

Annex to ED Decision 2022/013/R

**‘AMC & GM to Authority, Organisation and Operations Requirements for Aerodromes — Issue 1,
Amendment 6’**

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.

Note to the reader

In amended, and in particular in existing (that is, unchanged) text, ‘Agency’ is used interchangeably with ‘EASA’. The interchangeable use of these two terms is more apparent in the consolidated versions. Therefore, please note that both terms refer to the ‘European Union Aviation Safety Agency (EASA)’.

The Annex to ED Decision 2014/012/R is amended as follows:

ANNEX I

GUIDANCE MATERIAL TO DEFINITIONS USED IN COMMISSION REGULATION (EU) No 139/2014

GM1 Annex I Definitions

DEFINITIONS FOR TERMS USED IN THE ACCEPTABLE MEANS OF COMPLIANCE AND GUIDANCE MATERIAL

For the purpose of the Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014, the following definitions apply:

- (1) 'Enhanced flight vision system 200 (EFVS 200) operation' means an operation with an operational credit in which visibility conditions require an EFVS to be used down to 200 ft above the FATO or runway threshold. From that point to land, natural vision is used. The RVR is not less than 550 m.
- (2) 'Enhanced flight vision system (EFVS) - Approach (EFVS-A)' means a system that has been demonstrated to meet the criteria to be used for approach operations from a decision altitude/height (DA/H) or a minimum descent altitude/height (MDA/H) to 100 ft (30m) threshold elevation while all system components are functioning as intended, but may have failure modes that could result in the loss of EFVS capability. It should be assumed for an EFVS-A that:
 - (a) the pilot will conduct a go-around at or above 100 ft threshold elevation, in the event of an EFVS failure; and
 - (b) descent below 100 ft above the threshold elevation through to touchdown and roll-out should be conducted using natural vision, so that any failure of the EFVS does not prevent the pilot from completing the approach and landing.
- (3) 'Enhanced flight vision system - landing (EFVS-L)' means a system that has been demonstrated to meet the criteria to be used for approach and landing operations that rely on sufficient visibility conditions to enable unaided roll-out and to mitigate for loss of EFVS function.
- (4) 'Obstacle clearance height (OCH)' means the lowest height above the elevation of the relevant runway threshold or the aerodrome elevation, as applicable, used in establishing compliance with appropriate obstacle clearance criteria. Obstacle clearance height is referenced to the threshold elevation or in the case of non-precision approach procedures to the aerodrome elevation or the threshold elevation if that is more than 2 m (7 ft) below the aerodrome elevation. An obstacle clearance height for a circling approach procedure is referenced to the aerodrome elevation.
- (5) 'Special authorisation category I (SA CAT I) operation' means a CAT I approach operation with a decision height not lower than 45 m (150 ft) and an RVR not less than 400 m and requires special authorisation.

- (6) 'Special authorisation category II (SA CAT II) operation' means a CAT II approach operation to a runway that does not fulfil all CAT II infrastructure requirements, and which requires special authorisation.

ANNEX II – PART-ADR.AR

PART AUTHORITY REQUIREMENTS – AERODROMES

SUBAPRT C – OVERSIGHT, CERTIFICATION AND ENFORCEMENT (ADR.AR.C)

GM1 ADR.AR.C.035(e) Issuance of certificates

MODEL FOR THE TERMS OF THE CERTIFICATE TO BE ATTACHED TO THE CERTIFICATES

[...]

⁶ To be specified: approval of the runway for non-instrument, instrument, non-precision approach. In case of precision approach(es), it is to be indicated, which of the following precision approach(es) is (are) approved:

- EFVS 200 operation;
- EFVS-A operation;
- EFVS-L operation;
- Standard category I;
- ~~— Lower than standard category I;~~
- Special authorisation category I;
- Precision approach category II;
- Special authorisation category II;
- Precision approach category III
- ~~— Precision approach category III-A;~~
- ~~— Precision approach category III-B;~~
- ~~— Precision approach category III-C~~

GM2 ADR.AR.C.035(e) Issuance of certificates

EFVS 200 OPERATION

A runway is suitable for EFVS 200 operation when:

- (a) an instrument approach procedure providing at least lateral guidance in which the final approach track is offset by a maximum of 3 degrees from the extended centre line of the runway is established; and
- (b) either an obstacle free zone (OFZ) is established or the visual segment surface (VSS) is not penetrated by obstacles, and an instrument departure procedure is established.

