

‘Certification Specifications (CS) and Guidance Material (GM) for Aerodrome Design (CS ADR-DSN)’

The Annex to ED Decision 2017/21/R is amended as follows:

The text of the amendment is arranged to show deleted text, new or amended text as shown below:

- deleted text is ~~struck through~~;
- new or amended text is highlighted in **blue**;
- an ellipsis ‘[...]’ indicates that the rest of the text is unchanged.

FOR INFORMATION ONLY

CS ADR-DSN.A.002 Definitions

[...]

'Frangible object' means an object of low mass designed to break, distort or yield on impact so as to present the minimum hazard to aircraft.

'Frost' means ice crystals formed from airborne moisture on a surface whose temperature is below freezing; frost differs from ice in that the frost crystals grow independently and therefore have a more granular texture.

Note 1: 'below freezing' refers to air temperature equal or less than the freezing point of water (0 degree Celsius).

Note 2: under certain conditions, frost can cause the surface to become very slippery and it is then reported appropriately as reduced 'braking action'.

[...]

'Hot spot' means a location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

'Ice' means water that has frozen or compacted snow that has transitioned into ice in cold and dry conditions.

[...]

'Slush' means snow that is so water-saturated that water will drain from it when a handful is picked up or will splatter if stepped on forcefully snow which with a heel-and-toe slap-down motion against the ground will be displaced with a splatter; specific gravity: 0.5 up to 0.8.

'Snow' (on the ground):

- 'Dry snow' means snow from which a snowball cannot readily be made can be blown if loose or, if compacted by hand, will fall apart again upon release; specific gravity: up to but not including 0.35.
- 'Wet snow' means snow that contains enough water to be able to make a well-compacted, solid snowball, but water will not squeeze out which, if compacted by hand, will stick together and tend to or form a snowball; specific gravity: 0.35 up to but not including 0.5.
- 'Compacted snow' means snow which that has been compressed compacted into a solid mass such that aeroplane tyres, at operating pressures and loadings, will run on the surface without significant further compaction or rutting of the surface resists further compression and will hold together or break up into lumps if picked up; specific gravity: 0.5 and over.

'Standing water' means water of depth greater than 3 mm.

Note: running water of depth greater than 3 mm is reported as 'standing water' by convention.

[...]

'Visual approach slope indicator system' means a system of lights arranged to provide visual descent guidance information during the approach to a runway.

'Wet ice' means ice with water on top of it or ice that is melting.

Note: freezing precipitation can lead to runway conditions associated with wet ice from an aeroplane performance point of view. Wet ice can cause the surface to become very slippery. It is then reported appropriately as 'reduced braking action'.

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

[...]

- (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
 - (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
 - (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.~~

CS ADR-DSN.M.630 Precision approach Category I lighting system

[...]

- (c) Characteristics:

[...]

- (2) Where the serviceability level of the approach lights specified as a maintenance objective in ~~CS ADR-DSN.S.895~~ **ADR.OPS.C.015** can be demonstrated, each centre line light position should consist of either:
- (i) a single light source; or
 - (ii) a barrette.

When barrettes are composed of lights approximating to point sources, the lights should be uniformly spaced at intervals of not more than 1.5 m. The barrettes should be at least 4 m in length.

[...]

CS ADR-DSN.M.635 Precision approach Category II and III lighting system

(a) Location and composition:

- (1) The approach 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. In addition, the system should have two side rows of lights, extending 270 m from the threshold, and two crossbars, one at 150 m and one at 300 m from the threshold, all as shown in Figure M-3A. Where the serviceability level of the approach lights specified as maintenance objectives in ~~CS ADR-DSN.S.895~~ **ADR.OPS.C.015** can be demonstrated, the system may have two side rows of lights extending 240 m from the threshold, and two crossbars, one at 150 m, and one at 300 m from the threshold, all as shown in Figure M-3B.

[...]

(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~~ **ADR.OPS.C.015** 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:

[...]

- (3) Where the serviceability level of the approach lights in ~~CS ADR-DSN.S.895~~ **ADR.OPS.C.015** as maintenance objectives can be demonstrated beyond 300 m from the threshold, each centre line light position may consist of either:

[...]

