded at the specified height. Unless lights are available prior to reaching the decision point, the visual assessment process is impaired and the likelihood of missed approaches should increase substantially. There are many operational considerations which should be taken into account in deciding if any restrictions are necessary to any precision approach and these are detailed in ICAO Annex 6.

The headline has been changed to:

Approach lighting systems.

Status 27.01.2016: "Validated"

483 GM1 ADR-DSN.M.625 (f) / Approach lighting systems

Requirement changed

(f) For Non precision approach runways it is advisable to give consideration to the installation of a precision approach Category I lighting system or to the addition of a runway lead-in lighting system.

The headline has been changed to:

Approach lighting systems.

Status 27.01.2016: "Validated"

484 GM1 ADR-DSN.M.626 / Simple approach lighting systems

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

485 GM1 ADR-DSN.M.630 (a) und (b) / Precision approach Category I lighting system

Requirement changed

The headline has been changed to:

Precision approach Category I lighting system.

Status 27.01.2016: "Validated"

486 GM1 ADR-DSN.M.635 / Precision approach Category II and III lighting system

Requirement changed

The length of 900 m is based on providing guidance for operations under Category I, II and III conditions. Reduced lengths may support Category II and III operations but may impose limitations on Category I operations. Additional guidance is given in ICAO Annex 14, Attachment A, Section 11.

The headline has been changed to:

Precision approach Category II and III lighting system.

Status 27.01.2016: "Validated"

487 GM1 ADR-DSN.M.645 / Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI)

Requirement changed

intentionally left blank

The headline has been changed to:

Precision approach path indicator and Abbreviated precision approach path indicator (PAPI and APAPI).

Status 27.01.2016: "Validated"

488 GM1 ADR-DSN.M.650 / Approach slope and elevation setting of light units for PAPI and APAPI

Requirement changed

intentionally left blank

The headline has been changed to:

Approach slope and elevation setting of light units for PAPI and APAPI.

Status 27.01.2016: "Validated"

489 GM1 ADR-DSN.M.655 / Obstacle protection surface for PAPI and APAPI

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

490 GM1 ADR-DSN.M.660 / Circling guidance lights

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

491 GM1 ADR-DSN.M.675 / Runway edge lights

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

492 GM1 ADR-DSN.M.680 / Runway threshold and wing bar lights

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

493 GM1 ADR-DSN.M.690 (a) / Runway centre line lights

Requirement changed

(a) Runway centre line lights should be provided on a precision approach runway Category I when the runway is used by aircraft with high landing speeds or where the width between the runway edge lights is greater than 50 m.

Status 27.01.2016: "Validated"

494 GM1 ADR-DSN.M.696 (a) / Simple Touchdown Zone Lights

Requirement new

(a) Simple touchdown zone lights should be supplied with power on a separate circuit to other runway lighting so that they may be used when other lighting is switched off.

Status 27.01.2016: "Validated"

495 GM1 ADR-DSN.M.700 (d)(4) / Rapid exit taxiway indicator lights

Requirement changed

(d) Characteristics:

- (4) Rapid exit taxiway indicator lights characteristics should be in accordance with the specifications in CS ADR-DSN.U.940, Figure U-10 or U-11, as appropriate.

Status 27.01.2016: "Validated"

496 GM1 ADR-DSN.M.700 (d)(5) / Rapid exit taxiway indicator lights

Requirement new

(d) Characteristics:

- (5) Rapid exit taxiway indicator lights chromaticity should be in accordance with the specifications in CS ADR-DSN.U.930 and Figure U-1.

Status 27.01.2016: "Validated"

497 GM1 ADR-DSN.M.705 / Stopway lights

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

498 GM1 ADR-DSN.M.710 (b) / Taxiway centre line lights

Requirement new

- (b) Care should be taken to limit the light distribution of green lights on or near a runway so as to avoid possible confusion with threshold lights.

Status 27.01.2016: "Validated"

499 GM1 ADR-DSN.M.710 (c) / Taxiway centre line lights

Requirement new

(c) The provisions of CS ADR-DSN.M.710(c)(3) can form part of effective runway incursion prevention measures.