ANNEX IV – PART-ADR.OPS

PART OPERATIONS REQUIREMENTS – AERODROMES

SUBPART A – AERODROME DATA (ADR.OPS.A)

GM1 ADR.OPS.A.070 Information on the aerodrome lighting system

GENERAL

EFVS technology relies on the infrared heat signature provided by incandescent lights. The replacement of incandescent lights with LED lights may render the use of EFVS not possible. This information is important to aircraft operators to assess the suitability of the runway in order to conduct EFVS operations.

GM1 ADR.OPS.A.075 Charts

GENERAL

Information on charts is included in Regulation (EU) 2017/373.

AMC1 ADR.OPS.A.085 Information on visual segment surface (VSS) penetration

INFORMATION ON OBSTACLES FOR VISUAL SEGMENT SURFACE (VSS) PENETRATION

If the VSS is penetrated, the information to be provided to the AIS provider, to publish it under AD 2.25, should clearly indicate the name of the affected procedure and the procedure minima affected. Apart from this, information about the obstacles that penetrate the VSS should be provided to the responsible AIS provider to publish it under 'AD 2.10 Aerodrome obstacles'.

GM1 ADR.OPS.A.085 Information on visual segment surface (VSS) penetration

GENERAL

Criteria related to the VSS are contained in PANS-OPS Volume II, paragraph 5.4.6, Part I – Section 4, Chapter 5.

**SUBAPRT B – AERODROME OPERATIONAL SERVICES, EQUIPMENT AND INSTALLATIONS
(ADR.OPS.B.)**

AMC1 ADR.OPS.B.030(a) Surface movement guidance and control system

GENERAL PARAMETERS TO BE CONSIDERED FOR THE DESIGN AND OPERATION OF A SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM

- (a) A surface movement guidance and control system should take into account:
- (1a) the density of air traffic, and the operational needs of air traffic services;
 - (2b) the visibility conditions under which operations are intended;
 - (3c) the need for pilot, vehicle and pedestrians orientation;
 - (4d) the complexity of the aerodrome layout; and
 - (5e) movements of vehicles.
- ~~(b) The surface movement guidance and control system should be designed to assist in the prevention of inadvertent incursions of aircraft and vehicles onto an active runway;~~
- ~~(c) The system should be designed to assist in the prevention of collisions between aircraft, and between aircraft and vehicles or objects, on any part of the movement area.~~
- ~~(d) Where a surface movement guidance and control system is provided by selective switching of stop bars and taxiway centre line lights, the following requirements should be met:~~
- ~~(1) taxiway routes which are indicated by illuminated taxiway centre line lights should be capable of being terminated by an illuminated stop bar;~~
 - ~~(2) the control circuits should be so arranged that when a stop bar located ahead of an aircraft is illuminated, the appropriate section of taxiway centre line lights beyond it is suppressed; and~~
 - ~~(3) the taxiway centre line lights are activated ahead of an aircraft when the stop bar is suppressed.~~
- ~~(e) The aerodrome operator should develop the surface movement guidance and control system (SMGCS) procedures in cooperation with the aerodrome air traffic services provider.~~

GM1 ADR.OPS.B.030(a) Surface movement guidance and control system

GENERAL

The SMGCS is an appropriate combination of visual aids, non-visual aids, procedures, control, regulation and information facilities. Systems range from a very simple SMGCS at small aerodromes, with light air traffic operating in good-visibility conditions, to complex systems necessary at large aerodromes with heavy air traffic operating in low-visibility conditions. The system selected for an aerodrome will be appropriate to the operational environment in which the aerodrome will operate.