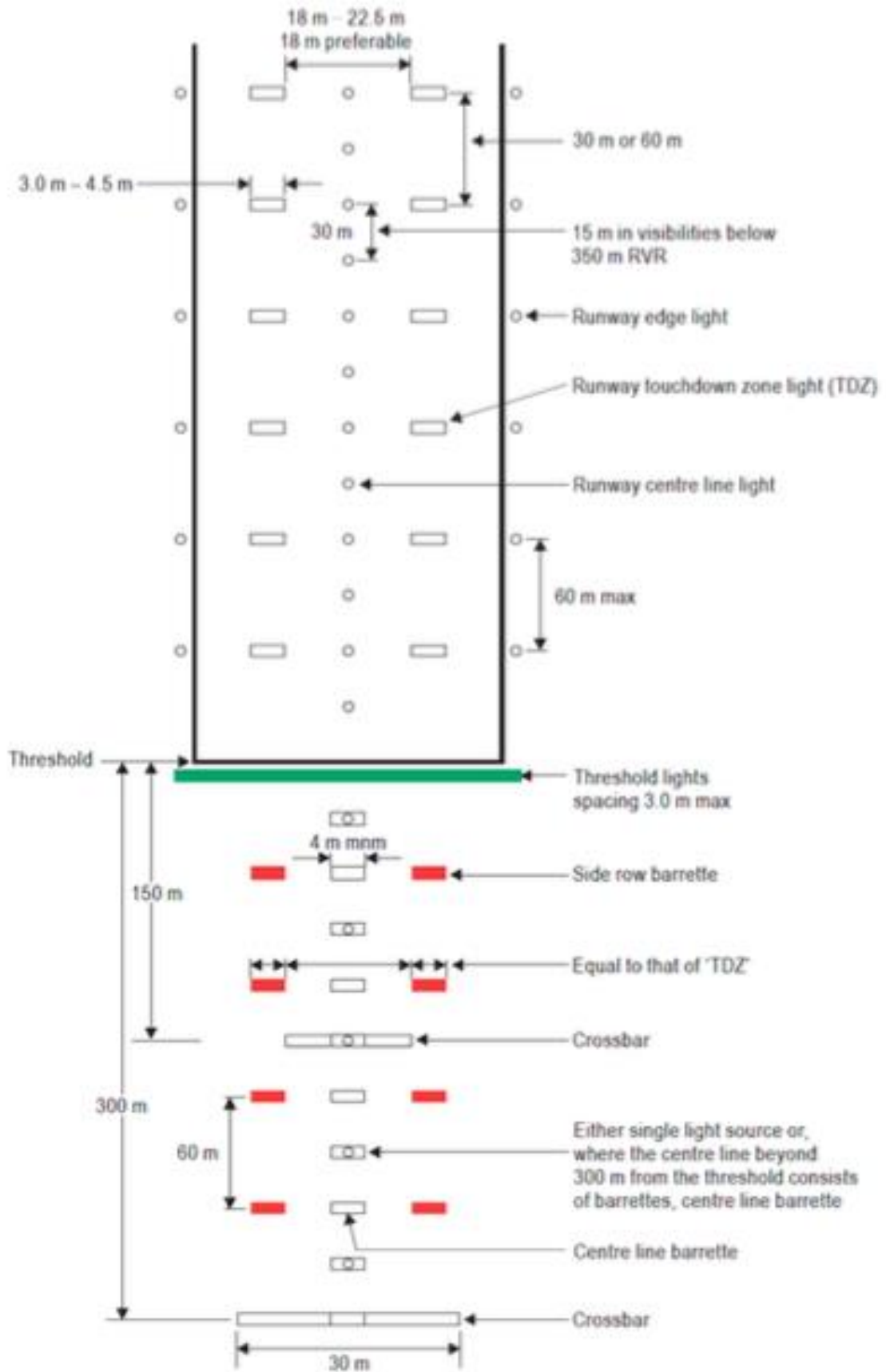


Figure M-3B. Inner 300 m approach and runway lighting for precision approach runways, Categories II and III, where the serviceability levels of the lights specified as maintenance objectives in CS-ADR-DSN-5.895 ADR.OPS.C.015(b)(1) can be demonstrated.