Status 27.01.2016: "Validated"

500 GM1 ADR-DSN.M.715 / Taxiway centre line lights on taxiways, runways, rapid exit taxiways, or on other exit taxiways

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

501 GM1 ADR-DSN.M.720 / Taxiway edge lights

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

502 GM1 ADR-DSN.M.725 / Runway turn pad lights

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

503 GM1 ADR-DSN.M.730 (a) / Stop bars

Requirement new

(a) A stop bar is intended to be controlled either manually or automatically by air traffic services.

The headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

504 GM1 ADR-DSN.M.730 (b) / Stop bars

Requirement new

- (b) Runway incursions may take place in all visibility or weather conditions. The provision of stop bars at runway-holding positions and their use at night and in visibility conditions greater than 550 m runway visual range can form part of effective runway incursion prevention measures.

The headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

505 GM1 ADR-DSN.M.730 (c) / Stop bars

Requirement changed

- (c) A pair of elevated lights should be added to each end of the stop bar where the in-pavement stop bar lights might be obscured from a pilot's view, for example by snow or rain, or where a pilot 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.

The headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

506 GM1 ADR-DSN.M.730 (d) / Stop bars

Requirement new

- (d) Where necessary, to enhance conspicuity of an existing stop bar, extra lights are installed uniformly.

The headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

507 GM1 ADR-DSN.M.730 (e) / Stop bars

Requirement changed

(e) Where the additional lights specified in (c) above are provided, these lights should be located not less than 3 m from the taxiway edge.

The headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

508 GM1 ADR-DSN.M.730 (f) / Stop bars

Requirement changed

(f) Where the additional lights specified in (c) above are provided, these lights should have the same characteristics as the lights in the stop bar but should be visible to approaching aircraft up to the stop bar position.

The headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

509 GM1 ADR-DSN.M.730 (g) / Stop bars

Requirement new

(g) High-intensity stop bars should only be used in case of an absolute necessity and following a specific study.

The headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

510 GM1 ADR-DSN.M.730 (h) / Stop bars

Requirement new

- (h) Care is required in the design of the electrical system to ensure that all of the lights of a stop bar will not fail at the same time. Guidance on this issue is given in ICAO Doc 9157, Aerodrome Design Manual, Part 5, Electrical Systems.

The headline has been changed to:

Stop bars.

Status 27.01.2016: "Validated"

511 GM1 ADR-DSN.M.735 / Intermediate holding position lights

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

512 GM1 ADR-DSN.M.740 / De-icing/anti-icing facility exit lights

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

513 GM1 ADR-DSN.M.745 (e) / Runway guard lights

Requirement changed

- (e) Active runway is to consider any runway or runways currently being used for take-off or landing. When multiple runways are used, they are all considered active runways.

Status 27.01.2016: "Validated"

514 GM1 ADR-DSN.M.765 / Aircraft stand manoeuvring guidance lights

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

515 GM1 ADR-DSN.M.771 (a) / No-entry bar

Requirement new

(a) A no-entry bar is intended to be controlled either manually or automatically by air traffic services.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

516 GM1 ADR-DSN.M.771 (b) / No-entry bar

Requirement new

(b) Runway incursions may take place in all visibility or weather conditions. The provision of no-entry bars at taxiway/runway intersections and their use at night and in all visibility conditions can form part of effective runway incursion prevention measures.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

517 GM1 ADR-DSN.M.771 (c) / No-entry bar

Requirement new

(c) Where necessary to enhance conspicuity, extra lights should be installed uniformly.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

518 GM1 ADR-DSN.M.771 (d) / No-entry bar

Requirement new

- (d) A pair of elevated lights should 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 snow or rain, or where a pilot 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.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

519 GM1 ADR-DSN.M.771 (e) / No-entry bar

Requirement new

- (e) Where no-entry bars are specified as components of an advanced surface movement guidance and control system and where, from an operational point of view, higher intensities are required to maintain ground movements at a certain speed in very low visibilities or in bright daytime conditions, the intensity in red light and beam spreads of no-entry bar lights should be in accordance with the specifications in CS ADR-DSN.U.940, Figures U-21, U-22 or U-23, as appropriate.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