AMC1 ADR.OPS.B.030(a)(3) Surface movement guidance and control system

USE OF VISUAL AIDS FOR SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM (SMGCS)

Where an SMGCS is provided by selective switching of stop bars and taxiway centre line lights, the following should apply:

- (a) taxiway routes, which are indicated by illuminated taxiway centre line lights, are capable of being terminated by an illuminated stop bar;
- (b) the control circuits are so arranged that when a stop bar located ahead of an aircraft is illuminated, the appropriate section of taxiway centre line lights beyond it is suppressed; and
- (c) the taxiway centre line lights are activated ahead of an aircraft when the stop bar is suppressed.

GM1 ADR.OPS.B.030(a)(3) Surface movement guidance and control system

SURFACE MOVEMENT RADAR AND OTHER SURVEILLANCE EQUIPMENT

- (a) Surface movement radar or any other suitable surveillance equipment for the manoeuvring area is used at an aerodrome intended for use in runway visual range (RVR) conditions less than a value of 350 m.
- (b) Surface movement radar or any other suitable surveillance equipment for the manoeuvring area may also be used at an aerodrome other than that in (a), when the traffic density and operating conditions are such that regularity of traffic flow cannot be maintained by alternative procedures and facilities.

~~GM1 ADR.OPS.B.030 Surface movement guidance and control system~~

~~GENERAL~~

- ~~(a) The SMGCS system should comprise an appropriate combination of visual aids, non-visual aids, procedures, control, regulation, management and information facilities. Systems range from the very simple at small aerodromes, with light traffic operating in good visibility conditions, to the complex systems necessary at large aerodromes with heavy traffic operating in low visibility conditions. The system selected for an aerodrome will be appropriate to the operational environment in which that aerodrome will operate.~~
- ~~(b) Surface movement radar for the manoeuvring area could be provided at an aerodrome intended for use in runway visual range conditions less than a value of 350 m.~~
- ~~(c) Surface movement radar for the manoeuvring area could be provided at an aerodrome other than that in (b) above when traffic density and operating conditions are such that regularity of traffic flow cannot be maintained by alternative procedures and facilities.~~

AMC1 ADR.OPS.B.045(a)(1) Low-visibility procedures

LOW-VISIBILITY TAKE-OFF (LVTO) WITH AN RVR LESS THAN 125 M

In addition to the low-visibility procedures which are required for LVTOs, the following should also apply to LVTOs with an RVR less than 125 m:

- (1) if an ILS signal is used for lateral guidance, the ILS localiser signal meets the requirements for category III operations including the availability of a standby transmitter; and
- (2) if an ILS signal is used, the low-visibility procedures should include protection of the ILS-sensitive area.

GM1 ADR.OPS.B.045(a)(1) Low-visibility procedures

RUNWAY CENTRE LINE LIGHTS

The specifications for the required runway centre line lights are contained in CS ADR-DSN.M.690.

AMC1 ADR.OPS.B.045(a)(2) Low-visibility procedures

SUITABILITY OF RUNWAYS — APPROACH AND LANDING OPERATIONS

- (a) CAT II instrument approach operations may be conducted on a precision approach category II or III runway, using a CAT II instrument approach procedure.
- (b) CAT III instrument approach operations may be conducted on a precision approach category III runway, using a CAT III instrument approach procedure.
- (c) SA CAT I approach operations may be conducted in accordance with the following:
 - (1) the runway is a precision approach category I runway and an obstacle free zone (OFZ) is established;
 - (2) a CAT I instrument approach procedure that includes an OCH based on a radio altimeter is used;
 - (3) where an ILS/MLS is used, it is not promulgated with any restrictions affecting its usability and is not offset from the extended runway centre line;
 - (4) where a GBAS landing system (GLS) is used, it is not promulgated with any restrictions affecting its usability and should not be offset from the extended centre line;
 - (5) the glide path angle is 3.0°;
 - (6) the pre-threshold terrain is surveyed and either a precision approach terrain chart (ICAO Annex 4, Chapter 6) is published in the AIP or the required information is included in the aerodrome terrain and obstacle chart – ICAO (Electronic) (ICAO Annex 4, Chapter 5).
- (d) SA CAT II approach operations may only be conducted in accordance with the following:
 - (1) the runway is a precision approach category I runway and an OFZ is established, and for operations with an RVR of less than 400 m, runway centre line lights are installed;
 - (2) a CAT II instrument approach procedure is used;