[...]

CS ADR-DSN.M.690 Runway centre line lights

[...]

- (c) Location: Runway centre line lights should be located along the centre line of the runway, except that the lights may be uniformly offset to the same side of the runway centre line by not more than 60 cm where it is not practicable to locate them along the centre line. The lights should be located from the threshold to the end at longitudinal spacing of approximately 15 m. Where the serviceability level of the runway centre line lights specified as maintenance objectives in ~~CS ADR-DSN.S.895~~ **ADR.OPS.C.015(b)(1)** can be demonstrated, and the runway is intended for use in runway visual range conditions of 350 m or greater, the longitudinal spacing may be approximately 30 m.

[...]

CS ADR-DSN.M.705 Stopway lights

- (a) Applicability: Stopway lights should be provided for a stopway intended for use at night, **or in runway visual range conditions less than a value of 800 m.**

[...]

CS ADR-DSN.Q.850 Lighting of other objects

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CS ADR-DSN.R.855 Closed runways and taxiways, or parts thereof

[...]

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

[...]

CS ADR-DSN.S.880 Electrical power supply systems

[...]

Runway	Lighting aids requiring power	Maximum switch-over time
Non-instrument	Visual approach slope indicators ^a Runway edge ^b Runway threshold ^b Runway end ^b Obstacle ^a Stopway end Stopway edge	See CS ADR-DSN.S.875(d) and CS ADR-DSN.S.880(d)
Non-precision approach	Approach lighting system Visual approach slope indicators ^{a, d} Runway edge ^d Runway threshold ^d Runway end ^d Obstacle ^a Stopway end Stopway edge	15 seconds 15 seconds 15 seconds 15 seconds 15 seconds 15 seconds 15 seconds 15 seconds
Precision approach Category I	Approach lighting system Runway edge ^d Visual approach slope indicators ^{a, d} Runway threshold ^d Runway end Essential taxiway ^a Obstacle ^a Stopway end Stopway edge	15 seconds 15 seconds 15 seconds 15 seconds 15 seconds 15 seconds 15 seconds 15 seconds 15 seconds
Precision approach Category II/III	Inner 300 m of the approach lighting system Other parts of the approach lighting system Obstacle ^a Runway edge Runway threshold Runway end Runway centre line Runway touchdown zone Runway guard lights All stop bars Essential taxiway Stopway end Stopway edge	1 second 15 seconds 15 seconds 15 seconds 1 second 1 second 1 second 1 second 1 second 15 seconds 1 second 15 seconds 1 second 15 seconds 1 second 15 seconds
Runway meant for take-off in runway visual range conditions less than a value of 800 m	Runway edge Runway end Runway centre line All stop bars Essential taxiway ^a Obstacle ^a Stopway end	15 seconds ^c 1 second 1 second 1 second 1 second 15 seconds 15 seconds 1 second

	Stopway edge	15 seconds
a.	Supplied with secondary power when their operation is essential to the safety of flight operation.	
b.	The use of emergency lighting should be in accordance with any procedures established.	
c.	One second where no runway centre line lights are provided.	
d.	One second where approaches are over hazardous or precipitous terrain.	

Table S-1. Secondary power supply requirements (see CS ADR-DSN.S.875(d))

CS ADR-DSN.S.890 Monitoring

[...]

- (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)~~ ADR.OPS.C.015(b)(1) to (b)(6). This information should be automatically relayed to the maintenance crew.

[...]

CS ADR-DSN.S.895 Serviceability levels

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GM1 ADR-DSN.Q.850 is deleted.

GM1 CS ADR-DSN.R.855 is replaced by the following:

GM1 ADR-DSN.R.855 Closed runway and taxiways, or parts thereof

Information regarding the physical removal of runway and taxiway markings is contained in AMC1 ADR.OPS.C.015(d) and GM1 ADR.OPS.C.015(d).

GM1 ADR-DSN.S.895 is replaced by the following:

GM1 ADR-DSN.S.895 Serviceability levels

Intentionally left blank