520 GM1 ADR-DSN.M.771 (f) / No-entry bar

Requirement new

- (f) High-intensity no-entry bars are typically used only in case of an absolute necessity and following a safety assessment.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

521 GM1 ADR-DSN.M.771 (g) / No-entry bar

Requirement new

- (g) Where a wide beam fixture is required, the intensity in red light and beam spreads of no-entry bar lights should be in accordance with the specifications in CS ADR-DSN.U.940, Figures U-21 or U-23, as appropriate.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

522 GM1 ADR-DSN.M.771 (h) / No-entry bar

Requirement new

- (h) Care is required in the design of the electrical system to ensure that all of the lights of a no-entry bar will not fail at the same time. No-entry bar lights should be supplied with power on a separate circuit to other runway lighting so that they may be used when other lighting is switched off.

The headline reads:

No-entry bar.

Status 27.01.2016: "Validated"

523 GM1 ADR-DSN.N.775 (c) / General

Requirement changed

- (c) Guidance on signs is contained in ICAO Doc 9157, Aerodrome Design Manual, Part 4, Visual Aids, Chapter 11.

Status 27.01.2016: "Validated"

524 GM1 ADR-DSN.N.775 (c) / General

Requirement changed

- (c) Guidance on signs is contained in ICAO Doc 9157, Aerodrome Design Manual, Part 4, Visual Aids, Chapter 11.

Status 27.01.2016: "Validated"

524 GM1 ADR-DSN.N.775 (d) / General

Requirement changed

- (d) Guidance on frangibility is contained in ICAO Doc 9157, Aerodrome Design Manual, Part 6, Frangibility.

Status 27.01.2016: "Validated"

525 GM1 ADR-DSN.N.775 (e) / General

Requirement changed

- (e) Guidance on measuring the average luminance of a sign is contained in ICAO Doc 9157, Aerodrome Design Manual, Part 4, Visual Aids.

Status 27.01.2016: "Validated"

526 GM1 ADR-DSN.N.780 / Mandatory instruction signs

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

527 GM1 ADR-DSN.N.785 (a) / Information signs

Requirement new

- (a) When an installation of information sign on the left-hand side is not possible, e.g. due to infrastructural or operational restrictions, an installation on the right-hand side of the taxiway in accordance with the specifications given in Table N-1 may also be acceptable when a safety assessment indicates that it would not adversely affect the safety of operations of aeroplanes.

Status 27.01.2016: "Validated"

528 GM1 ADR-DSN.N.785 (b) / Information signs

Requirement new

- (b) At a 'T' intersection, information signs may be located in the direction of the taxiway centre line to the opposite side of the crossing taxiway when a safety assessment indicates that guidance could be assured under all intended operating conditions and that it would not adversely affect the safety of operations of aeroplanes.

Status 27.01.2016: "Validated"

529 GM1 ADR-DSN.N.790 / VOR aerodrome checkpoint sign

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

530 GM1 ADR-DSN.N.795 / Aircraft stand identification signs

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

531 GM1 ADR-DSN.N.800 / Road-holding position sign

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

532 GM1 ADR-DSN.P.805 / General

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

533 GM1 ADR-DSN.P.810 / Unpaved runway edge markers

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

534 GM1 ADR-DSN.P.815 / Stopway edge markers

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

535 GM1 ADR-DSN.P.820 / Edge markers for snow-covered runways

Requirement changed

Characteristics: Runway lights could be used to indicate the limits.

Status 27.01.2016: "Validated"

536 GM1 ADR-DSN.P.825 (b) / Taxiway edge markers

Requirement changed

(b) On a straight section of a taxiway, taxiway edge markers should be spaced at uniform longitudinal intervals of not more than 60 m. On a curve the markers should be spaced at intervals less than 60 m so that a clear indication of the curve is provided. The markers should be located as near as practicable to the edges of the taxiway, or outside the edges at a distance of not more than 3 m. Additional guidance is given in ICAO Doc 9157, Aerodrome Design Manual, Part 4, Visual Aids, Chapter 2, par. 2.4.2.