- (3) where an ILS/MLS is used, it is not offset from the extended runway centre line and no restrictions affecting its usability are published in the AIP;
 - (4) where a GLS is used, it is not offset from the extended runway centre line and no restrictions affecting its usability are published in the AIP;
 - (4) where an ILS is used, it is certified to class II/D/2;
 - (5) the pre-threshold terrain is surveyed and either a precision approach terrain chart (ICAO Annex 4, Chapter 6) has been published or the required information is included in the aerodrome terrain and obstacle chart – ICAO (Electronic) (ICAO Annex 4, Chapter 5).
- (e) The switch-over times of the different lighting elements on runways supporting SA CAT I/II approach operations should be as follows:

ELEMENT	SWITCH-OVER TIME
Approach lighting system	15 sec
Runway edge light	1 sec
Visual approach slope indicators	15 sec
Runway threshold light	1 sec
Runway end light	1 sec
Stopway end	1 sec
Stopway edge	15 sec
Obstacle light	15 sec

- (f) The switch-over time for runway edge lights may be increased to 15 sec if runway centre line lights are provided. In this case, the switch-over time for runway centre line lights should be 1 sec.

AMC1 ADR.OPS.B.045(a)(3) Low-visibility procedures

SUITABILITY OF RUNWAYS FOR EFVS APPROACH AND LANDING OPERATIONS

- (a) An EFVS-A operation may be conducted on a runway if:
- (1) it is served by a straight-in instrument approach procedure in accordance with Part-FPD of Regulation (EU) 2017/373;
 - (2) an OFZ is established or a VSS is not penetrated by obstacles, and an instrument departure procedure is established;
 - (3) the touchdown zone (TDZ) RVR is available;
 - (4) low-visibility procedures are in effect;
 - (5) the switch-over time for runway edge, threshold and end lights meets the specifications in CS ADR-DSN.S.880 for CAT II/III runways.
- (b) An EFVS-L operation may be conducted on a runway when, in addition to point (a):

- (1) an aerodrome obstacle chart – ICAO Type A is published in the AIP; and
- (2) a precision approach terrain chart – ICAO is published in the AIP.

AMC1 ADR.OPS.B.045(b) Low-visibility operations procedures

GENERAL

- ~~(a) The aerodrome operator should, in collaboration with air traffic services provider and the provider of apron management services, if applicable, establish procedures for low visibility operations when lower than Standard Category I, other than Standard Category II, Category II and III approaches and low visibility take-offs are conducted.~~
- ~~(b) When low visibility procedures (LVP) are in effect, the aerodrome operator should make available to aeronautical information services and/or air traffic services, as appropriate, information on the status of the aerodrome facilities.~~
- (ea) The aerodrome operator should establish and implement procedures to ensure that wWhen low visibility procedures (LVPs) are in effect;
- (1) persons and vehicles operating on the movement area are should be restricted to the essential minimum;
 - (2) the critical and sensitive areas of ILS/MLS/GLS should be safeguarded.
- (b) The aerodrome operator should, in coordination with air traffic services, establish low-visibility taxi routes.
- ~~(d) The procedures to be established by the aerodrome operator to ensure safe aerodrome operations during low visibility conditions should cover the following subjects:~~
- ~~(1) physical characteristics of the runway environment, including pre-threshold, approach and departure areas;~~
 - ~~(2) obstacle limitation surfaces;~~
 - ~~(3) surveillance and maintenance of visual aids;~~
 - ~~(4) safeguarding of non-visual aids essential to low visibility procedures;~~
 - ~~(5) secondary power supplies;~~
 - ~~(6) movement area safety;~~
 - ~~(7) RFFS.~~

AMC2 ADR.OPS.B.045(b) Low-visibility procedures

CRITERIA FOR THE PREPARATION OF LVPs

When establishing the RVR and cloud ceiling values below which LVPs should be prepared, the aerodrome operator should consider:

- (a) the aerodrome layout and its complexity;

- (b) the location of the control tower;
- (c) the facilities and equipment available; and
- (d) the density of traffic.