Status 27.01.2016: "Validated"

537 GM1 ADR-DSN.P.825 (c) / Taxiway edge markers

Requirement changed

(c) The markers commonly used are cylindrical in shape. Ideally, the design of the marker should be such that when installed properly, no portion should exceed 35 cm total height above the mounting surface. However, where significant snow heights are possible, markers exceeding 35 cm in height may be used but their total height should be sufficiently low to preserve clearance for propellers, and for the engine pods of jet aircraft. Additional guidance is given in ICAO Doc 9157, Aerodrome Design Manual, Part 4, Visual Aids, Chapter 2, par. 2.4.4.

Status 27.01.2016: "Validated"

538 GM1 ADR-DSN.P.825 (d) / Taxiway edge markers

Requirement changed

(d) A taxiway edge marker should be lightweight and frangible. One type of marker meeting these requirements is detailed in Figure 2-10. The post is made up of flexible PVC and its colour is blue. The sleeve which is retro-reflective, is also blue. Note that the area of the marked surface is 150 cm². Additional guidance is given in ICAO Doc 9157, Aerodrome Design Manual, Part 4, Visual Aids, Chapter 2, par. 2.4.5.

Status 27.01.2016: "Validated"

539 GM1 ADR-DSN.P.830 / Taxiway centre line markers

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

540 GM1 ADR-DSN.P.835 / Unpaved taxiway edge markers

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

541 GM1 ADR-DSN.Q.840 (a) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement new

(a) The marking and/or lighting of obstacles is intended to reduce hazards to aircraft by indicating the presence of the obstacles. It does not necessarily reduce operating limitations which may be imposed by an obstacle.

The headline has been changed to:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

542 GM1 ADR-DSN.Q.840 (b) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement new

(b) Other objects inside the obstacle limitation surfaces should be marked and/or lighted if a safety assessment indicates that the object could constitute a hazard to aircraft (this includes objects adjacent to visual routes e.g. waterway or highway).

The headline has been changed to:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

543 GM1 ADR-DSN.Q.840 (c) / Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces

Requirement new

- (c) Overhead wires, cables, etc., crossing a river, waterway, valley or highway should be marked and their supporting towers marked and lighted if a safety assessment indicates that the wires or cables could constitute a hazard to aircraft.

The headline has been changed to:

Objects to be marked and/or lighted within the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

544 GM1 ADR-DSN.Q.841 (a) / Objects to be marked and/or lighted outside the lateral boundaries of the obstacle limitation surfaces

Requirement new

- (a) Other objects outside the obstacle limitation surfaces should be marked and/or lighted if a safety assessment indicates that the object could constitute a hazard to aircraft (this includes objects adjacent to visual routes e.g. waterway, highway).

The headline reads:

Objects to be marked and/or lighted outside the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

545 GM1 ADR-DSN.Q.841 (b) / Objects to be marked and/or lighted outside the lateral boundaries of the obstacle limitation surfaces

Requirement new

- (b) Overhead wires, cables, etc., crossing a river, waterway, valley or highway should be marked and their supporting towers marked and lighted if a safety assessment indicates that the wires or cables could constitute a hazard to aircraft.

The headline reads:

Objects to be marked and/or lighted outside the lateral boundaries of the obstacle limitation surfaces.

Status 27.01.2016: "Validated"

546 GM1 ADR-DSN.Q.845 (a) / Marking of fixed objects

Requirement changed

- (a) Orange and white or alternatively red and white are preferably used, except where such colours merge with the background.

The headline has been changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

547 GM1 ADR-DSN.Q.845 (b) / Marking of fixed objects

Requirement changed

- (b) Table Q-4 shows a formula for determining band widths, and for having an odd number of bands, thus permitting both the top and bottom bands to be of the darker colour.

The headline has been changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

548 GM1 ADR-DSN.Q.845 (c) / Marking of fixed objects

Requirement changed

The headline has been changed to:

Marking of fixed objects. The content remains unaffected.

Status 27.01.2016: "Validated"

549 GM1 ADR-DSN.Q.845 (d) / Marking of fixed objects

Requirement changed

- (d) Alternative spacing may be suitable; priority is to highlight the location and definition of the object.

The headline has been changed to:

Marking of fixed objects.

Status 27.01.2016: "Validated"

550 GM1 ADR-DSN.Q.846 (a) / Lighting of fixed objects

Requirement new

- (a) Guidance on how a combination of low-, medium-, and/or high-intensity lights on obstacles should be displayed is given in Figures GM-Q-1 to GM-Q-8.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

551 GM1 ADR-DSN.Q.846 (b) / Lighting of fixed objects

Requirement new

- (b) High-intensity obstacle lights are intended for day use as well as night use. Care should be taken to ensure that these lights do not create disconcerting dazzle or environmental concerns. Guidance on the design, location, and operation of high-intensity obstacle lights is given in ICAO Doc 9157, Aerodrome Design Manual, Part 4, Visual Aids.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

552 GM1 ADR-DSN.Q.846 (c) / Lighting of fixed objects

Requirement new

- (c) Where, the use of high-intensity obstacle lights, Type A, or medium-intensity obstacle lights, Type A, at night may dazzle pilots in the vicinity of an aerodrome (within approximately 10 000 m radius) or cause significant environmental concerns, a dual obstacle lighting system should be provided. This system should 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 light, Type B or C, for night-time use.

The headline reads:

Lighting of fixed objects.

Status 27.01.2016: "Validated"

553 GM1 ADR-DSN.Q.847 / Lighting of fixed objects with a height less than 45 m above ground level

Requirement new

A group of buildings is regarded as an extensive object.

The headline reads:

Lighting of fixed objects with a height less than 45 m above ground level.

Status 27.01.2016: "Validated"

554 GM1 ADR-DSN.Q.848 / Lighting of fixed objects with a height 45 m to a height less than 150 m above ground level

Requirement new

Low-intensity obstacle lights, Type A or B, may be used for obstacles higher than 45 m if it is determined to be sufficient.

The headline reads:

Lighting of fixed objects with a height 45 m to a height less than 150 m above ground level.

Status 27.01.2016: "Validated"

555 GM1 ADR-DSN.Q.849 / Lighting of fixed objects with a height 150 m or more above ground level

Requirement new

Where, the use of high-intensity obstacle lights, Type A, at night may dazzle pilots in the vicinity of an aerodrome (within approximately 10 000 m radius) or cause significant environmental concerns, medium-intensity obstacle lights, Type C, should be used alone, whereas medium-intensity obstacle lights, Type B, should be used either alone or in combination with low-intensity obstacle lights, Type B.

The headline reads:

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

Status 27.01.2016: "Validated"

556 GM1 ADR-DSN.Q.850 / Lighting of other objects

Requirement changed

intentionally left blank

The headline has been changed to:

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

All given points were deleted without replacement.

Status 27.01.2016: "Validated"

557 GM1 ADR-DSN.Q.851 (a) / Marking and lighting of wind turbines

Requirement new

(a) Additional markings and lighting may be provided to the wind turbines if indicated by a safety assessment.

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

558 GM1 ADR-DSN.Q.851 (b) / Marking and lighting of wind turbines

Requirement new

(b) Case by case studies for wind turbines of more than 315 m of overall height may conclude that additional markings and lighting are required.

The headline reads:

Marking and lighting of wind turbines.

Status 27.01.2016: "Validated"

559 GM1 ADR-DSN.Q.852 (a) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

- (a) Where high-intensity obstacle lights, Type B, are used, and it is not possible to locate them as described in CS ADR-DSN.Q.852(d)(2), in some cases, this may require locating the lights off the tower.

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

560 GM1 ADR-DSN.Q.852 (b) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

- (b) High-intensity obstacle lights are intended for day use as well as night use. Care should be taken to ensure that these lights do not create disconcerting dazzle or environmental concerns. Guidance on the design, location, and operation of high-intensity obstacle lights is given in ICAO Doc 9157, Aerodrome Design Manual, Part 4, Visual Aids.

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

561 GM1 ADR-DSN.Q.852 (c) / Marking and lighting of overhead wires, cables, supporting towers, etc.

Requirement new

- (c) Where the use of high-intensity obstacle lights, Type B, at night may dazzle pilots in the vicinity of an aerodrome (within approximately 10 000 m radius) or cause significant environmental concerns, a dual obstacle lighting system should be provided. This system should 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 should be installed at the same level as the high-intensity obstacle light Type B.