AMC1 ADR.OPS.B.045(c) Low-visibility procedures

EQUIPMENT FAILURES TO BE REPORTED AND EFFECTS ON FLIGHT OPERATIONS

The following equipment failures should be reported if the system is degraded or unserviceable or if back-up procedures cannot provide the same level of service:

EQUIPMENT FAILURE TO BE REPORTED – LOW-VISIBILITY DEPARTURE OPERATIONS		
SYSTEM CONSIDERED	FAILURE TO BE REPORTED	EFFECT ON FLIGHT OPERATIONS
ILS (Where used for guided take-off)	ILS localiser downgraded to CAT II	No take-off guidance. Guided take-off not allowed
	ILS localiser downgraded to CAT I	No take-off guidance. Guided take-off not allowed
	ILS out of service	No take-off guidance. Guided take-off not allowed
MLS (Where used for guided take-off)	MLS downgraded to CAT II	No take-off guidance. Guided take-off not allowed
	MLS downgraded to CAT I	No take-off guidance. Guided take-off not allowed
	MLS out of service	No take-off guidance. Guided take-off not allowed
GBAS (Where used for guided take-off)	GBAS downgraded to CAT II	No take-off guidance. Guided take-off not allowed
	GBAS downgraded to CAT I	No take-off guidance. Guided take-off not allowed
	GBAS out of service	No take-off guidance. Guided take-off not allowed
RVR	Touchdown RVR system unserviceable	Restrictions depending on flight operations rules
	Other RVR systems unserviceable	Restrictions depending on flight operations rules
LIGHTING SYSTEMS	Runway lighting unserviceable	Restrictions depending on flight operations rules
	Runway centre line lighting unserviceable	Restrictions depending on flight operations rules
	Runway edge lighting unserviceable	Restrictions depending on flight operations rules
	Taxiway lighting system unserviceable	Restrictions depending on flight operations rules
ANCILLARY	Stop bars unserviceable	No effect if runway protection is ensured by other means
	Ceilometer unserviceable	No effect

	Anemometer unserviceable	No effect if other sources available; otherwise restrictions depending on flight operations rules
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EQUIPMENT FAILURE TO BE REPORTED – APPROACH AND LANDING OPERATIONS		
SYSTEM CONSIDERED	FAILURE TO BE REPORTED	EXPECTED EFFECT ON FLIGHT OPERATIONS
ILS	ILS downgraded to CAT II	Flight operations limited to CAT II
	ILS downgraded to CAT I	Flight operations limited to CAT I
	ILS out of service	Restricted to non-precision approach (or other precision approach aid if available)
	Outer marker unserviceable	No limitation if replaced by published equivalent position; otherwise, restricted to non-precision approach
	Glide path out of service	Restricted to non-precision approach (e.g. localiser only)
MLS	MLS downgraded to CAT II	Flight operations limited to CAT II
	MLS downgraded to CAT I	Flight operations limited to CAT I
	MLS out of service	Restricted to non-precision approach (or other precision approach aid if available)
GBAS	GBAS downgraded to CAT II	Flight operations limited to CAT II
	GBAS downgraded to CAT I	Flight operations limited to CAT I
	GBAS out of service	Restricted to non-precision approach (or other precision approach aid if available)
DME	DME (as alternative to marker beacons) unserviceable	No limitation if replaced by published equivalent position; otherwise restricted to non-precision approach
RVR	Touchdown RVR system unserviceable	Restriction depending on flight operations rules
	Other RVR systems unserviceable	Restriction depending on flight operations rules
LIGHTING SYSTEMS	Approach lighting unserviceable	Restriction depending on flight operations rules
	Runway lighting unserviceable	Restriction depending on flight operations rules
	Runway centre line lighting unserviceable	Restriction depending on flight operations rules
	Runway edge lighting unserviceable	Restriction depending on flight operations rules
	TDZ lighting unserviceable	Restriction depending on flight operations rules
	Taxiway lighting system unserviceable	Restriction depending on flight operations rules

ANCILLARY	Stop bars unserviceable Ceilometer unserviceable Anemometer unserviceable	No effect if runway protection is ensured by other means No effect No effect if other sources available; otherwise, restriction depending on flight operations rules
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