The headline reads:

Marking and lighting of overhead wires, cables, supporting towers, etc..

Status 27.01.2016: "Validated"

562 GM1 ADR-DSN.R.855 / Closed runways and taxiways, or parts thereof

Requirement new

intentionally left blank

Status 27.01.2016: "Validated"

563 GM1 ADR-DSN.R.860 (a) / Non-load-bearing surfaces

Requirement new

- (a) A taxi side stripe marking could also be placed along the edge of the load-bearing pavement to emphasise the location of the taxiway edge, with the outer edge of the marking approximately on the edge of the load-bearing pavement.

Status 27.01.2016: "Validated"

564 GM1 ADR-DSN.R.860 (b) / Non-load-bearing surfaces

Requirement new

- (b) At intersections of taxiways and on other areas where, due to turning, the possibility for confusion between the side stripe markings and centre line markings may exist, or where the pilot may not be sure on which side of the edge marking the non-load bearing pavement is, the additional provision of transverse stripes on the non-load bearing surface has been found to be of assistance.

Status 27.01.2016: "Validated"

565 GM1 ADR-DSN.R.860 (c) / Non-load-bearing surfaces

Requirement new

- (c) As shown in Figure GM-R-1, the transverse stripes should be placed perpendicular to the side stripe marking.

Status 27.01.2016: "Validated"

566 GM1 ADR-DSN.R.860 (d) / Non-load-bearing surfaces

Requirement new

- (d) On curves, a stripe should be placed at each point of tangency of the curve and at intermediate points along the curve so that the interval between stripes does not exceed 15 m. If deemed desirable to place transverse stripes on small straight sections, the spacing should not exceed 30 m.

Status 27.01.2016: "Validated"

567 GM1 ADR-DSN.R.860 (e) / Non-load-bearing surfaces

Requirement new

- (e) The width of the marks should be 0.9 m, and they should extend to within 1.5 m of the outside edge of the stabilised paving or be 7.5 m long whichever is shorter. The colour of the transverse stripes should be the same as that of the edge stripes, i.e. yellow.

Status 27.01.2016: "Validated"

568 GM1 ADR-DSN.S.875 (b) / Electrical power supply systems for air navigation facilities

Requirement changed

- (b) The design and installation of the electrical systems need to take into consideration factors that can lead to malfunction, such as electromagnetic disturbances, line losses, power quality, etc. Additional guidance is given in ICAO Doc 9157, Aerodrome Design Manual, Part 5, Electrical Systems.

Status 27.01.2016: "Validated"

569 GM1 ADR-DSN.S.875 (c) / Electrical power supply systems for air navigation facilities

Requirement changed

- (c) Switch-over time is the time required for the actual intensity of a light measured in a given direction to fall from 50 % and recover to 50 % during a power supply changeover, when the light is being operated at intensities of 25 % or above.

Status 27.01.2016: "Validated"

570 GM1 ADR-DSN.S.875 (d)(1)(i) / Electrical power supply systems for air navigation facilities

Requirement new

- (d) As a good practice, a measurement of the photometric parameters may be used for the evaluation of the switch-over time.
- (1) If the switch-over time is greater than 1 second, the following corrective actions may be used to decrease the switch-over time:
 - (i) use of enhanced constant current regulators (CCR); or

Status 27.01.2016: "Validated"

571 GM1 ADR-DSN.S.875 (d)(1)(ii) / Electrical power supply systems for air navigation facilities

Requirement new

- (d) As a good practice, a measurement of the photometric parameters may be used for the evaluation of the switch-over time.
- (1) If the switch-over time is greater than 1 second, the following corrective actions may be used to decrease the switch-over time:
 - (ii) use of uninterruptible power supply (UPS).

Status 27.01.2016: "Validated"

572 GM1 ADR-DSN.S.875 (e) / Electrical power supply systems for air navigation facilities

Requirement new

- (e) For periodic measurement of the switch-over time a measurement of the equivalent electrical switch-over time at the feeding point of an aeronautical ground lights (AGL) system may be established.

Status 27.01.2016: "Validated"

573 GM1 ADR-DSN.S.880 (a) / Electrical power supply

Requirement changed

- (a) At an aerodrome where the primary runway is a non-instrument runway, a secondary power supply capable of meeting the requirements of CS ADR-DSN.S.875(d) should be provided, except that a secondary power supply for visual aids need not be provided when an emergency lighting system is provided and capable of being deployed in 15 minutes.

Status 27.01.2016: "Validated"

574 GM1 ADR-DSN.S.880 (b) / Electrical power supply

Requirement changed

- (b) Specifications for secondary power supply for radio navigation aids and ground elements of communications systems are given in ICAO Annex 10, Volume I, Aeronautical Telecommunications, Chapter 2.

Status 27.01.2016: "Validated"

575 GM1 ADR-DSN.S.880 (c)(1) / Electrical power supply

Requirement changed

- (c) Requirements for a secondary power supply should be met by either of the following:
 - (1) independent public power which is a source of power supplying the aerodrome service from a substation other than the normal substation through a transmission line following a route different from the normal power supply route and such that the possibility of a simultaneous failure of the normal and independent public power supplies is extremely remote; or

Status 27.01.2016: "Validated"

576 GM1 ADR-DSN.S.880 (c)(2) / Electrical power supply

Requirement changed

- (c) Requirements for a secondary power supply should be met by either of the following:
 - (2) standby power unit(s) which are engine generators, batteries, etc. from which electric power can be obtained.

Status 27.01.2016: "Validated"

577 GM1 ADR-DSN.S.880 (d) / Electrical power supply

Requirement changed

(d) Guidance on electrical systems is included in ICAO Doc 9157, Aerodrome Design Manual, Part 5, Electrical Systems.

Status 27.01.2016: "Validated"

578 GM1 ADR-DSN.S.880 (e) / Electrical power supply

Requirement changed

(e) The requirement for minimum lighting may be met by other than electrical means.

Status 27.01.2016: "Validated"

579 GM1 ADR-DSN.S.885 / System design

Requirement changed

Guidance on means of providing this protection is given in ICAO Doc 9157, Aerodrome Design Manual, Part 5, Electrical Systems.

Status 27.01.2016: "Validated"

580 GM1 ADR-DSN.S.890 (a) / Monitoring

Requirement changed

(a) For a runway meant for use in runway visual range conditions less than a value of 550 m, the minimum serviceability level of any element of the lighting system detailed in Table S-1, below which operations should not continue, is set up by the competent authority.

Status 27.01.2016: "Validated"

581 GM1 ADR-DSN.S.890 (b) / Monitoring

Requirement changed

(b) Additional guidance on air traffic control interface and visual aids monitoring is given in ICAO Doc 9157, Aerodrome Design Manual, Part 5, Electrical Systems.

Status 27.01.2016: "Validated"

582 GM1 ADR-DSN.S.895 (a) / Serviceability levels

Requirement changed

- (a) Serviceability levels are intended to define the maintenance performance level objectives.

Status 27.01.2016: "Validated"

583 GM1 ADR-DSN.S.895 (b) / Serviceability levels

Requirement changed

- (b) Guidance on preventive maintenance of visual aids is given in the, ICAO Doc 9137, Airport Services Manual, Part 9, Airport Maintenance Practices.

Status 27.01.2016: "Validated"

584 GM1 ADR-DSN.T.900 (a) / Emergency access and service roads

Requirement changed

- (a) Service roads at air side are installed to support all apron processes. Furthermore, service roads can be used as aerodrome perimeter service roads, providing access to navigation aids, as temporary roads for construction vehicles, etc.

The headline has been changed to:

Emergency access and service roads.

Status 27.01.2016: "Validated"

585 GM1 ADR-DSN.T.900 (b)(1) / Emergency access and service roads

Requirement changed

- (b) Some general considerations in the planning of roads are described as follows:
 - (1) Every effort should be made to plan service roads at air side so that they do not cross runways and taxiways.

The headline has been changed to:

Emergency access and service roads.

Status 27.01.2016: "Validated"

586 GM1 ADR-DSN.T.900 (b)(2) / Emergency access and service roads

Requirement changed

The headline has been changed to:

Emergency access and service roads.

The content remains unaffected.

Status 27.01.2016: "Validated"

587 GM1 ADR-DSN.T.900 (b)(3) / Emergency access and service roads

Requirement changed

- (b) Some general considerations in the planning of roads are described as follows:
- (3) The service roads at air side system should be designed to account for local security measures. Access points to the system should, thus, need to be restricted. Should ground vehicle movements affect surface movement of aircraft on runways and taxiways, it should be required that the ground vehicle movements be coordinated by the appropriate aerodrome control. Control is normally exercised by means of two-way radio communication although visual signals, such as signal lamps, are adequate when traffic at the aerodrome is light. Signs or signals may also be employed to aid control at intersections.

The headline has been changed to:

Emergency access and service roads.

Status 27.01.2016: "Validated"

588 GM1 ADR-DSN.T.900 (b)(4) bis GM1 ADR-DSN.T.900 (c) / Emergency access and service roads

Requirement changed

The headline has been changed to:

Emergency access and service roads.

The content remains unaffected.

Status 27.01.2016: "Validated"

589 GM1 ADR-DSN.T.900 (d) / Emergency access and service roads

Requirement changed

(d) Emergency access roads should be provided on an aerodrome where terrain conditions permit their construction, so as to facilitate achieving minimum response times. Particular attention should be given to the provision of ready access to approach areas up to 1 000 m from the threshold, or at least within the aerodrome boundary.

The headline has been changed to:

Emergency access and service roads.

Status 27.01.2016: "Validated"

590 GM1 ADR-DSN.T.900 (e) bis GM1 ADR-DSN.T.900 (h) / Emergency access and service roads

Requirement changed

The headline has been changed to:

Emergency access and service roads.

The content remains unaffected.

Status 27.01.2016: "Validated"

591 GM1 ADR-DSN.T.905 / Fire stations

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

592 GM1 ADR-DSN.T.910 (c) / Equipment frangibility requirements

Requirement changed

(c) Guidance on design for frangibility is contained in ICAO Doc 9157, Aerodrome Design Manual, Part 6, Frangibility.

Status 27.01.2016: "Validated"

593 GM1 ADR-DSN.T.915 (b) / Siting of equipment and installations on operational areas

Requirement changed

- (b) Guidance on siting of equipment and installations on operational areas is given in ICAO Doc 9157, Aerodrome Design Manuals, Part 2, Taxiways, Aprons and Holding Bays and Part 6, Frangibility.

Status 27.01.2016: "Validated"

594 GM1 ADR-DSN.T.915 (c) / Siting of equipment and installations on operational areas

Requirement changed

- (c) Guidance on the frangible design of visual and non-visual aids for navigation is given in the ICAO Doc 9157, Aerodrome Design Manual, Part 5, Electrical Systems.

Status 27.01.2016: "Validated"

595 GM1 ADR-DSN.T.920 (e) / Fencing

Requirement changed

- (e) Top and bottom selvages of the fence having a twisted and barbed finish. The bottom of the fence installed to within 5 cm of hard surfacing or stabilised soil. However, in areas where unstable soil conditions are prevalent, the fabric installed to extend at least 5 cm below the surface or imbedded in concrete curbing. All fencing should be grounded. Care should be taken that metallic fencing is not installed when it should interface with the operation of navigation aids. The fence itself should allow clear visibility and easy maintenance.

Status 27.01.2016: "Validated"

596 GM1 ADR-DSN.U.930 (b) / Colours for aeronautical ground lights

Requirement new

- (b) Guidance on chromaticity changes resulting from the effect of temperature on filtering elements is given in ICAO Doc 9157, Aerodrome Design Manual, Part 4, Visual Aids.

Status 27.01.2016: "Validated"

597 GM1 ADR-DSN.U.935 / Colours for markings, signs and panels

Requirement changed

intentionally left blank

Status 27.01.2016: "Validated"

eControl

Process
Management

Operation
Management

Safety
Management

Audit
Management

Qualification
Management

Compliance
Management

Environmental Bird Control
Management

Customers:



Customers international:

