



European Union Aviation Safety Agency
Comment-Response Document (CRD) 2018-06(D)

RELATED NPA: 2018-06(D) — RMT.0379 — 3.8.2021

Table of contents

1. Summary of the outcome of the consultation	2
2. Individual comments and responses	5
3. Attachments	110



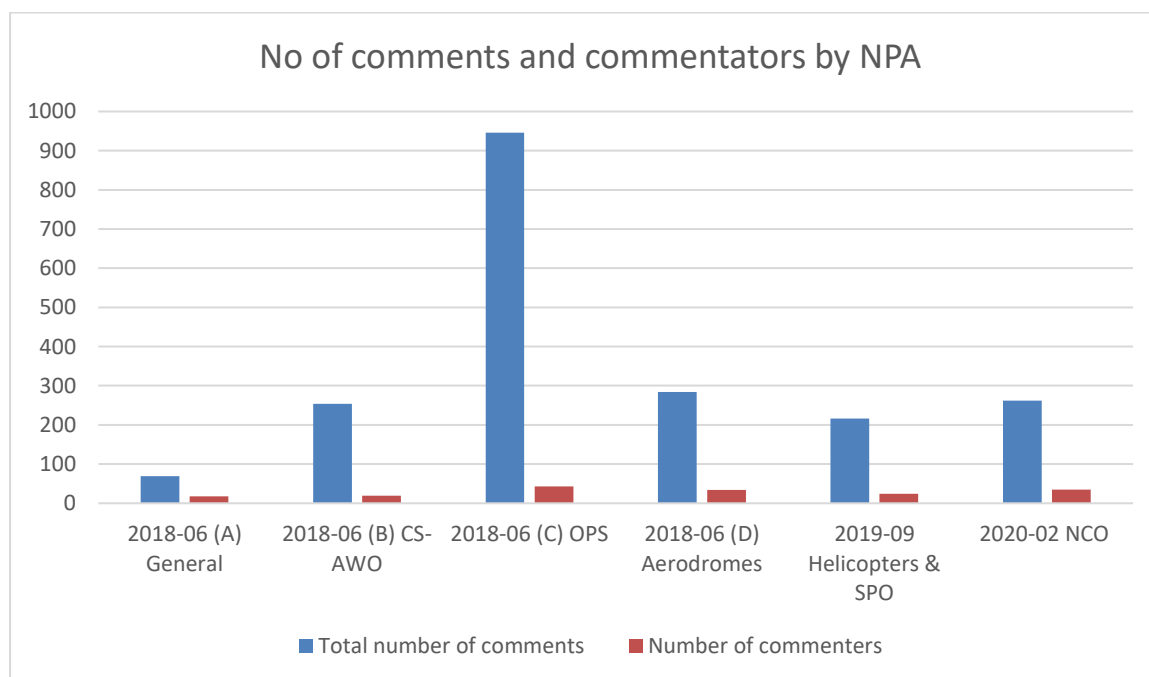
1. Summary of the outcome of the consultation

[NPA 2018-06](#) consists of four NPAs on changes to the domains of initial airworthiness, air operations, air crew and aerodromes.

- (a) NPA 2018-06(A) contains only explanations about the overall concept of all-weather operations (AWOs).
- (b) NPA 2018-06 (B) contains changes to CS-AWO. The related CRD is going to be published along with the final ED Decision on Issue 2 of CS-AWO.
- (c) NPA 2018-06 (C) contains changes to:
 - Annex I (Part-Definitions), Annex III (Part-ORO), Annex IV (Part-CAT), Annex V (Part-SPA), Annex VI (Part-NCC), to Regulation (EU) No 965/2012 (the ‘Air OPS Regulation’) addressing AWOs with aeroplanes, and
 - Annex I (Part-FCL) to Regulation (EU) No 1178/2011 (the ‘Aircrew Regulation’).
- (d) NPA 2018-06 (D) contains changes to Annex I (Definitions), Annex II (Part-ADR.AR), Annex III (Part-ADR.OR) and Annex IV (Part-ADR.OPS) to Regulation (EU) No 139/2014 (the ‘Aerodromes Regulation’).

For AWOs with helicopters, please see NPA 2019-09 and the related CRD.

For AWOs with non-commercial other-than-complex motor-powered aircraft (NCO), please see NPA 2020-02 and the related CRD.



As shown in the chart, the majority of comments was provided to NPA 2018-06 (C) related to amendments to the Air OPS and Aircrew Regulations as well as to the associated AMC & GM.

The comments received were aggregated into discussion topics that were then discussed in a review group. The review group members represented pilot associations, airline operators, airline associations, air navigation services providers, manufacturers and competent authorities (both EU

Member States' competent authorities as well as third-country competent authorities). The review group that worked on NPA 2018-06 (A) worked also on NPA 2018-06 (C).

Regarding NPA 2018-06 (A), EASA received 69 comments from 18 commentators. The majority of these commentators also commented on NPA 2018-06 (C).

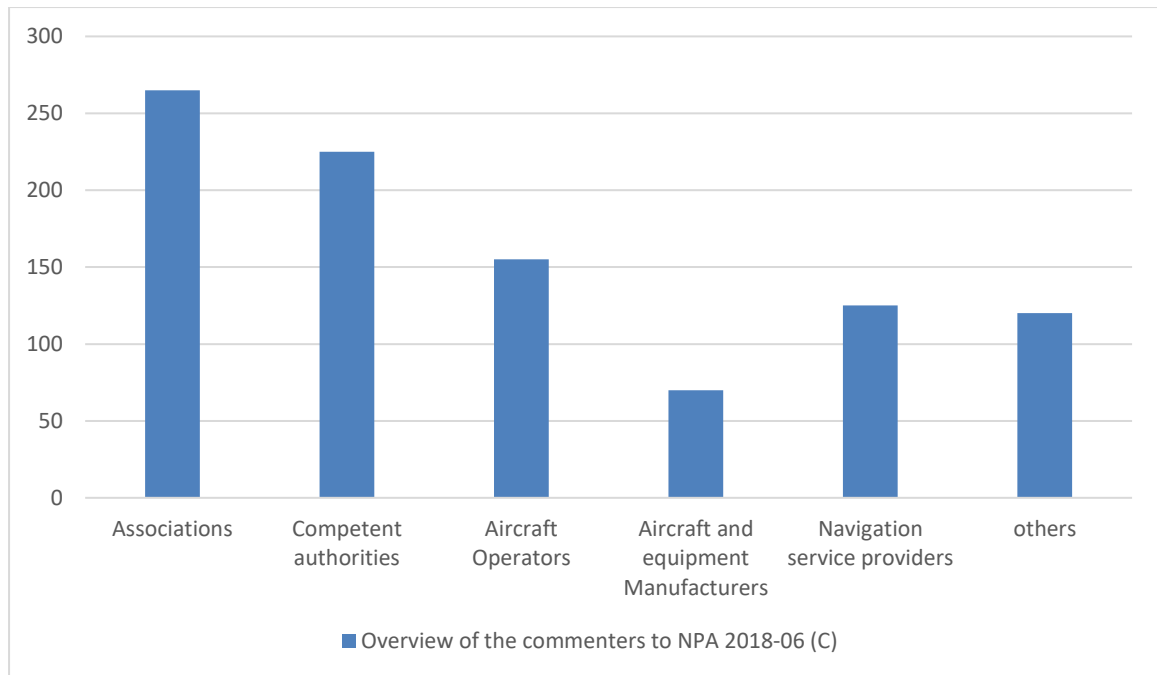
Regarding NPA 2018-06 (B), EASA received 254 comments from 18 commentators. Some of them also commented NPA 2018-06 (C).

Regarding NPA 2018-06 (C), EASA received 946 comments from 43 commentators as follows:

- 1- More than 260 comments (ca 28 %) by associations from all aviation domains (including international, national and regional operators, pilots, general aviation, air traffic services, balloons, etc.).
- 2- More than 220 comments (ca 23 %) were submitted by competent authorities including European and non-European (e.g. FAA), European union agencies (e.g. Global Navigation Satellite Systems Agency) and Air OPS competent authorities as well as authorities related to aerodromes and air traffic services.
- 3- About 155 comments (ca 16 %) by individual aircraft operators.
- 4- Approximately 70 comments (ca 7 %) by aircraft or equipment manufacturers.
- 5- About 125 comments (ca 13 %) by air navigation service providers.
- 6- The rest of the comments (ca 12.5 %) were submitted by other commentators including 3 comments by individual people.

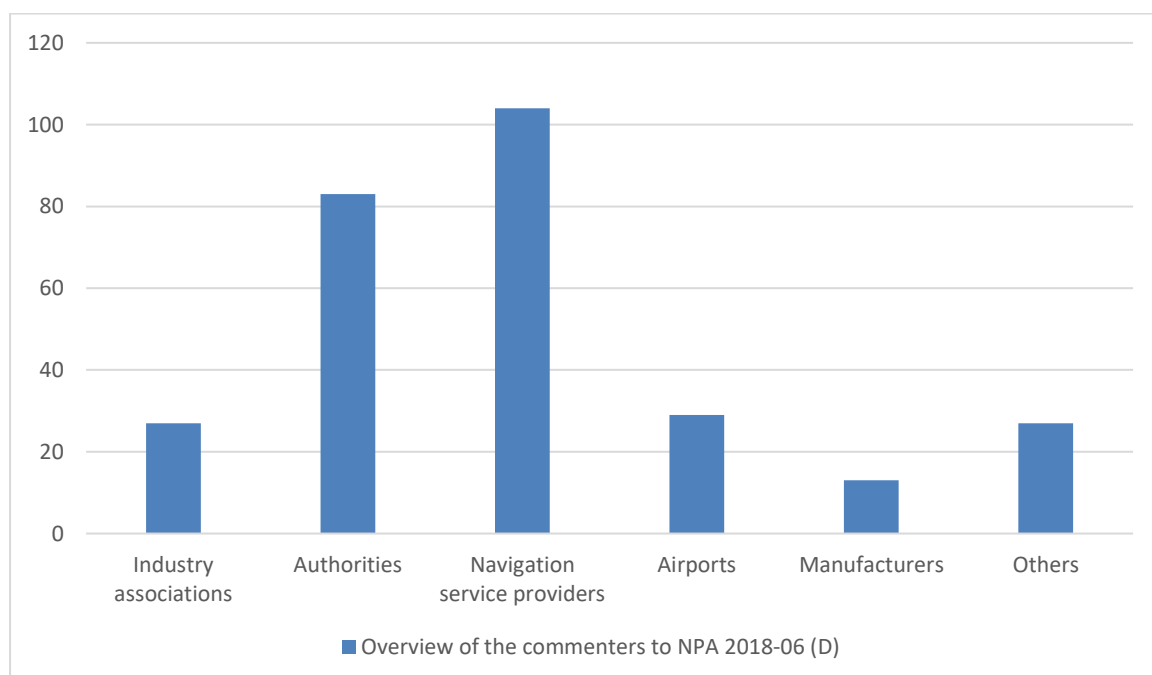
The review group included pilot associations, airline operators, airline associations, air navigation services providers, manufacturers and competent authorities (both European and foreign). The review group meetings were conducted in person from late 2018 until the first quarter of 2020, when due to the COVID 19 pandemic in-person meetings needed to be avoided. Given though that the work had been almost completed, it was decided to replace the review group with a small task force that works remotely and stems from the review group and composed of operators, manufacturers and competent authorities. This task force fundamentally addresses the AMC and GM to Part-SPA while the rest of the work was already completed by the review group.





Regarding NPA 2018-06 (D), EASA received 284 comments from 34 commentators. Only a few of them commented on NPA 2018-06 (C). The composition of the commentators was as follows:

- 1- More than 25 comments (ca 9.5 %) by the industry associations including airport associations.
- 2- More than 80 comments (ca 29.5 %) by competent authorities.
- 3- More than 100 comments (ca 37 %) by air navigation service providers, including EUROCONTROL.
- 4- About 30 comments (ca 10 %) by aerodrome operators (airports).
- 5- More than 10 comments (ca 4.5 %) by aircraft and equipment manufacturers.
- 6- More than 25 comments (ca 9 %) by other commentators.



2. Individual comments and responses

In responding to the comments, the following terminology is applied to attest EASA's position:

- (a) **Accepted** — EASA agrees with the comment and any proposed change is incorporated into the text.
- (b) **Partially accepted** — EASA either partially agrees with the comment or agrees with it but the proposed change is partially incorporated into the text.
- (c) **Noted** — EASA acknowledges the comment, but no change to the text is considered necessary.
- (d) **Not accepted** — EASA does not agree with the comment or proposed change.

(General Comments)	-
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comment

34

comment by: *ACI Europe*

General Comment:

While in most cases the various equipments described in this NPA are currently owned/operated/maintained by the airports' respective ANSP, there are some airports where the Airport Operator is - and deems it preferable - to remain in control of the visual aids equipment at his ADR. It is therefore the view of ACI EUROPE that whichever organisation owns or operates the equipment at a given airport should also be responsible for its maintenance and functionality. ADRs should, if they so wish, be in a position to gain control over and thus responsibility for the equipment either by purchase or contractual arrangement. This would allow airports to gain more flexibility with regards to choosing their preferred ANSP while at the same time establishing a stronger customer-service provider relationship. Such flexibility would improve choice of service from third parties without not compelling Airports to pay for maintenance or purchase of equipments that it does not own or operate.

response

Noted

Annex VII to Regulation (EU) 2018/1139 and more specifically point 2.1.(a) states that 'the aerodrome operator shall have, directly or through arrangements with third parties, all the means necessary to ensure safe operation of aircraft at the aerodrome. Those means shall include, but are not limited to, facilities, personnel, equipment and material, documentation of tasks, responsibilities and procedures, access to relevant data and record keeping'. Based on this, we consider that the responsibilities of the aerodrome operator are clear and cost issues should be subject to formal arrangements with third parties.

comment

62

comment by: *Aerodrome safety regulation departement*

1/ The NPA introduces modifications of implementing rules and certification specifications necessary to support new operations such as EFVS or SA CAT I.



However, these two concepts have not been preliminary defined in R (UE) 139/2014 as well as in R (UE) 965/2012. As a consequence the impacts of allowing these new concepts of operations on aerodrome infrastructures, equipment and operations are not fully comprehensible depending on the operations already served at considered aerodromes. Indeed, the absence of amendments of aerodrome provisions doesn't necessarily imply that no additional aerodrome requirements are expected to support EFVS or SA CAT I. As far as allowing EFVS and SA CAT I will imply a modification of the terms of the certificate, the aerodrome operators will need to have a full scope of the modification to introduce in their CBs. For example, the requirements on lighting systems in particular are still unclear because no references to these operations have been introduced in the corresponding CS.

We would find essential, in order to be able to identify the applicable specifications/provisions to support these new concepts of operations :

a/ to better define these concepts in coordination with AIR-OPS and ATM/ANS,
b/ to conduct a comprehensive analysis of the CS referring to type of operations criterion and check the lisibility of requirements to allow operations with operational credits.

We think in particular that the case of EFVS after a CAT I approach with a RVR under 550m needs to be further analysed.

It is needed to clearly state in aerodrome regulation if EFVS operations conducted with visibility conditions less than 550m could effectively be operated on a runway equipped for standard CAT I operations, given that on board-equipment allow such operational minima improvement. This precisions would at least clarify the expectations about required equipment related to the type of operation(CAT I/II/III), such as approach lighting systems or runway centre line lights.

Moreover, it would be also very helpful to clarify the need of equipment normally required when visibility conditions are less than 550m, for instance : Stop bars, WIG-WAG, no-entry bars... It is indeed necessary to know if these equipment are expected to be installed for EFVS under 550m on an aerodrome that support only standard CAT I to assess indirect additional constraints for aerodromes.

c/In addition, the replacement of « CAT II and CAT III approach » by « operations with a DH less than 200ft » requires an overall analysis of the aerodrome regulation.

2/ The NPA introduces in R (UE) 139/2014 and related CS, several new requirements regarding Air navigation and meteorological equipment that do not fall under the current scope of the aerodrome operator responsibilities and aerodrome certificate. Indeed, requirements such as :

- Publication of flight procedures,
- Publication of classification and performance of ILS,
- Electrical power supply of radio nav aids,
- Radio nav aids
- Meteorological equipment,

are currently dealt with by other entities certified or planned to be certified by the competent authority for their own responsibilities (ANSPs, MET Service or ASD) according to AN regulation in force. Mixing requirements relying on different entities



	<p>in a single document shall introduce additional complexity in the regulation frame and reduce efficiency of oversight.</p> <p>Moreover, these requirements have no immediate connection with the need for supporting operations with operational credits. We thus find it inappropriate to introduce NA and MET requirements in IR-ADR and CS on the occasion of AWO NPA. If necessary, these requirements should be analysed throughout ATM/ANS working task groups in coordination with aerodrome team.</p>
response	<p>Noted</p> <p>In regard to point (1)(b) of the comment, the use of the EFVS does not change the decision height of the instrument approach procedure, but it provides credit to the flight crew to continue the approach with lower visibility minima. If, for example, the published procedure has CAT I minima, then the runway should be a CAT I runway; however, if the actual RVR is less than 550 m, then the aerodrome should have in force LVPs in order to protect the runway from incursions by other aircraft or vehicle. Concerning the use of the stop bars and runway guard lights, please refer to CS ADR-DSN M.730 and CS ADR-DSN.M.745 respectively and more specifically on the applicability part. EASA considers that the relevant CSs are providing clear instructions on when these lights are required, therefore there is no need to revise them.</p> <p>In regard to point (1)(c) of the comment, EASA kept the original wording for CAT II/III operations.</p> <p>Regarding point (2) of the comment, it has to be considered that the NPA was drafted before the publication of Regulation (EU) 2020/469 which contains requirements for procedures design, MET services, etc. Having in mind the new regulation, the CS have been deleted and reference to Regulation (EU) 2020/469 has been introduced in the AMC. Furthermore, due to the fact that EASA started RMT.0161 'Conformity assessment', which will deal with the certification/declaration of ATM systems and constituents as well as safety-related aerodrome equipment, it was considered necessary to delete the proposed certification specifications and include operational provisions at AMC level. In addition, EASA acknowledges the fact that information in regard to the performance of the radio navigation aids, instrument approach charts, etc. may be owned by other organisations, therefore the role of the aerodrome operator will be to ensure their publication.</p>
comment	<p>107 comment by: NATS</p> <p>Some sections refer to 'MLS and ILS' and others to 'MLS, ILS and GBAS/GLS'.</p> <p>This is inconsistent.</p> <p>Suggest: GBAS/GLS should be included/detailed in all cases to ensure future-proofing.</p>

response	Noted
comment	<p>171 comment by: <i>EASA Focal Point for AustroControl ANSP-issues</i></p> <p>Austro Control:</p> <p>Generally, the document always refers to "the aerodrome operator, being the certificate holder"</p> <p>A legal construction like this, might not always be the case in all countries. In some countries, eg. like in Austria, the ANSP is responsible for operating the MET-related sensors and data processing equipment.</p> <p>Therefore we propose, to apply a more generic term like: "The legally mandated certificate holder organisation" or similar.</p>
response	<p>Noted</p> <p>Annex VII to Regulation (EU) 2018/1139 and more specifically point 2.1.(a) states that 'the aerodrome operator shall have, directly or through arrangements with third parties, all the means necessary to ensure safe operation of aircraft at the aerodrome. Those means shall include, but are not limited to, facilities, personnel, equipment and material, documentation of tasks, responsibilities and procedures, access to relevant data and record keeping'. Based on this, we consider that the responsibilities of the aerodrome operator are clearly defined; however, this does not prevent the operation of MET equipment by other organisations. Furthermore, EASA will not propose specific certification specifications for MET or any other equipment under this task, because RMT.0161 'Conformity assessment' will deal with the certification/declaration of ATM/ANS systems and constituents as well as safety-related aerodrome equipment.</p>
comment	<p>175 comment by: <i>Finnish Transport Safety Agency</i></p> <p>Trafi has no comments and supports the proposal.</p>
response	Noted
comment	<p>177 comment by: <i>EUROCONTROL</i></p> <p>The ADR rule and CS ADR are not addressing in this NPA all issues and needs required to cope will all introduced operations. This is in particular the case for SA CAT I and EFVS. A complete re assessment of ADR rule and CS ADR is needed before an opinion can be drawn</p> <p>Resolution proposal: Review all CS ADR and ADR rule with special focus on the new types of operations SA CAT I and EFVS.</p>

response	Noted
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comment

254

comment by: Dassault-Aviation

Text:

page 33 of (C) of 2,1,5 (Annex V 'Specific approvals' (Part-SPA) and related AMC & GM), it is stated that "Since ICAO Annex 14 Standards do not yet address operations with operational credits, **it cannot be assumed that aerodrome operators will have to be approved for operations with operational credits.** According to the revised rule, **the air operator is responsible for establishing whether a particular aerodrome could be used.** For some operations with operational credits (e.g. SA CAT I), an IAP published in the aeronautical information publication (AIP) will be required (at AMC level). However, **for the majority of operations, a dedicated published IAP for operations with operational credits will be neither available nor required.** These operations will use the published procedure for the standard operation, e.g. an EFVS operation with operational credits may use the CAT I IAP. In such cases, it is the responsibility of the operator to ensure that the IAP used is suitable for the intended operation."

Comment:

The statement in page 33 of (C) is not in line with the following statements in AMC (see below) explaining that the clear final objective of EASA is to have runways promulgated by the state of the aerodrome. In AMC4 SPA.LVO.110 (a) (1) (ii) it is clearly stated for EFVS that: "(A) the aerodrome has been approved for such operations, where the State of the aerodrome issues such approvals as within the Member States; or (B) the aerodrome has been assessed by the operator as suitable for the intended operation, where the State of the aerodrome does not issue such approvals;" page 20, EASA does the same statement: "If the runway has been promulgated as suitable by the State of the aerodrome (i.e. in the AIP), then no further investigation is required. It has been assumed that, at least in the short term, there will be a few runways so promulgated." that is why method shall be described for an operator to be capable to verify the suitability of a runway for EFVS.

Please note that the ongoing SESAR AAL2 project (2018-2020) that have received indirect support from EASA is being conducting authorization of 4 UE pioneer aerodromes for experimental EFVS demo in real operational conditions.

Moreover, the fact the air operator will have the responsibility to verify the suitability of the runway should not be the generalized method for at least two reasons:

- This will require each air operator do the same repetitive and time consuming task with possible human error in determination of suitability of runway (safety aspect).
- as this verification mainly consists in the determination of aerodrome characteristics (some of them being currently not available in AIP) this may generate long discussions between aerodrome and air operator.

text page 30 should reflect the objective mentioned in AMC: 1st: promulgation of aerodrome as much



response

Noted

The approval of an aerodrome to allow operations with EFVS is included in the terms of the certificate. Nevertheless, information concerning the airfield lighting, the performance of the radio navigation aids, the penetration of the visual segment surface, etc. will be included in the AIP.

Table of contents

p. 2

comment

35

comment by: *ACI Europe*

Pls. check if the reference to Chapter 8 is valid as NPA 2018-06 (D) contains only three chapters.

response

Noted

2. Proposed amendments and rationale in detail

p. 5

comment

93

comment by: *Aerodrome safety regulation departement*

Chapter 8 couldn't be found.

response

Noted

comment

302

comment by: *Airside safety*

Consideration needs to be provided for implementation timelines (lead in times to allow aerodromes to consult, design, finance and implement both procedural and infrastructural).

response

Noted

The proposed changes in regard to operations with operational credits are not mandatory. It is the responsibility of the ADR operator to decide whether such operations will be allowed, therefore no lead time is necessary. For the implementation of LVPs, the proposed rule is no different from the existing practices.

2.1. Proposed changes to AMC/GM to Regulation (EU) No139/2014 — presented together with the proposed amendments to the IRs — and proposed changes to CSs (CS-ADR-DSN) with related GM (Draft EASA decisions)

p. 5

comment

119

comment by: *Civil Aviation Authority - Norway****Terms deleted***

'lower-than-standard category I operation': the term is not used anymore in the IR.

'other-than-standard category II operation': the term is not used anymore in the IR.



	<p><i>Comment:</i> <i>We propose to retain the definition of these terms because:</i> <i>Even if these terms are not used in the IR, they are still used in GM 1 ADR.AR.C.035(e).</i> <i>Alternatively, if the definitions are deleted, then the terms should not be used in GM1 ADR.AR.C.035(e) either.</i></p>
response	<p>Noted</p> <p>If the terms are not used in the implementing rule, then they cannot be defined there. The definitions will be included in the relevant ED Decision which will contain the AMC/GM to the regulation.</p>
comment	<p>158 comment by: Aena Aeropuertos, S.A.</p> <p>It's indicated that the terms "lower than standard category I operation" and "other than standard category II operation" has been deleted from Annex I and the terms are not used anymore in the IR. However, the terms are used in GM1 ADR.AR.C.035(e) <i>Issuance of certificates</i></p>
response	<p>Noted</p> <p>If the terms are not used in the implementing rule, then they cannot be defined there. The definitions will be included in the relevant ED Decision which will contain the AMC/GM to the regulation.</p>
comment	<p>178 comment by: EUROCONTROL</p> <p>The baseline against which this NPA identifies changes is not specified. Analysis has determined that one possible baseline could be the Easy Access rules for Aerodromes (Jan 2018) but that the EU regulation 401/2018 changes are duplicated here.</p> <p>Resolution proposal: Provide consistent baseline information and update NPA text</p>
response	<p>Noted</p>
comment	<p>179 comment by: EUROCONTROL</p> <p>2.1.1 LVO definition source</p> <p>Resolution proposal: State that term is defined both in ICAO DOC9365 and ICAO EUR DOC 013</p>
response	<p>Accepted</p>
comment	<p>180 comment by: EUROCONTROL</p> <p>2.1.1 The runway type definition as amended by EU2018/401 is not improved by removal of CAT III subcategories. Why?</p>

response	Resolution proposal: Amend
	Accepted CAT III subcategories have been removed.

2.1.2. Annex II (Part-ADR.AR)

p. 5

comment	181	comment by: EUROCONTROL
	In subpart A it is stated that LTS CAT I, OTS CAT II and CAT III subcategories are to be removed. Why not done in this Subpart?	
	Resolution Proposal: Amend NPA text to latest published regulation and harmonize between subparts	
response	Not accepted LTS CAT I and OTS CAT II definitions have been removed from the regulation because the terms are not referenced. The CAT III subcategories have been removed from the definition.	

2.1.3. Annex III (Part-ADR.OR)

p. 6

comment	96	comment by: Aerodrome safety regulation departement
	ADR.OR.C.005 is proposed to be modified contrary to what is mentioned in the rationale.	
response	Accepted	

comment	182	comment by: EUROCONTROL
	New text is proposed for ADR.OR.C.005	
	Resolution Proposal: explain amendment	
response	Noted The current requirements for aerodrome certification refer only to physical characteristics and visual aids, and there is no reference to non-visual aids and MET equipment. The proposed point (e) in ADR.OR.C.005 aims to bridge the gap and is in line with the essential requirements for aerodromes which are included in Annex VII to Regulation (EU) 2018/1139.	



comment	183	comment by: EUROCONTROL
	It seems that in AMC1 ADR.OR.B015 the information to be provided should also include any possibility for granting operational credit?	
	Resolution proposal: Clarify objective of changed AMC	
response	Not accepted	
	Point (b)(2)(i) and (ii) of the AMC refers generally to the type of approaches, landing and/or take-off operations. EASA does not consider necessary to specify all the cases.	

2.1.4. Annex IV (Part-ADR.OPS)

p. 6

comment	184	comment by: EUROCONTROL
	AMC1 ADR.OPS.A.005 - see later comment to obstacle lights in the approach or MA area not under the aerodrome operator responsibility	
	Resolution proposal: Amend explanation	
response	Noted	
comment	185	comment by: EUROCONTROL
	AMC1 ADR.OPS.A.005 - the space-based aids mentioend here are not added in later sections of the NPA subpart	
	Resolution proposal Review and amend - see also separate GBAS comments	
response	Noted	
	A new implementing rule (ADR.OPS.A.080) is proposed to ensure the provision of information on radio navigation and landing aids, in accordance with Amendment 1 to ICAO Doc 10066 'PANS-AIM'.	
comment	186	comment by: EUROCONTROL
	AMC1 ADR.OPS.A.005 - Precision approach terrain charts are mandatory to be provide (shall) for all CAT II/III RWY, independent if electronic terrain and obstacle data is available or not	
	Resolution proposal Amend text	
response	Not accepted	



ICAO Annex 4 'Aeronautical charts', in point 6.2.1 states the following:

'The Precision Approach Terrain Chart – ICAO shall be made available for all precision approach runways Categories II and III at aerodromes used by international civil aviation where the requisite information is provided in the Aerodrome Terrain and Obstacle Chart – ICAO (electronic) in accordance with Chapter 5'.

comment

187

comment by: EUROCONTROL

In GM1 ADR.OPS.A.005 (b) no accuracy is provided for the aerodrome reference point location (it should be one meter), while this is done for the elevations.

Resolution proposal

Review and amend - see also separate GBAS comments

response

Not accepted

The information concerning the location of the aerodrome reference point is established in ICAO Annex 14 point 2.2 and is reported in degrees, minutes and seconds. Furthermore, the accuracy, as established in Regulation (EU) 2020/469, is 30 m.

comment

188

comment by: EUROCONTROL

In GM1 ADR.OPS.A.005 (b) no accuracy is provided for the aerodrome reference point location (it should be one meter), while this is done for the elevations.

Resolution proposal:

Review and amend - see also separate GBAS comments

response

Not accepted

The information concerning the location of the aerodrome reference point is established in ICAO Annex 14 point 2.2 and is reported in degrees, minutes and seconds. Furthermore, the accuracy, as established in Regulation (EU) 2020/469, is 30 m.

comment

189

comment by: EUROCONTROL

AMC3 ADR.OPS.B.030(b)

The value of 350m is not in line with ICAO: in ICAO EUR DOC 013 (Note 1 to Figure 3.1) reference is made to an aerodrome-specific value for the transition between visibility condition 1 and 2, while 400mRVR is cited based on ICAO DOC 7030 for the transition between conditions 2 and 3, where the pilot is unable to avoid other traffic visually in taxi. Please revise argument and values or state reason for deviating from ICAO and provide guidance to states how to manage the difference. Apparently the value of 350m RVR is already in ED Decision 2014/012/R, so maybe ICAO should be asked to change its values?



response	Not accepted The content of the AMC is a direct transposition of ICAO recommendations 9.8.7 and 9.8.8.
comment	190 comment by: EUROCONTROL ADR.OPS.B.045 'Low-visibility operations Cross -reference to ICAO EUR DOC 013 which treats the subject in great detail would be helpful. A future edition of this DOC could also contain the explanation why for LVTO aerodromes have to use LVO from 550m, while aeroplane approval is required only below 400m RVR. Currently, ICAO material specifies special rules for both aerodrome and aeroplane below 400m RVR only.
response	Noted
comment	191 comment by: EUROCONTROL GM3 ADR.OPS.B.070 (Major Construction work) item (I) should not only mention ILS, but all radio nav aids and all the surveillance means, not only radar (multilateration)
response	Noted The referenced GM was not part of the consultation. Nevertheless, EASA under RMT.0591 is reviewing the implementing rule and the related AMC/GM and the comment will be taken into consideration.
comment	192 comment by: EUROCONTROL GM4 ADR.OPS.B.070 (Unserviceability lights) needs addition for EFVS: "Lights should be incandescent (or LED with IR sources) to be visible to EFVS systems".
response	Noted The referenced GM was not part of the consultation. Nevertheless, EASA under RMT.0591 is reviewing the implementing rule and the related AMC/GM and the comment will be taken into consideration.
comment	193 comment by: EUROCONTROL In CS ADR-DSN.A.002 (Definitions) the definition of an instrument runway should be harmonised with those in EU regulation 401/2018 and other parts of this NPA. This also applies for the definition of a non-instrument runway
response	Accepted
comment	260 comment by: EUROCONTROL

response	In the aerodrome dimensions section, item (j) GBAS should be mentioned in addition to ILS and MLS.
response	Accepted The comment will be considered under RMT.0722 'Provision of aeronautical data by the aerodrome operator'.
comment	261 comment by: EUROCONTROL GBAS requirements to be added in AMC1 ADR.OPS.A.010
response	Noted AMC1 ADR.OPS.A.010 under RMT.0703 'Runway safety' has been deleted and the requirements are already included in Regulation (EU) 2020/469.
comment	262 comment by: EUROCONTROL GBAS changes to GM2 ADR.OPS.B.025
response	Noted
comment	263 comment by: EUROCONTROL GM3 ADR.OPS.B.070 (Major Construction work) item (I) should not only mention ILS, but all radio nav aids, notably GBAS and all the surveillance means, not only radar (multilateration)
response	Noted The referenced GM was not part of the consultation. Nevertheless, EASA under RMT.0591 is reviewing the implementing rule and the related AMC/GM and the comment will be taken into consideration.
comment	303 comment by: Airside safety Daa raises concerns regarding the design and procurement implications to Aerodrome operators of this CS, and requests an adequate transition period be allowed for compliance.
response	Noted It is not clear to which CS reference is made.

AMC/GM to ADR.OPS.A.005 'Aerodrome dat	p. 6
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comment 16

comment by: Luftfahrt-Bundesamt



The following text (in bold) should be added to the rationale for AMC1 ADR.OPS.A.005 'Aerodrome data' (NPA 2018-06(D), 2.1.4, page 6):

*"[...] Furthermore, the publication of a precision approach terrain chart is required when electronic terrain and obstacle data are not available, in line with ICAO Annex 15. **Moreover, information is required whenever the pre-threshold terrain of a runway intended to be used for low visibility operations may not be suitable for airborne landing systems.**"*

Due to the lack of information from the part of the aerodrome it is presently not clearly identifiable for air operators whether the pre-threshold terrain of a runway intended to be used for low visibility operations does conform to the terrain criteria on which the certification of the aircraft landing system was based on and whether may thus not be suitable for airborne landing systems and may thus be further assessed (amongst other things by way of verification flights) by the air operator or not.

Therefore the state of aerodrome should be responsible (AMC1 ADR.OPS.A.005 Aerodrome data) for publishing data for interested air operators whether the pre-threshold terrain of a runway intended to be used for low visibility operations does not conform to those predefined terrain criteria for "Irregular pre-threshold terrain" and "Runway slope" or "Landing Area Slope" respectively. This would significantly reduce the burden on air operators for assessing the performance of the airborne landing system. In the majority of the runways in question the air operator's work is reduced to a minimum when it is found in the published information that further assessments are not needed.

Rule, AMC, GM	Text in present NPA	Proposed new version
New paragraph AMC1 ADR.OPS.A.005 (h):	Not existent	The aerodrome operator should make available information to interested air operators whenever the pre-threshold terrain of a runway intended to be used for low visibility operations may not be suitable for airborne landing systems.

<p>New guidance for AMC1 ADR.OPS.A.005 (h)</p>	<p>Not existent</p>	<p>Add Guidance material in GM1 ADR.OPS.A.005 Aerodrome data RUNWAY PRE-THRESHOLD TERRAIN For runways intended to be used for low visibility operation, pre-threshold terrain chart should be published as per ICAO Doc 9365 Manual of All-Weather Operations If pre-threshold terrain presents significant variation, compatibility should be checked against limits used to certify aircraft systems providing flare guidance. If pre-threshold terrain is below or above the lower and upper limit (limits need to be further defined by aircraft manufacturers in CS-AWO) within the relevant distance prior the runway threshold, then the terrain should be classified as “irregular” as it may not be suitable with aircraft landing systems.</p>
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Please find subsequently our particular proposals replicated on page 15 for your reference.

response

Noted

The issues will be clarified through RMT.0722 ‘Provision of aeronautical data by the aerodrome operator’.

comment

98

comment by: *Aerodrome safety regulation departement*

This AMC introduces new responsibilities of the aerodrome operator that are currently dealt by ANS or CNS providers. Moreover, the proposed requirements have no link with the concepts of EFVS and SA CAT I. If necessary, these provisions shouldn't be supported by Aerodrome regulation because they are part of ANSPs, CNSPs certification (See our comment on AMC).

response

Noted

The responsibility of the provision of aerodrome data is on the aerodrome operator. This is also mentioned in Annex VII to Regulation (EU) 2018/1139. However, this does not prevent the aerodrome operator from having arrangements with other organisations such as ANSPs and CNSPs to provide this information.

comment

112

comment by: *AIRBUS*

Attachment [#1](#)

Unclear definition of "Runway slope"



	<p>Definition relevant for landing system is understood as landing area slope. Usual definition of runway slope publish in approach charts is difference of elevation between runway threshold and runway end. This can lead to significant discrepancy of interpretation. As a supporting example find include EGGD (Bristol).</p> <p>Proposed modification: Please add additional information and definition of « landing area slope » in Part –ADR.AR:</p> <p>Part –ADR.AR : GM1 ADR.OPS.A.005 Aerodrome Data (10) landing area slope : slope computed from the runway threshold up to 900m from runway threshold.</p>
response	<p>Noted</p> <p>Regulation (EU) 2020/469 contains specifications for the aeronautical data catalogue items. EASA under RMT.0722 'Provision of aeronautical data by the aerodrome operator' will provide more information on the subject.</p>
comment	<p>113 comment by: AIRBUS</p> <p>Attachment #2</p> <p><u>Slope change in landing area is usually not considered in certification but allowed in Aerodrome design GM</u></p> <p>Please add a criteria to define « irregular landing area » in Part –ADR.AR : GM1 ADR.OPS.A.005 Aerodrome Data</p> <p>Runway presenting significant change in longitudinal runway slope in the landing area may not be compatible with landing system. If one of the following criteria is not fulfil, then the landing area should be identified as irregular (a) Criteria defined in CS ADR-DSN.B.065 (b) and (c) are respected (b) Criteria defined in CS ADR-DSN.B.075 are respected (c) At any point between 0m and 900m from threshold, the runway elevation should be at an elevation lower than 0.5m above/below the mean landing slope</p>
response	<p>Noted</p> <p>Certification specifications for aerodromes contain the permissible values of slope changes in accordance with ICAO Annex 14. As there might be cases where due to topographical limitations, slope changes cannot be implemented in accordance with the certification specifications, then mitigation measures need to be established either by the aerodrome operator or the individual air operators.</p>

comment	<p data-bbox="368 199 432 241">115</p> <p data-bbox="1129 199 1394 241">comment by: AIRBUS</p> <p data-bbox="368 264 564 297">Attachment #3</p> <p data-bbox="368 320 1015 353"><u>Unclear definition of irregular pre-threshold terrain</u></p> <p data-bbox="368 387 1394 533">OPS rules require operators to perform Landing system evaluation on “Irregular pre-threshold” terrain. However definition of what is an irregular terrain does not exist. We do not understand how an operator can decide if an evaluation need to be performed</p> <p data-bbox="368 533 1394 600">We suggest defining a new guidance material explaining what is an irregular pre-threshold terrain.</p> <p data-bbox="368 600 1394 745">In addition ICAO request pre-threshold terrain chart to be published for CAT II and CAT III runways. We suggest in guidance material to publish those chart for all terrain that will perform low visibility operations (and not only for cat II and CAT III runway as requested by ICAO).</p> <p data-bbox="368 813 1394 891">Please add the following Guidance material in GM1 ADR.OPS.A.005 'Aerodrome data':</p> <table data-bbox="368 925 1394 1220"> <thead> <tr> <th data-bbox="368 925 544 958">AERODROME</th> <th data-bbox="1187 925 1394 958">PRE-THRESHOLD</th> </tr> </thead> <tbody> <tr> <td colspan="2" data-bbox="368 958 1394 1220">For runways intended to be used for low visibility operation, pre-threshold terrain chart should be published as per ICAO Doc 2983 Manual of All-Weather Operations. If pre-threshold terrain presents significant variation, compatibility should be checked against limits used to certify aircraft systems providing flare guidance. If pre-threshold terrain is below or above the lower and upper limit defined in Figure 1 within the 400m prior the runway threshold, then the terrain should be classified as “irregular” as it may not be suitable with aircraft landing systems.</td> </tr> </tbody> </table>	AERODROME	PRE-THRESHOLD	For runways intended to be used for low visibility operation, pre-threshold terrain chart should be published as per ICAO Doc 2983 Manual of All-Weather Operations. If pre-threshold terrain presents significant variation, compatibility should be checked against limits used to certify aircraft systems providing flare guidance. If pre-threshold terrain is below or above the lower and upper limit defined in Figure 1 within the 400m prior the runway threshold, then the terrain should be classified as “irregular” as it may not be suitable with aircraft landing systems.	
AERODROME	PRE-THRESHOLD				
For runways intended to be used for low visibility operation, pre-threshold terrain chart should be published as per ICAO Doc 2983 Manual of All-Weather Operations. If pre-threshold terrain presents significant variation, compatibility should be checked against limits used to certify aircraft systems providing flare guidance. If pre-threshold terrain is below or above the lower and upper limit defined in Figure 1 within the 400m prior the runway threshold, then the terrain should be classified as “irregular” as it may not be suitable with aircraft landing systems.					
response	<p data-bbox="368 1220 459 1263">Noted</p> <p data-bbox="368 1285 1394 1487">The publication of precision approach terrain charts for CAT II/III approach and landing operations is already required by ICAO Annex 4 and this is the current practice applied in the EU. Furthermore, EASA under RMT.0722 ‘Provision of aeronautical data by the aerodrome operator’ will specify the cases where these charts are required.</p>				
comment	<p data-bbox="368 1523 432 1568">284</p> <p data-bbox="948 1523 1394 1568">comment by: ERA Operations Group</p> <p data-bbox="368 1590 1394 1769">EASA has underestimated the burden of re-writing manuals to meet the implementation of the changes as they are affected by aerodromes. In addition, EASA does not anticipate that all aerodromes will change to the new terminology at the same time requiring a duplication of data in manuals.</p>				
response	<p data-bbox="368 1787 459 1830">Noted</p> <p data-bbox="368 1830 1394 1897">We would welcome further specific data that could contribute to the economic and regulatory impact assessment.</p> <p data-bbox="368 1897 1394 1975">The Agency will consider initiating a safety promotion task in order to support an adequate implementation of the regulation in the ADR domain.</p>				

ADR.OPS.B.030 'Surface movement guidance and control syste

p. 6

comment	259	comment by: <i>Shannon Airport Authority</i>
	Please clarify "Technical means" definition	
response	Noted	
	The term 'technical means' implies different types of surveillance equipment, e.g. SMR, A-DSB surveillance, etc. The term is used in order to avoid references to specific solutions and be technology-neutral. The related AMC provide more information.	

ADR.OPS.B.045 'Low-visibility operation

p. 7

comment	2	comment by: <i>Amsterdam Airport Schiphol - AMS/EHAM (and D.A.A)</i>
	Under (c) 'EQUIPMENT FAILURE TO BE REPORTED — APPROACH AND LANDING OPERATIONS', the title of the respective columns ('System – Failure – Expected effect on flight operations') is missing	
response	Accepted	
	The table has been updated.	

comment	264	comment by: <i>EUROCONTROL</i>
	GBAS to be added in the list of acronyms	
response	Accepted	

AMC/GM to ADR.OPS.B.045 'Low-visibility operation

p. 7-8

comment	139	comment by: <i>Federal Office of Civil Aviation (FOCA), Switzerland</i>
	Comment FOCA to GM1 ADR OPS.B.045 (a) Low-visibility operations: Mismatch between LVO and visibility conditions in the title. The "visibility conditions" (VC) cannot be described under a title "LVO". Especially VC 1 are certainly not meteorological conditions under RVR 550 m (at least not necessarily).	
	<i>Suggestion:</i> GM1 ADR OPS.B.045(a) Low-visibility operations Visibility conditions	
response	Noted	
	The GM has been deleted.	

CS ADR-DSN.B.205 'Radio altimeter operating area'

p. 8



comment	194	comment by: EUROCONTROL
	GM to CS ADR-DSN.B.205 deletion of (b) was already performed prior to this NPA. What is the baseline used?	
	Resolution proposed Review baseline	
response	Noted	

comment	195	comment by: EUROCONTROL
	GM to CS ADR-DSN.B.205 Explanatory text and SC do not concur here. The explanation states that currently DH150 can only be achieved with radalt, but GM (c) only says "may enhance the usability". Does that mean SA CAT I to 150ft can legally be flown based on radalt without a PA terrain chart or a radalt operating area?	
	Resolution proposal Review for consistency across NPA	
response	Noted	
	A precision approach terrain chart is required for all the approaches that have a DH less than 200 ft.	

comment	197	comment by: EUROCONTROL
	CS ADR -DSN.M.615, GM1 ADR-DSN.M.625 and CS ADR-SN.Q.846, as well as Table J-1 and GM1 ADR-DSN.J.480 should be amended for EFVGS use with a specific section on use of LED lights. The entire section M should be reviewed for consistency with the provisions in part (B) and (C) of the NPA whether special requirements exist for SA-CAT I or SA-CAT II operations wherever currently CAT I, II or III is mentioned.	
response	Noted	
	AMC1 ADR.OPS.B.045(a)(2) and AMC1 ADR.OPS.B.045(a)(3) detail the means that could be used to enable SA CAT I, SA CAT II and EFVS operations. EASA does not consider necessary to change the existing certification specifications because they are meant to support standard operations.	

comment	198	comment by: EUROCONTROL
	CS ADR-DSN.M.680, CS ADR-DSN.M.690, GM1 ADR-DSN.M.690, CS ADR-DSN.M.695: consider addition of SA-CAT I and SA-CAT II provisions	
response	Noted	



comment 199 comment by: EUROCONTROL

CS ADR-DSN.S.890 (Monitoring) needs to be updated (item (d) - to refer to (c) to (h)). The monitoring should also be applicable to SA-CAT I, so item (d) should also refer to DH<200ft, not only RVR<550m.

response Noted

Certification specifications remain unchanged because they are meant to support standard operations. The means to enable operations with operational credits are included in AMC1 ADR.OPS.B.045(a)(2) and (a)(3).

comment 200 comment by: EUROCONTROL

Major comment: ILS system performance equivalency is not the concept employed by ICAO for GBAS GAST-D. The formulation proposed in CS ADR-DSN.S.925 is therefore inadequate for this system already standardized by ICAO. An alternative form is proposed, using guidance and touchdown performance equivalence.

Resolution proposal:
See proposal in separate comment

response Noted

The relevant CS has been deleted as RMT.0161 'Conformity assessment' will provide the certification specifications for ATM/ANS systems and constituents. However, information on the required performance of the radio navigation aids is included in AMC1 ADR.OPS.B.045(a)(2).

comment 304 comment by: Airside safety

daa has concerns regarding aerodrome operator holding responsibility for ILS and RVR equipment in future, when in many cases they are owned and operated by ATC daa questions how other equipment, e.g. ceilometers etc, be dealt with and based on which criteria where ILS and RVR selected as the responsibility of airports.

response Noted

The relevant CS has been deleted.

GM to CS ADR-DSN.B.205' Radio altimeter operating are

p. 8

comment 265 comment by: EUROCONTROL

GM1 ADR-DSN.M.640, CS ADR-DSN.M.645, CS ADR-DSN.M.650, Figure M-5, GM1 ADR-SN.M.655:

GBAS to be added wherever ILS and MLS are mentioned



response Noted
The GM has been deleted.

CS ADR-DSN.H.445 'Obstacle Free Zone (OFZ

p. 8

comment 196 comment by: EUROCONTROL
CS ADR-DSN.H.445 Type B operations are not defined in this part of the NPA. EU Reg. 401/2018 uses the term but does not define it within the AD rules. Cross reference?
Resolution proposal
Review for consistency across NPA

response Noted
Certification specifications remain unchanged. The means to support operations with operational credits are included in AMC1 ADR.OPS.B.045(a)(2) and AMC1 ADR.OPS.B.045(a)(3).

CS ADR-DSN.S.880 'Electrical power supply systems for visual aids requirement

p. 8-9

comment 102 comment by: Aerodrome safety regulation departement
This AMC introduces new responsibilities of the aerodrome operator that are currently dealt by ANS or CNS providers. Moreover, the proposed requirements have no link with the concepts of EFVS and SA CAT I. If necessary, these provisions shouldn't be supported by Aerodrome regulation because they are part of ANSPs, CNSPs certification (See our comment on CS).

response Noted
The CS has been deleted.

CS ADR-DSN.S.895 'Serviceability level

p. 9

comment 125 comment by: Swedish Transport Agency, Civil Aviation Department
(Transportstyrelsen, Luftfartsavdelningen)

Text: The NPA claims that at the DH of 150 ft the requirements should be at least equal with the requirements for category II approach operations, to....

General comment: This text seems to be based on a misunderstanding of what SA CATI really is, i.e. a CAT I operation, enhanced mainly by on-board equipment. By stating "at least" implies that some requirements (presumably at the aerodromes) should be stricter than those for CATII.



response Accepted
The requirements remain unchanged; however, they have been transferred at implementing rule level through Regulation (EU) 2020/2148.

CS ADR-DSN.S.925 'Radionavigation aid

p. 9

comment 36 comment by: ACI Europe

The proposed CS ADR-DSN.S.925 relates to "installation and maintenance" aspects of radio navigation aids. NPA 2018-06(D) does not contain additional requirements within the OR-section or OPS-section. As a result, the responsibility for operating the radio navigation aids remains open.

What is the rationale that the NPA covers installation and maintenance only? (In contrast to this, the explanation for CS ADR-DSN.S.930 (page 9 within the NPA) mentions "operation" as well.)

Furthermore, the wording "may be conducted by another organisation" could be understood in a way that – as per default - the majority of the aerodrome operators conduct installation and maintenance of NAVAIDS. This appears to be slightly contradicting/ overlapping to Appendix 4a "Qualification training – Streams" to Annex XIII "Part PERS" of regulation 2017/373 which requires ATM/ANS personnel to be trained in the "SUB-TOPIC 1.9: System check and maintenance".

Hence, a better wording might be

"In cases where the installation, maintenance, *and operation* of the aids is *not* conducted by another organization, the aerodrome operator being the certificate holder of the aerodrome has to ensure their existence and proper maintenance *and operation*."

response Noted
The NPA was drafted before the publication of Regulation (EU) 2020/469 which contains requirements for procedures design, MET services, etc. Having in mind the new regulation, the CS have been deleted and reference to Regulation (EU) 2020/469 has been introduced in the AMC. Furthermore, due to the fact that EASA started RMT.0161 'Conformity Assessment', which will deal with the certification/declaration of ATM systems and constituents as well as safety-related aerodrome equipment, it was considered necessary to delete the proposed certification specifications and include operational provisions at AMC level.

comment 101 comment by: Aerodrome safety regulation departement

This AMC introduces new responsibilities of the aerodrome operator that are currently dealt by ANS or CNS providers. Moreover, the proposed requirements have no link with the concepts of EFVS and SA CAT I. If necessary, these provisions shouldn't be supported by Aerodrome regulation because they are part of ANSPs, CNSPs certification (See our comment on CS).



response	<p>Noted</p> <p>The NPA was drafted before the publication of Regulation (EU) 2020/469 which contains requirements for procedures design, MET services etc. Having in mind the new regulation the CS have been deleted and reference to Regulation (EU) 2020/469 has been introduced in the AMC. Furthermore, due to the fact that EASA started RMT.0161 'Conformity Assessment', which will deal with the certification/declaration of ATM systems and constituents as well as safety related aerodrome equipment, it was considered necessary to delete the proposed certification specifications and include operational provisions at AMC level.</p>
comment	<p>126 comment by: <i>Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</i></p> <p>Text:... radio navigation aids to support PA operations, EASA has decided, instead of listing all the available radio navigation aids, to refer to the ILS ...</p> <p>General comment: It would be helpful to use the 3-digit classification of ILS from Annex 10, which would describe the performance of the navigation aid in a more nuanced way-</p>
response	<p>Noted</p> <p>The CS has been deleted, because EASA started RMT.0161 'Conformity Assessment', which will deal with the certification/declaration of ATM systems and constituents as well as safety-related aerodrome equipment, therefore it was considered necessary to delete the proposed certification specifications and include operational provisions at AMC level, aligning with the requirements for air operations. Furthermore, the ILS classification is required to be published in the AIP, in accordance with Amendment 1 to ICAO Doc 10066 'PANS-AIM'.</p>
comment	<p>266 comment by: <i>EUROCONTROL</i></p> <p>CS ADR-DSN.S.925 : ILS system performance equivalency is not the concept employed by ICAO for GBAS GAST-D. The formulation proposed in CS ADR-DSN.S.925 is therefore inadequate for this system already standardized by ICAO. An alternative form is proposed, using guidance and touchdown performance equivalence.</p> <p>See proposal in separate comment</p>
response	<p>Noted</p> <p>The CS has been deleted, because EASA started RMT.0161 'Conformity Assessment', which will deal with the certification/declaration of ATM systems and constituents as well as safety related aerodrome equipment, therefore it was considered necessary to delete the proposed certification specifications and include operational requirements at AMC level, aligning with the requirements for air operations.</p>

CS ADR-DSN.S.930' Meteorological equipment' — Runway visual

p. 9

comment

37

comment by: *ACI Europe*

ACI Europe asks the Agency to re-assess the potential benefits of including the specifications for RVR-equipment within the CS applicable for aerodromes:

1. 1. CS for MET equipment are already published here:

- - MET.TR.210, Section c), 4)
- - AMC1 MET.TR.210 (c)
- - AMC1 MET.TR.210 (c)(1)

Please avoid double regulation.

2. 2. It is unclear why “only” RVR equipment is included within the aerodrome CS while there are many more sensor types within the MET domain that could have been included here using the same line of argumentation – e.g. ceilometers.

3. 3. EASA’s statement within the explanations for CS ADR-DSN.S.925 “acknowledges the fact that in certain cases the installation and maintenance of the aids may be conducted by another organization different from the aerodrome operator...” is also valid for meteorological equipment.

response

Accepted

CS for MET equipment have been deleted.

comment

100

comment by: *Aerodrome safety regulation departement*

This AMC introduces new responsibilities of the aerodrome operator that are currently dealt by ANS or CNS providers. Moreover, the proposed requirements have no link with the concepts of EFVS and SA CAT I. If necessary, these provisions shouldn't be supported by Aerodrome regulation because they are part of ANSPs, CNSPs certification (See our comment on CS).

response

Noted

The NPA was drafted before the publication of Regulation (EU) 2020/469 which contains requirements for procedures design, MET services etc. Having in mind the new regulation, the CS have been deleted and reference to Regulation (EU) 2020/469 has been introduced in the AMC. Furthermore, due to the fact that EASA started RMT.0161 ‘Conformity Assessment’, which will deal with the certification/declaration of ATM systems and constituents as well as safety related aerodrome equipment, it was considered necessary to delete the proposed certification specifications and include operational provisions at AMC level.

comment

145

comment by: *UK CAA*

	<p>Page No: 9</p> <p>Paragraph No: CS ADR-DSN.S.930 ‘Meteorological equipment’ — Runway visual range</p> <p>Comment: The paragraph states: ‘... <i>The aerodrome operator, being the certificate holder, is responsible to ensure the installation, proper maintenance and operation of the meteorological equipment.</i>’</p> <p>The UK CAA recommends adding this element to Commission Implementing Regulation (EU) 2017/373, Annex V, Part-MET: MET.OR.200 Meteorological reports and other information.</p> <p>Justification: The MET equipment at an aerodrome is the responsibility of the MET ANSP; therefore this requirement should be added to the MET ANSP requirements in 2017/373 Part-MET.</p>
response	<p>Noted</p> <p>A new point (e) has been added in ADR.OR.C.005 to ensure the provision of the necessary visual and non-visual aids, MET equipment and any other equipment commensurate with the type of operations conducted at the aerodrome. The current concept of aerodrome certification considers only the certification specifications contained in CS ADR-DSN and the requirements in Part-ADR.OPS, without taking into account other requirements for non-visual aids, MET equipment, etc.</p>
comment	<p>288 comment by: <i>Jan Sondij</i></p> <p>The introduction of CSs for meteorological equipment in the ADR rule is not fully understood and EASA is requested to provide clarification and guidance material explaining the intent and aim of the rule. This is seen as necessary to prevent potential inconsistencies or ambiguous interpretation of the MET-related notions and terms in different regulations.</p> <p>It is understood that meteorological information is in many cases required to support specific types of operations. The meteorological information is used to determine the type of operations. And by continuously monitoring the meteorological conditions it is possible to assess if the operations are still within the prescribed meteorological boundaries.</p> <p>Part MET of Regulation (EU) 2017/373 lays down the requirements for the meteorological service provision. The meteorological services described in the AWO NPA seem to fall under the service as provided by the Aeronautical Meteorological Station (AMS) in the Regulation 2017/373. Local routine reports, local special reports and METAR contain the wind, cloud and RVR information in specified formats (MET.OR.200). Or the information can be provided via displays in the local air traffic services unit or where RVR is reported by an observer at the aerodrome (GM1 MET.OR.200(a)(2)).</p>



The certified MET ANSP is responsible for the meteorological service provision. The entity providing the AMS function can be the National Meteorological Service, the Air Traffic Service, the Aerodrome, the Military, an offshore structure or a commercial meteorological provider. Bottom line is that the AMS (as ANS for MET) has to comply with the (EU) 2017/373 and needs to be certified.

The proposed changes to the ADR rule are not fully understood and result in ambiguity between the roles and responsibilities of the MET SP and the ADR.

The following aspects are not understood and EASA is requested to provide clarification and to consider adding guidance material to explain the aim and intent of the rule:

a) It is not understood why the ADR rule introduces CSs for MET equipment. Article 34 of Regulation 1139/2018 as well as Article 8a of the repealed Regulation 216/2008 refers to the inclusion of safety related aerodrome equipment into the aerodrome certificate. Regulation 1139/2018 contains the definition of 'safety-related aerodrome equipment', which in the view of EASA covers also the MET equipment. However, this is fully covered in the (EU) 2017/373, as can be seen by the content of CS ADR-DSN.S.930 which is merely a copy of some – and not all – of the requirements of RVR information, including system requirements in foresaid Regulation. Is this not merely a duplication of the (EU) 2017/373? What is the intent of EASA by introducing the CSs for MET equipment?

b) Does the introduction of CSs for meteorological result in unambiguity on who is responsible for the MET equipment? Is it not the always the MET SP who is responsible, regardless or not whether it is the Aerodrome or another entity acting as ANS for MET?

c) Why are only CSs introduced for RVR equipment, and not for other meteorological systems like clouds and wind, that are part of the hazard identification in the AWO NPA?

d) EASA indicated that the CS refers only to the system and not to the operational procedures. Is the MET SP not responsible for the overall meteorological service provision, systems and operational procedures included? What is the need to include a responsibility for MET equipment on the aerodrome?

e) Why does the CS for RVR only contain a subset of the requirements for RVR in the (EU) 2017/373? Why are for example reporting steps not included? If the argument for that would be that this is not a system requirement, why are averaging requirements included under (d)?

f) The content of the CS seems not to be fully aligned with the (EU) 2017/373, such creating potential inconsistencies or ambiguous interpretation.

g) Does EASA see the provision of RVR information as part of the service provision under (EU) 2017/373? Such that the provider of RVR information requires to be certified as AMS MET ANSP under the (EU) 2017/373?



	<p>h) Does EASA see the provision of RVR information as separate from the (EU) 2017/373 and can be provided by an aerodrome (or another entity) when it is compliant with the CSs in the ADR rule?</p> <p>i) What is the meaning of the aerodrome to ensure safe operation of MET equipment? Is it not the NSA who performs oversight on the MET ANSP? What are the roles and responsibilities between ADR and NSA in this regard? What is the mandate of the ADR when the provision of RVR is not conform the requirements?</p> <p>j) What is the meaning of the responsibility of the aerodrome operator in accordance with ADR.OR.C.005 in Regulation 139/2014 is to ensure directly or through arrangements the provision of ANS appropriate to the level of traffic and operating level at the aerodrome?</p> <p>Can this be interpreted such that the aerodrome will provide RVR information under the ADR rule and not under the Regulation 373/2017?</p> <p>k) Is it the intention of EASA to include CS for meteorological equipment in the ADR rule, such enabling airports that do not provide the AMS services and products (local routine report, local special report, METAR) but only measure wind or pressure to be compliant without falling under the Regulation 2017/373, and subsequent certification as MET ANSP?</p> <p>It is advised to EASA to cross check the MET related content with the ad-hoc RMG Part-MET for consistency with WMO and ICAO and within the EU-rulemaking framework including Regulation 2017/373.</p>
response	<p>Noted</p> <p>The CS for MET equipment have been deleted.</p>

Annex I 'Definitions'	p. 11-12
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comment	<p>19 comment by: <i>Brussels Airport</i></p> <p>Annex I definitions (24a) propose to delete "or taxiing at an aerodrome at which any RVR is less than 550m" or to change the wording into "or taxiing at the manoeuvring area of an aerodrome at which any RVR is less than 550m because the visibility at an apron taxiway can be much more at large aerodromes where a RVR is measured kilometers away from that apron.</p>
response	<p>Accepted</p> <p>The part of the definition '...or taxiing at an aerodrome at which any RVR is less than 550 m' has been deleted.</p>
comment	<p>20 comment by: <i>Brussels Airport</i></p>



response	<p>to add a definition in Annex I definitions (22) of SA ILS CAT I Approach because there is in (22) a definition of all different approaches except for this kind of approach</p> <p>Not accepted</p> <p>The term has been deleted from the implementing rules, therefore a definition is not required. The term is defined in the AMC/GM.</p>
comment	<p>21 comment by: <i>Brussels Airport</i></p> <p>To add a definition in Annex I definitions a definition of EFVS (Enhanced Flight Vision System) because the abbreviation EFVS is used in EU Reg. 139/2014 Aerodromes without any clarification what it is or what it means</p>
response	<p>Not accepted</p> <p>The term is not used in the implementing rules, therefore a definition is not required. The term is defined in AMC/GM.</p>
comment	<p>22 comment by: <i>Brussels Airport</i></p> <p>To clarify the wording "specific" in definition (34a) because what is understood or meant with specific aircraft or ground equipment.</p>
response	<p>Noted</p> <p>The definition comes from ICAO Annex 6 Part I. The term 'specific' is used in order to include different types of on-board and ground equipment and does not limit future technologies.</p>
comment	<p>50 comment by: <i>ACI Europe</i></p> <p><u>Reference to (24a):</u></p> <p>In Annex I definitions (24a) we propose to delte "or taxiing at an aerodrome at which any RVR is less than 550m" or to change the wording into "or taxiing at the manoeuvring area of an aerodrome at which any RVR is less than 550m". The reason being that the visibility an an apron taxiway can be much greater at large aerodromes where a RVR is measured kilometres away from that apron.</p> <p><u>Additional Definition:</u></p> <p>We suggest the adding of a definition in Annex I of EFVS (Enhanced Flight Vision System). The abbreviation EFVS is used in Reg. (EU) 139/2014 however lacking the necessary clarification of what this means.</p>
response	<p>Partially accepted</p>

The part of the definition ‘...or taxiing at an aerodrome at which any RVR is less than 550 m’ has been deleted. The term EFVS is not used in the implementing rules, therefore a definition is not required. The term is defined in AMC/GM.

comment

65

comment by: *Aerodrome safety regulation departement***(24a) 'low-visibility operations (LVOs)'** :

The proposed definition of LVO introduces inconsistency between the LVP definition and the applicability of LVPs mentioned in ADR.OPS.B.045(a). Indeed, because it refers to LVO, the definition of LVP doesn't cover the case of operations with RVR over 550m and DH under 200ft whereas ADR.OPS.B.045 (a) (2) does. We propose to add this case of operations to the definition of LVO as following and adopt the same definition in AIR OPS :

'(24a) 'low-visibility operations (LVOs)' means approach with any RVR less than 550 m and/or DH less than 200ft or

take-off operations on a runway with any RVR less than 550 m or taxiing at an aerodrome at which any RVR is less than 550 m;'

In addition, a GM might be useful to precise which RVR is used as a reference regarding taxiing operations.

(34a)'operation with operational credits' : The definition of operational credits added in IR-ADR is not exactly the same as the one proposed in R UE 965/2012 contrary to the content of the rationale (2.2.1). We proposed to stick to the AIR OPS definition which comes from ICAO Annex 6, as following and if necessary add a GM for the specific purpose of aerodrome.

'operation with operational credits' means an operation using specific aircraft or ground equipment, or a combination of aircraft and ground equipment, such that: (a) lower-than-standard aerodrome operating minima can be applied for a particular classification of operation; or (b) visibility requirements can be satisfied or reduced; or (c) fewer ground facilities are required.

Moreover, we think there is a need to add the definitions of both new concepts used in aerodrome regulation :

- 1) EFVS operations whose definition is proposed to be introduce in AIR OPS (see NPA 2018-06 c)),
- 2) SA CAT I operations which is not defined neither in ADR NPA, nor in AIR OPs.

GM might also be needed to clarify the status of these operations compared to standard operations as far as aerodrome specifications are concerned : for instance about the applicable specifications for the lighting to serve a SA CAT I.

response

Noted

The definitions of the LVOs and operations with operational credit have been aligned with Air Operations and the DH has also been included. EFVS and SA CAT I operations



are not mentioned in the implementing rules, therefore a definition is not required. Nevertheless, they are defined in AMC/GM.

comment

117

comment by: *Riga International Airport*

Some existing definitions, e.g.:

- a. *'Intermediate holding position' means a designated position intended for traffic control at which **taxiing aircraft and vehicles should stop** and hold until further cleared to proceed when so instructed by the appropriate air traffic control unit.'*
- b. *'Runway-holding position' means a designated position intended to protect a runway, an obstacle limitation surface, or an ILS/MLS critical/sensitive area at which **taxiing aircraft and vehicles should stop** and hold, unless otherwise authorised by the aerodrome control tower.'*

provide an opportunity to interpret 'taxiing' as an operation performed by both aircraft and vehicles. Hence it is important that the proposed definition:

'low-visibility operations (LVOs)' means approach or take-off operations on a runway with any RVR less than 550 m or taxiing at an aerodrome at which any RVR is less than 550 m'

is provided with a GM or a footnote which could be used to clarify whether operations of vehicles at an aerodrome at which any RVR is less than 550 m should be treated as LVOs even during periods when no aircraft operations are expected or performed at the aerodrome

response

Noted

The terms 'intermediate holding position' and 'runway holding position' are not included in the implementing rules, therefore a definition is not required. Nevertheless, the terms are defined in CS ADR-DSN.A.002 where the wording is the same as proposed. In regard to the GM on LVO definition, this is not considered appropriate to be included at this point. Reference should be made to ADR.OPS.B.045.

comment

127

comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Annex I Definitions (34) "Non-instrument runway"

We are aware that this definition has not changed but we believe that a change would be beneficial for the reasons given below.

Consider changing to the following text:

'non-instrument runway' means a runway intended for the operation of aircraft ~~using visual approach procedures~~ being maneuvered by means of visual references

Rationale: The expression "visual approach procedures" is not defined and is ambiguous. To align better with the text in AMC3 CAT.OP.MPA.110 and associated



	<p>tables 4.A and 10. The current text could be maintained without causing a conflict if it is understood that “intended for...” does not prevent more advanced use of such a runway. Such use appears to be very natural in case of an aerodrome with one instrument runway and one non-instrument runway. After an instrument approach to the instrument runway, circling is possible to the non-instrument runway. Using circling minima ensures obstacle clearance.</p>
response	<p>Not accepted</p> <p>EASA intends to maintain the current definition in Regulation (EU) No 139/2014 until ICAO proposes an acceptable definition.</p>
comment	<p>146 comment by: UK CAA</p> <p>Page No: 12</p> <p>Paragraph No: Annex I ‘Definitions’, item (34): ‘non-instrument runway’</p> <p>Comment: It should be noted that ICAO intends to change the Annex 14 definition of ‘non-instrument runway’; (applicability November 2020). The proposed definition is as follows: <i>‘non-instrument runway’ means a runway intended for the operation of aircraft using visual approach procedures or an instrument approach procedure with a minima not lower than 150 m (500ft) above aerodrome elevation.</i></p> <p>The amended definition is intended to cater for GNSS (instrument) approaches to non-instrument runways.</p> <p>We hope EASA will adopt the ‘new’ Annex 14 definition by 2020 (or sooner).</p> <p>Justification: Alignment with ICAO</p>
response	<p>Not accepted</p> <p>The proposed by ICAO definition has not been accepted and ICAO decided to withdraw the proposal for further analysis.</p>
comment	<p>147 comment by: UK CAA</p> <p>Page No: 12</p> <p>Paragraph No: Annex I ‘Definitions’, item (34a): ‘operation with operational credits’</p> <p>Comment: We believe it is ICAO’s intention to refer to operational credits in Annex 6; but exclude all references to operational credits in Annex 14.</p> <p>This is because Annex 14 is written in such a way as to ‘not restrict the operation of aircraft’. An aerodrome operator will not, or may not have access to an air operator’s minima or any credits it might be applying.</p>



response	<p>If ICAO Annex 14 does not refer to operational credits then the EASA Aerodrome Regulations should follow the same principle. Therefore, it would be appropriate to refer to operational credits in the EASA Ops Regulations – but EASA should exclude all references to operational credits in the Aerodrome Regulation 139/2014.</p> <p>Justification: Alignment with ICAO</p> <p>Not accepted</p> <p>Operations with operational credits require specific aerodrome infrastructure or procedures which sometimes go beyond the ICAO standard categories. For example, an operation with EFVS may be conducted on a CAT I runway at RVR less than 550 m, where in this case LVPs are required. By including this type of operations in Regulation (EU) No 139/2014, aerodrome operators and competent authorities have a legal basis to approve such operations at aerodromes.</p>
comment	<p>176 comment by: ANS Finland</p> <p>The definition of LVO includes taxiing aircrafts at an aerodrome when RVR is less than 550 meters. ANS Finland proposes that taxiing on the apron or traffic area as a sole aircraft for a purpose other than taxiing for departure or after landing would be excluded. This could mean for example taxing for the purpose of changing position for another stand, deicing or fueling. This would be relevant especially at small airports.</p>
response	<p>Accepted</p> <p>The reference to taxiing has been deleted.</p>
comment	<p>201 comment by: EUROCONTROL</p> <p>Annex I Definitions: Point 22 (Runway definitions) is not changed and still contains the CAT III abc distinctions.</p> <p>Resolution proposal: Harmonise with the removal of these subcategories in other parts of the NPA; see EU 2018/401</p>
response	<p>Accepted</p> <p>The subcategories of CAT III have been deleted.</p>
comment	<p>202 comment by: EUROCONTROL</p> <p>24a) 'low-visibility operations (LVOs)'replace by ICAO definition or explain differences: Low Visibility Operations (LVO). (Doc. 9365) Approach and landing operations in RVRs less than 550 m and/or with a DH less than 200 ft. or take-off operations in RVRs less than 550 m.</p>



response	<p>Resolution proposal: Amend text as in ICAO material or provide explanatory note and instruction to states how to handle difference</p> <p>Accepted</p> <p>The definition has been amended.</p>
comment	<p>203 comment by: EUROCONTROL</p> <p>(25) 'low-visibility procedures (LVPs): reference to ICAO DOC 013: Low Visibility Procedures (LVP). Specific procedures applied at an aerodrome for the purpose of ensuring safe operations during LVO.</p> <p>Resolution proposal: Harmonise definitions</p>
response	<p>Accepted</p> <p>The definition has been amended.</p>
comment	<p>204 comment by: EUROCONTROL</p> <p>'26) 'low-visibility take-off (LVTO)': consolidate with ICAO EUR 013: 3.5.1.2.3 States should establish regulations for air operators to establish and implement specific operating procedures, which may include the term Low Visibility Take-Off (LVTO) with RVR below 400 m.</p> <p>Resolution proposal: Harmonise definitions</p>
response	<p>Noted</p> <p>The definition of LVTO between aerodrome and air operations regulations has been harmonised and the RVR value is 550 m. This is in line with the LVO definition. For air operators, take-off with RVR less than 400 m requires special authorisation, but this is not relevant for the aerodrome operator.</p>
comment	<p>205 comment by: EUROCONTROL</p> <p>Annex 1: Point 47b) should be amended by removal of CAT III subcategories.</p> <p>Resolution proposal: Harmonise with EU2018/401</p>
response	<p>Accepted</p> <p>CAT III subcategories have been removed.</p>

comment	207	comment by: <i>EUROCONTROL</i>
	The definition is not aligned with Part C p 46 definition. Furthermore as already commented in part C the definition is confusing due to the unexplicit term "lower than standard"	
	Resolution proposal: Add a definition for lower than standard	
response	Noted	
	The definition is in line with ICAO Annex 6 Part I.	
comment	289	comment by: <i>Jan Sondij</i>
	The inclusion of a definition of 'visibility' is proposed in NPA 2016-06(A).	
	The definition itself is not included in the NPA 2016-06(D). There are different (meteorological) definitions for visibility, including RVR. It is advised to cross check the definitions with the ad-hoc RMG Part-MET to ascertain that the correct definitions are applied, and to ensure consistency of definitions with WMO and ICAO and within the EU-rulemaking framework.	
response	Noted	

Annex II (Part-ADR.AR)

p. 12

comment	66	comment by: <i>Aerodrome safety regulation departement</i>
	Proposition accepted without comments	
response	Noted	

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

p. 12

comment	23	comment by: <i>Brussels Airport</i>
	To delete "Other than standard category II" because the definition of an other than category II operation has been deleted in Annex I definitions	
response	Not accepted	
	The definition has been deleted from Annex I to the regulation because it is not used in the implementing rules. The term is defined in AMC/GM.	
comment	51	comment by: <i>ACI Europe</i>



response	<p>We propose to delete "Other than standard category II" because the definition of an other than cat II operation has been deleted in Annex I Definitions.</p> <p>Not accepted</p> <p>The definition has been deleted from Annex I to the regulation because it is not used in the implementing rules. The term is defined in AMC/GM.</p>
comment	<p>67 comment by: <i>Aerodrome safety regulation departement</i></p> <p>1/Lower-than-standard category I and other-than-standard category II operations have been removed from definitions and should thus be removed from this GM.</p> <p>2/ In addition, our understanding of EFVS concept operations is that it shouldn't have any impact on the aerodrome certification unless it allows to operate under visibility conditions of 550m RVR. Indeed, additional requirements for aerodromes serving EFVS are limited to : LVP triggering and a switch-off time under 1s required specifically for operations with visibility conditions less than 550m RVR. (See our comments on ADR.OPS.B.045 LVPs and CS. ADR-DSN.S.880 electrical power supply systems)</p> <p>Our proposal of amendment for GM1ADR.AR.C.035(e) Issuance of certificates is :</p> <p>MODEL FOR THE TERMS OF THE CERTIFICATE TO BE ATTACHED TO THE CERTIFICATES (...)</p> <p>5 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:</p> <ul style="list-style-type: none"> — Approach with EFVS with visibility conditions less than 550m RVR ; — Standard category I; — Lower than standard category I; — Special authorisation category I — Precision approach category II; — Other than standard category II; — Precision approach category III-A; — Precision approach category III-B; — Precision approach category III-C. <p>(...)</p>
response	<p>Not accepted</p> <p>The definitions have been deleted from Annex I because they are not used in the implementing rules. The terms are defined in AMC/GM.</p> <p>In regard to the EFVS operations, the RVR criterion of less than 550 m is added, because specific procedures and infrastructure are required.</p>
comment	<p>104 comment by: <i>British Airways Flight Operations</i></p>



response	<p>The GM refers to LTS Cat I, OTS Cat II and Cat III A, B and C. Since all of those terms have been deleted, should not they be removed from the GM? Moreover, should not SA Cat II be added?</p> <p>Partially accepted</p> <p>The definitions have been deleted from Annex I because they are not used in the implementing rules. The terms are defined in AMC/GM.</p> <p>Furthermore, special authorisation CAT II is added.</p>
comment	<p>111 comment by: AIRBUS</p> <p>CAT III-A, -B & -C denominations have been removed from CS-AWO & AirOps rules, as well as Standard category I Lower-than-standard category I, & Other-than-standard category II</p> <p>Please update “GM1 ADR.AR.C.035(e) Issuance of certificates” to be consistent with CS-AWO & AirOps rules.</p> <p><u>Rationale:</u> Guidance Material “GM1 ADR.AR.C.035(e) Issuance of certificates” has only been partially updated to take into account new way of denominating Approach & Landing capabilities, ie CAT I operations, Special CAT I operations, CAT 2 operations & CAT 3 operations.</p>
response	<p>Partially accepted</p> <p>The subcategories of CAT III have been removed, as well as LTS CAT I and OTS CAT II; however, standard CAT I will remain for aerodrome certification purposes.</p>
comment	<p>128 comment by: Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</p> <p>....be indicated, which of the following precision approach(es),</p> <p>for which the runway is (are) approved:</p> <p>Approach with EFVS;</p> <p>Standard category I;</p> <p>Lower than standard category I;</p> <p>Special authorisation category I</p> <p>Precision approach category II;</p> <p>Other than standard SA category II;</p> <p>....</p>

response	<p>Rationale: LTS CAT I and OTS CAT II will be removed from OPS-provisions by this NPA,</p> <p>Partially accepted</p> <p>LTS CAT I and OTS CAST II have been removed; however, approach operations with EFVS with RVR less than 550 m require at least LVPs at the aerodrome, therefore this needs to be specified in the terms of the certificate.</p>
comment	<p>137 comment by: <i>Federal Office of Civil Aviation (FOCA), Switzerland</i></p> <p>Comment FOCA to GM1 ADR.AR.C.035.(e) Issuance of certificates: According to §2.1.1 of the NPA, these two terms are deleted. GM should therefore also be modified as below.</p> <p>[...] Lower than standard category I [...] Other than standard category II; [...]</p>
response	<p>Accepted</p> <p>LTS CAT I and OTS CAT II have been removed from the GM.</p>
comment	<p>148 comment by: <i>UK CAA</i></p> <p>Page No: 12/13</p> <p>Paragraph No: GM1 ADR.AR.C.035(e) 'MODEL FOR THE TERMS OF THE CERTIFICATE TO BE ATTACHED TO THE CERTIFICATES'</p> <p>Comment: This GM refers to 'instrument approach operation types'; but the Aerodrome Regulation 139/2014 should refer to the types of <u>runway</u> - not the types of approach flown.</p> <p>If a list of approach types is retained, then a more detailed section detailing the interrelationship between runway type and instrument approach type should be included, in order to aid understanding.</p> <p>However, it is suggested that this section is plainly aligned with ICAO Annex 14 definitions of instrument runways; (kindly note these are in the process of being changed).</p> <p>Justification: EASA ADR Regulations need to be kept aligned with ICAO Annex 14; and EASA OPS Regulations need to be kept aligned with ICAO Annex 6.</p> <p>Proposed Text: (to be aligned with ICAO 's proposed definitions for Annex 14):</p>



	<p>To be specified: approval of the runway for non-instrument, instrument, non-precision approach. type of runway (instrument runway or non-instrument runway) and, in the case of precision approach(es), it is to be indicated, which of the following precision approach(es) is (are) approved: — Approach with EFVS; an instrument runway:</p> <ul style="list-style-type: none"> — Standard category I; Non-precision approach runway; — Lower than standard category I; Precision approach runway, category I — Special authorisation category I; Precision approach runway, category II — Precision approach category II; Precision approach runway, category III — Other than standard category II;
response	<p>Not accepted</p> <p>The instruction for the model of the terms of the certificate states that for precision approach runways, the type of approaches permitted have to be indicated.</p>
comment	<p>149 comment by: UK CAA</p> <p>Page No: 12/13</p> <p>Paragraph No: GM1 ADR.AR.C.035(e) 'MODEL FOR THE TERMS OF THE CERTIFICATE TO BE ATTACHED TO THE CERTIFICATES'</p> <p>Comment: ICAO Annex 14 intends to revise the definition of Instrument Runways for applicability by November 2020, including the removal of A/B/C from CAT III operations. We suggest revising the text to align with ICAO.</p> <p>Justification: ICAO and EASA definitions should be aligned.</p> <p>Proposed Text:</p> <ul style="list-style-type: none"> — Precision approach category III-A; — Precision approach category III-B; — Precision approach category III-C.
response	<p>Accepted</p> <p>The subcategories of CAT III have been deleted.</p>
comment	<p>159 comment by: Aena Aeropuertos, S.A.</p> <p>It's said in 2.1.1 that the terms "lower than standard category I operation" and "other than standard category II operation" are not used anymore in the IR</p>
response	<p>Accepted</p> <p>LTS CAT I and OTS CAT II have been deleted.</p>
comment	<p>162 comment by: Aleksandar Ilkovski</p>

	<ul style="list-style-type: none"> The classification is removed from subpart C SPA.LVO.100, therefore should be removed here as well. Special authorisation category II should be added.
response	<p>Accepted</p> <p>LTS CAT I and OTS CAT II have been deleted and SA CAT II has been added.</p>

comment	<p>234 comment by: Dassault-Aviation</p> <p><u>Text:</u> GM1 ADR.AR.C.035(e) page 12 "... 5 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: — Approach with EFVS; — Standard category I; — Lower-than-standard category I; ..."</p> <p><u>Comment:</u> The EFVS is considered here as a precision approach, which is wrong. EFVS is not an approach. It is an operation with operational credit based on Instrument approach. This statement indicates that EFVS approaches can be flown only at precision approaches (precision runways). This is not consistent with the rest of the document (table S2 for example) and not consistent with OPS document (C) where EFVS can be performed on 3D approaches and whatever the runway type. Runway type is not part of the criteria for suitability of runway for EFVS (see for ex AMC1 CAT.OP.MPA.312(b) or AMC1 NCC.OP.235(b)).</p> <p><u>Proposed change:</u> "5 To be specified: approval of the runway for non-instrument, instrument, non-precision approach. It has to be indicated which of the instrument approach is approved: -Approach with EFVS</p> <p>In case of precision approach(es), it is to be indicated, which of the following precision approach(es) is (are) approved: — Approach with EFVS; — Standard category I; — Lower-than-standard category I;</p>
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response

Accepted

The intention is not to limit the EFVS operation on precision approach runways. The main issue for the aerodromes is when EFVS operations are conducted in actual RVR conditions of less than 550 m where at least LVPs are required, therefore the RVR criterion is proposed to be added.

Annex II (Part-ADR.AR)

p. 13

comment

68

comment by: *Aerodrome safety regulation departement*

see preceding comment on GM1 ADR.AR.C.035(e) Issuance of certificates

response

Noted

comment

206

comment by: *EUROCONTROL*

Annex II: GM1 ADR.AR.C.035€: LTS CAT I, OTS CAT II, CAT III subcategories to be removed, SA-CAT II to be added

Resolution proposal:

Harmonise with EU2018/401 and other parts of NPA

response

Accepted

LTS CAT I, OTS CAT II and CAT III subcategories have been removed and SA CAT II has been added.

Annex III (Part-ADR.OR)

p. 13-14

comment

3

comment by: *Amsterdam Airport Schiphol - AMS/EHAM (and D.A.A)*

Regarding non-visual aids and MET equipment (new point c) different terms are used to indicate the aerodrome operators responsibilities. In the existing point (b) the responsibility is described as ‘...shall ensure directly, or coordinate through arrangements...’ – by using different wording in point (c), it might be suggested that the level of responsibility regarding non-visual aids and MET equipment is different or more stringent than other responsibilities mentioned in this Implementing Rule. Especially the wording ‘...shall have...’ and ‘...under contracts...’ used in point (c) suggest a different meaning and could easily lead to multiple interpretations.

In the rationale of the NPA under CS ADR-DSN.S.925 the meaning of point (c) is clearly described: ‘...has to ensure their existence and proper maintenance.’ Regarding the new point (c) it is suggested to choose the same wording as in the existing point (b) in order to emphasize that the aerodrome operator is required **to ensure – directly or through arrangements - the provision and maintenance and required performance of non-visual aids and MET equipment**



response

Accepted

The text has been amended as proposed; however, the required performance has not been included, because it is covered with the existing phrase ‘commensurate with the type of operations’.

comment

24

comment by: *Brussels Airport*

To delete ADR.OR.C.005 (c) because at many airports visual and non-visual aids, MET equipment and or any other equipment is not within the responsibilities of the aerodrome operator and such equipment are sometimes even owned by the State

response

Noted

The comment may refer to the new point (e) and is not accepted, because it is in accordance with the essential requirements for aerodromes in Annex VII to Regulation (EU) 2018/1139.

comment

38

comment by: *ACI Europe*

Reference to AMC1 ADR.OR.C.005 (b):

The regulation should consider the national/local institutional framework defining the responsibilities for service provision and equipment.

E.g. in Switzerland the Air Navigation and the Meteo Service Provider are mandated directly by the State. This includes non-visual aids, MET equipment and the design and maintenance of flight procedures. No contracts/arrangements exist between the aerodrome operator and ANSP/MET governing the provision of services included in the state mandate. Hence, the responsibility for the provision of these services/equipments shall remain with the service provider as defined by the State. Multiple regulation shall be avoided in order to avoid conflicts between different parts of the regulation. (This also applies to ADR.OR.C.055(c)).

Reference to AMC1 ADR.OR.C.005 (c):

Regarding non-visual aids and MET equipment (new point c) different terms are used to indicate the aerodrome operators’ responsibilities. In the existing point (b) the responsibility is described as ‘...shall ensure directly, or coordinate through arrangements...’ – by using different wording in point (c), it might be suggested that the level of responsibility regarding non-visual aids and MET equipment is different or more stringent than other responsibilities mentioned in this Implementing Rule. Especially the wording ‘...shall have...’ and ‘...under contracts...’ used in point (c) suggest a different meaning and could easily lead to multiple interpretations.

In the rationale of the NPA under CS ADR-DSN.S.925 the meaning of point (c) is clearly described: ‘...has to ensure their existence and proper maintenance.’ Regarding the new point (c) it is suggested to choose the same wording as in the existing point (b) in order to emphasize that the aerodrome operator is required **to ensure – directly or through arrangements - the provision and maintenance and required performance of non-visual aids and MET equipment.**



	<p>In some cases national law clearly defines the responsibility for the provision of navigation aid and MET equipment and the operation thereof. Such a legal basis does not require additional contractual agreements between the aerodrome operator and the (national) MET service provider.</p> <p>(For Germany: see Air Traffic Act, LuftVG, §27(f), section 5, for MET equipment.)</p> <p>Hence, a more suitable wording might be:</p> <p>The aerodrome operator shall have, directly or under contract, all the means necessary to ensure safe operation of aircraft at the aerodrome.</p> <p>In Greece (and other EASA MS such as Italy etc), the ANS and MET services are provided and maintained by Government entities. As a consequence, aerodrome operators may not be in a position to ensure the performance/installation/maintenance of such equipment in cases of inabilities.</p>
response	<p>Accepted</p> <p>The text has been amended as proposed; however, the required performance has not been included, because it is covered with the existing phrase ‘commensurate with the type of operations’.</p>
comment	<p>118 comment by: <i>Riga International Airport</i></p> <p>Some parts of the existing regulation suggest that a wind direction indicator is not a visual aid (AMC3 ADR.OR.E.005 (a) C.4.2) and that a surface movement radar is a non-visual aid (GM1 ADR.OPS.B.030 (a)). The new point (c) suggests that MET equipment is not to be regarded as a non-visual aid. We think it is advisable to introduce definitions of the ‘non-visual aid’ and ‘other equipment’ which is to be commensurate with the type of operations at the aerodrome so that to clarify whether the scope of the new point (c) includes equipment that is not used or intended to be used to contribute to the operation of aircraft at an aerodrome (i.e. ‘aerodrome equipment’). Definitions or clarifications would help to avoid unreasonable and unlimited interpretations relative to the scope and extent of the infrastructure that the aerodrome operator is responsible to provide in addition to the one defined by EASA Certification Specifications. This new point (c) should not provide for an interpretation that e.g. a failure to provide a video surveillance equipment may be regarded as a non-compliance to the ADR.OR.C.005.</p>
response	<p>Noted</p> <p>EASA considers that it is not necessary to provide at implementing rule level a list of the different types of visual, non-visual and MET equipment as well as any other equipment. These are detailed at AMC level for the different types of operation.</p>
comment	<p>150 comment by: <i>UK CAA</i></p> <p>Page No: 13</p>

	<p>Paragraph No: Annex III, ADR.OR.C.005 Aerodrome operator responsibilities, paragraph (c)</p> <p>Comment: The paragraph states: <i>'The aerodrome operator shall have, directly or under contracts, all the means necessary to ensure safe operation of aircraft at the aerodrome.'</i></p> <p>We recommend the word 'contracts' is replaced. MET equipment may not be under 'contract' and the use of the term 'formal arrangement' would be more appropriate.</p> <p>Justification: Accuracy</p> <p>Proposed Text: The aerodrome operator shall have, directly or under contracts by formal arrangement, all the means necessary...</p>
response	<p>Accepted</p> <p>The term 'contracts' has been replaced by the term 'arrangements' in accordance with Regulation (EU) 2018/1139.</p>
comment	<p>174 comment by: Aerodrome safety regulation departement</p> <p>1/In France, Non-visual aids and Meteorological equipment are not fully under the control of the aerodrome operator and may belong and/or be maintained by the State or third parties. The possibility of formal arrangements should be added to cover this organisation that doesn't fit with the idea of contracts. 2/the reference to 216/2008 in a)1) may be updated</p> <p>We propose the following writing of the IR :</p> <p>ADR.OR.C.005 Aerodrome operator responsibilities (a) The aerodrome operator is responsible for the safe operation and maintenance of the aerodrome in accordance with: (1) Regulation (ECUE) No 216/2008 2018/1139 and its implementing rules; ... (c) The aerodrome operator shall have, directly, or under contracts or coordinate through formal arrangements, all the means necessary to ensure safe operation of aircraft at the aerodrome. This shall include visual and non-visual aids, MET equipment and any other equipment commensurate with the type of operations conducted at the aerodrome. ...</p>
response	<p>Accepted</p> <p>The term 'contracts' has been replaced by the term 'arrangements' in accordance with Regulation (EU) 2018/1139.</p>
comment	<p>208 comment by: EUROCONTROL</p>



response	<p>Approach with EFVS is not to be considered as a precision approach procedure, although it can deliver similar operating minima</p> <p>Resolution proposal: Adapt text to reflect EFVS specificity</p> <p>Noted</p>
comment	<p>209 comment by: EUROCONTROL</p> <p>What about radio altimeter operating area and other nav aids for approach siting outside the aerodrome?</p> <p>Resolution proposal: Complete the list as necessary</p>
response	<p>Noted</p> <p>Point (c) refers to equipment; the radio altimeter operating area is not considered part of the equipment. The radio altimeter operating area is part of the aerodrome physical characteristics and is dealt with under CS ADR-DSN. In regard to the nav aids, these are included under the generic term 'non-visual aids'. The nav aids which are appropriate for each type of approach are included in the relevant AMC.</p>
comment	<p>233 comment by: Dassault-Aviation</p> <p><u>Text:</u> AMC1.ADR.OR(d) page 14 "PUBLICATION OF INFORMATION TO THE AERONAUTICAL INFORMATION PUBLICATION A description of cases involving exemptions, derogations, cases of equivalent level of safety, special conditions, including limitations with regard to the use of the aerodrome, should be published in the Aeronautical Information Publication (AIP), after coordination with the Competent Authority."</p> <p><u>Comment:</u> In the perspective of the promulgation of runways/ approaches for EFVS by the state of the aerodrome, and because some criteria may lead to limit or even to inhibit the EFVS operation at some runways, it seems important a clear statement regarding EFVS and aerodrome is provided to the crew in the AIP/ chart. Three points are proposed to be considered: - The minima is authorized or not for EFVS (criteria such as clearance to obstacle, switch power time... are satisfied) - The need for LVP or equivalent. This is requested below 550m (or absence of LVP) and EFVS operation is mainly intended at other than CATII/III aerodromes that may have no procedures in place to operate in LVO and are usually limited to 550m . - The Minimum RVR resulting from aerodrome level of infrastructure (for ex 350m in absence of surface movement radar per NPA) and below which EFVS will be not authorized.</p>



	<p>To create an new AMC to reflect the following change and to facilitate promulgation of EFVS approaches.</p> <p><u>Proposed change:</u> In consistency with SESAR LSD 02.02 report (AAL1), it is suggested to add an asterix referring to a note for each minima to clearly indicate to the crew that EFVS operation is authorized. For exemple, the content of the note could be as follows: * EFVS authorized, LVP requested for RVR < 550m, minimum RVR 350m</p>
response	Noted
comment	<p>290 comment by: Jan Sondij</p> <p>ADR.OR.C.005 (b)</p> <p>Please clarify the meaning of <i>'the aerodrome operator shall ensure directly, or coordinate through arrangements as required with the accountable entities providing the following services:</i> <i>(1) the provision of air navigation services appropriate to the level of traffic and the operating conditions at the aerodrome; and</i></p> <p>from an ANS MET context and in relation to Regulation 2017/373, in particular Part-MET.</p>
response	<p>Noted</p> <p>This is not part of the consultation.</p>
comment	<p>291 comment by: Jan Sondij</p> <p>ADR.OR.C.005 (c)</p> <p>Please clarify the meaning of <i>'aerodrome operator shall have directly, or under contracts to ensure'</i> with regard to the MET equipment and the relation to Regulation 2017/373. What is the aim and intent of this OR? How does this affect the roles and responsibilities of ADR and MET ANSP? Is it foreseen that the ADR will provide (basic) meteorological information under ADR CSs and the Regulation 2017/373 is not applicble in this situation?</p>
response	<p>Noted</p> <p>An aerodrome is certified for certain types of operations taking into consideration not only the physical characteristics and the operational procedures but also the available visual, non-visual, MET equipment as well as any other equipment required for the type of operation. The rule does not necessarily mean that they have to be owned by the aerodrome operator, therefore it is allowed to have arrangements with third parties, which includes ANSPs and MET providers.</p>

Annex IV (Part-ADR.OPS)

p. 14

comment	70	comment by: <i>Aerodrome safety regulation departement</i>
	See following comment on AMC1 ADR.OPS.A.005 Aerodrome data	
response	Noted	

AMC1 ADR.OPS.A.005 Aerodrome data

p. 14-15

comment	12	comment by: <i>IFATCA</i>
	(6) pre-flight typo	
	(14) suggestion Wouldn't it be better to use the generic term proposed, which would be xLS?	
	Generally, we propose not to use xLS, but LS as the generic term. LS would seem to be better suited to accommodate for possible future landing systems, which may have different acronyms.	
response	Noted Point (14) has been transferred at implementing rule level; as ADR.OPS.A.130 and the content is based on Amendment 1 to ICAO Doc 10066 'PANS-AIM'.	
comment	17	comment by: <i>Luftfahrt-Bundesamt</i>
	With respect to LBA-Comment #16, we propose adding the following new AMC1 ADR.OPS.A.005 (h):	
	<div style="border: 1px solid black; padding: 5px;"> <p>The aerodrome operator should make available information to interested air operators whenever the pre-threshold terrain of a runway intended to be used for low visibility operations may not be suitable for airborne landing systems.</p> </div>	
response	Noted EASA, under RMT.0722 'Provision of aeronautical data by the aerodrome operator', will prepare the regulatory proposal to address the issue.	
comment	18	comment by: <i>Luftfahrt-Bundesamt</i>



With respect to LBA-Comment #16, we propose adding the following new guidance for AMC1 ADR.OPS.A.005 (h):

Add Guidance material in
GM1 ADR.OPS.A.005 Aerodrome data
RUNWAY PRE-THRESHOLD TERRAIN
For runways intended to be used for low visibility operation, pre-threshold terrain chart should be published as per ICAO Doc 9365 Manual of All-Weather Operations
If pre-threshold terrain presents significant variation, compatibility should be checked against limits used to certify aircraft systems providing flare guidance. If pre-threshold terrain is below or above the lower and upper limit (limits need to be further defined by aircraft manufacturers in CS-AWO) within the relevant distance prior the runway threshold, then the terrain should be classified as "irregular" as it may not be suitable with aircraft landing systems.

response

Noted

The comment will be considered under RMT.0722 'Provision of aeronautical data by the aerodrome operator'.

comment

25

comment by: *Brussels Airport*

To delete "(13) approach and departure procedures charts and (14) measured ILS classification and performance data" because this at most airports not a responsibility for an aerodrome operator but for an ANSP and thus not belongs in EU Reg 139/2014 for Aerodromes

response

Not accepted

Points (13) and (14) have been transferred at implementing rule level as ADR.OPS.A.75 and ADR.OPS.A.080 respectively, where it is required by the aerodrome operator to ensure the availability of the information. This provides the aerodrome operator with the option to do it either by itself or through third parties, depending on the local arrangements.

comment

26

comment by: *Brussels Airport*

to delete (g) "The aerodrome operator should make available measured ILS classification and performance data to interested air operators" because at many airports this belongs to the ANSP and thus can not be the responsibility of the aerodrome operator

response

Not accepted

Points (14) has been transferred at implementing rule level as ADR.OPS.A.080 where it is required by the aerodrome operator to ensure the availability of the information.



This provides the aerodrome operator with the option to do it either by itself or through third parties, depending on the local arrangements.

comment

39

comment by: *ACI Europe*

Reference to AMC1 ADR.OPS.A.005 Aerodrome data (a) (12 - 14):

Number (13) and (14) should be reconsidered as the ANSP and not the aerodrome operator itself is originator and publisher of those information.

The term "performance data" in number (14) should be clarified in order to determine which data is included in the AIP.

Please note that the AMC conflicts with some national laws (e.g. Italy). According to the Italian Navigation Act, the ATS provider is responsible for ensuring the efficiency and effectiveness of non-visual aids. Responsibility should therefore lie with the respective responsible organization whichever it may be.

Reference to AMC1 ADR.OPS.A.005 Aerodrome data (g):

Section (g) should be reconsidered as the ANSP and not the aerodrome operator itself is originator and publisher of such information. In addition the AIP generally contains such information and where necessary NOTAMs are issued.

response

Not accepted

Points (13) and (14) have been transferred at implementing rule level as ADR.OPS.A.075 and ADR.OPS.A.080 respectively, where it is required by the aerodrome operator to ensure the availability of the information. This provides the aerodrome operator with the option to do it either by itself or through third parties, depending on the local arrangements.

In regard to performance data of the ILS, this is included in ADR.OPS.A.080, in accordance with Amendment 1 to ICAO Doc 10066 'PANS-AIM'.

comment

71

comment by: *Aerodrome safety regulation departement*

(a)(12) We propose to replace "converted" by "equipped" as some LED aerodrome lighting systems might be brand new and as a consequence not converted from an old system.

(a)(13) The responsibility of the publication of approach and departure charts is being undertaken by flight procedures designers who have the specific competency to provide and check the accuracy of the publications.

Moreover, according to *future ATM/ANS.OR.A.080 Provision of aeronautical data*, charts publication should fall under the responsibility of the related service provider. In addition, we see no link between this provision and the objective of developing operations with operational credits.



We thus propose that this requirement was removed from IR-ADR and analysed through ATM/ANS working group in close coordination with aerodrome and AIROPS teams to determine the needs and document(s) supporting these new requirements.

(a)(14) The responsibility of Mesured ILS classification and performance data providing is being undertaken by the CNSP in charge of ILS installation and maintenance who have the competency to provide and check the accuracy of the publications.

Moreover, according to *future ATM/ANS.OR.A.080 Provision of aeronautical data*, charts publication should fall under the responsibility of the related service provider.

In addition, we see no link between this provision and the objective of developing operations with operational credits.

We thus propose that this requirement was removed from IR-ADR and analysed through ATM/ANS working group in close coordination with aerodrome and AIROPS teams to determine the needs and document(s) supporting these new requirements.

ATM/ANS.OR.A.080 Provision of aeronautical data
 (a) A service provider shall ensure that aeronautical data related to its services is provided in due time to the AIS provider.

response

Noted

Point (a)(12) has been transferred at implementing rule level as ADR.OPS.A.070.

Point (a)(13) has been transferred at implementing rule level as ADR.OPS.A.075 where the role of the aerodrome operator is to ensure the publication of the charts. The charts are required in order to enable the competent authority to approve certain types of operations. The provision does not prohibit other organisations from publishing the chart.

Point (a)(14) has been transferred at implementing rule level as ADR.OPS.A.080 where the role of the aerodrome operator is to ensure the publication of the information.

comment

129 comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Suggest to change as follows:

(12) parts of the aerodrome lighting system which are ~~converted to~~ **equipped with LED lights;**

(14) ~~measured~~ ILS classification and performance data **using the three digit system defined in Annex 10, Vol I as well as information about any known deficiencies or limitations, e.g. suitability for coupled approaches.**

Add a new point (15) **Runway centre line spacing where equipped (15 meter or 30 meter).**



	<p>Rationale:</p> <p>(12) To make it applicable also to new installations.</p> <p>(14) The tree digit classification contains information that may be available for operations and known deficiencies are also valuable information for operations. Not understood what is meant by “measured”.</p> <p>(15) New point with spacing of rwcll 15, 30 m". Take-off minima is dependent on centreline spacing.</p>
response	<p>Noted</p> <p>As regards point (12), the wording has been revised to reflect the proposal and transferred to ADR.OPS.A.070.</p> <p>Point (14) is transferred to implementing rule ADR.OPS.A.080 and the required information is provided in accordance with Amendment 1 to ICAO Doc 10066 ‘PANS-AIM’.</p> <p>As regards point (15), the requested details are already in Regulation (EU) 2020/469. However, the issue will be clarified under RMT.0722 ‘Provision of aeronautical data by the aerodrome operator’.</p>
comment	<p>138 comment by: <i>Federal Office of Civil Aviation (FOCA), Switzerland</i></p> <p>Comment FOCA to AMC1 ADR.OPS.A.005 Aerodrome data: Many LED lights have today also a small heat source making them visible with NVG. Therefore, the LED data should be supplemented with an information about the ability to be seen with NVG.</p> <p><i>Suggestion:</i> Complement the LED criteria with those visible with NVG and not.</p>
response	<p>Noted</p>
comment	<p>142 comment by: <i>Finavia Corporation</i></p> <p>AMC1 ADR.OPS.A.005 Aerodrome data</p> <p>(a) (13) approach and departure procedures charts; and</p> <p>The sentence should be rephrased. It should be unambiguous that the requirement applies the actual data needed for those charts, not the charts themselves.</p>
response	<p>Noted</p> <p>Point (a)(13) is transferred at implementing rule as ADR.OPS.A.075. The role of the aerodrome operator is to ensure the publication of instrument approach charts.</p>
comment	<p>151 comment by: <i>UK CAA</i></p> <p>Page No: 14</p>

response

Paragraph No: AMC1 ADR.OPS.A.005 Aerodrome data, paragraph (a), item 12

Comment: AMC1 ADR.OPS.A.005 paragraph (a) contains a new requirement not currently used by ICAO:

'(12) parts of the aerodrome lighting system which are converted to LED;'

EASA may wish to suggest that ICAO also incorporate this requirement.

Justification: Observation, suggestion

Noted

comment

152

comment by: UK CAA

Page No: 14-15

Paragraph No: AMC1 ADR.OPS.A.005 Aerodrome data, paragraph (a), items 12 and 14

Comment: Items 12 and 14 in this list are new data items. In the data-driven AIM, every data item needs to have a specific place in the AIP as the final product is generated automatically.

Therefore AIS providers will need to know where these new data items should be included in the AIP.

To achieve this, Regulation 2017/373 Part-AIS (content of the AIP) should be updated to include the new data and information proposed in this paragraph.

This can be achieved through the proposed ATM-IR Part-AIS (Opinion 02/2018).

Justification: Practical application

response

Noted

For item (12) (airfield lighting), refer to Regulation (EU) 2020/469.

Item (14) is transferred to implementing rule level as ADR.OPS.A.080 which is based on Amendment 1 to ICAO Doc 10066 'PANS-AIM'.

comment

153

comment by: UK CAA

Page No: 15

Paragraph No: AMC1 ADR.OPS.A.005 Aerodrome data, paragraph (a), item 13

Comment: AMC1 ADR.OPS.A.005 paragraph (a) item (13) could be expanded to include all mandatory charts required by ICAO Annex 4:



	<ul style="list-style-type: none"> · Aerodrome/Heliport Chart; · Aerodrome Obstacle Chart – Type A; · Precision Approach Terrain Chart/s; · Visual Approach Chart/s; · Standard Departure Chart - Instrument; · Standard Arrival Chart - Instrument; · Instrument Approach Chart/s. <p>Justification: AMC1 ADR.OPS.A.005 defines which data items or information relevant to the aerodrome and available services shall be delivered to the users, relevant air traffic services and aeronautical information services providers <u>as a minimum</u>.</p> <p>For example, aerodrome charts and obstacle charts are necessary for an operator to comply with the operating limitations and are required to be delivered to AIS by ICAO Standards.</p> <p>Proposed Text: AMC1 ADR.OPS.A.005 Aerodrome data</p> <p>(a) Data relevant to the aerodrome and available services should include, but may not be limited to, items in the following list...</p> <p>(11) visual approach slope indicator systems;</p> <p>(12) parts of the aerodrome lighting system which are converted to LED;</p> <p>(13) <u>aerodrome charts:</u></p> <p><u>(i) aerodrome/heliport chart;</u></p> <p><u>(ii) aerodrome obstacle chart – type A;</u></p> <p><u>(iii) precision approach terrain charts;</u></p> <p><u>(iv) standard arrival and departure charts;</u></p> <p><u>(v) instrument approach charts;</u></p> <p>(14) measured ILS classification and performance data.</p>
response	<p>Noted</p> <p>The issue of the provision of the charts will be dealt with under RMT.0722 ‘Provision of aeronautical data by the aerodrome operator’.</p>

comment	<p>161 comment by: Rick Theriault</p> <p>AMC1 ADR.OPS.A.005(a) Aerodrome data</p> <p>There is a lack of state source for the runway data which aid the aircraft operator during SMGCS, takeoff, and landing operations, and therefore such data become a matter of interpretation. Therefore, add that the aerodrome operator should also publish data for the runway environment, including pre-threshold, approach, and departure areas, such as:</p> <p>() Designated Runway Threshold position, including designation for a Displaced Threshold and its distance from the Runway Threshold,</p> <p>() Designated Runway starter extension, stopway, and clearway (positions or lengths relative to a designated position)</p> <p>() Touchdown Zone</p>
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response	Noted This information is already required to be published in accordance with Regulation (EU) 2020/469. Furthermore, EASA under RMT.0722 'Provision of aerodrome data by the aerodrome operator' will ensure that the provisions of Annexes 14, 15, 4 and PANS-AIM related to the aerodromes will be adopted.
comment	163 comment by: Aleksandar Ilkovski (12) Change wording:remove 'which are converted to'
response	Accepted
comment	172 comment by: EASA Focal Point for AustroControl ANSP-issues Austro Control: Page 14, Bullete 12, referring to aerodrome lighting systems, equipped with LEDs. To be compliant with ICAO-recommendations, LED-lamps providing a spectral IR-signature too, shall be mandated.
response	Noted Point (12) refers only to the provision of information.
comment	210 comment by: EUROCONTROL Annex IV, AMC1 ADR.OPS.A.005 (a) (12) Lights converted to LED Question: does this also encompass the obstacle lights outside the aerodrome operator responsibility? These may play a role in obstacle visibility of approach and missed approach - Definition should be amended.
response	Noted It refers to approach, runway and taxiway lighting.
comment	211 comment by: EUROCONTROL point e) PA should be replaced by 3D . Furthermore for EFVS such information is also required eventhough the DH could be above 200ft and procedure could be an non precision one Replace PA by 3D and adress EFVS needs when RVR below 550m
response	Noted
comment	212 comment by: EUROCONTROL

response	<p>Point g) Redundant with (a) (14); Furthermore there is no definition of a measured ILS classification</p> <p>Remove (g). Add the definition of a measured ILS classification</p> <p>Accepted</p> <p>Point (a)(14) and consequently (g) have been transferred to implementing rule as ADR.OPS.A.080 and the content is based on Amendment 1 to ICAO Doc 10066 'PANS-AIM'.</p>
comment	<p>213 comment by: EUROCONTROL</p> <p>Annex IV, AMC1 ADR.OPS.A.005 (a) (14) performance data</p> <p>Propose to rephrase: "measured radio navigation aid performance data and classification" This will need explanation, as except for the classification of ILS and GBAS no other published performance schemes exist</p>
response	<p>Noted</p> <p>Point (a)(14) has been transferred to implementing rule as ADR.OPS.A.080 and the content is based on Amendment 1 to ICAO Doc 10066 'PANS-AIM'.</p>
comment	<p>214 comment by: EUROCONTROL</p> <p>Annex IV, AMC1 ADR.OPS.A.005 (e) terrain data</p> <p>Verify with electronic data provision requirements - are/ will be operators equipped to evaluate such data?</p>
response	<p>Noted</p> <p>Regulation (EU) 2020/469 contains requirements for the provision of electronic terrain and obstacle data. Specific requirements for aerodrome operators will be considered under RMT.0722 'Provision of aerodrome data by the aerodrome operator'.</p>
comment	<p>215 comment by: EUROCONTROL</p> <p>Annex IV, AMC1 ADR.OPS.A.005 (e) terrain data</p> <p>Precision approach terrain charts are mandatory to be provided (shall) for all CAT II/III RWY, independent if electronic terrain and obstacle data is available or not. Propose to rephrase: "Furthermore, a Precision Approach Terrain Chart in line with ICAO Annex 4, should be provided, with electronic terrain and obstacle data in line with Annex 15."</p>
response	<p>Noted</p>



Regulation (EU) 2020/469 contains requirements for the provision of electronic terrain and obstacle data. Specific requirements for aerodrome operators will be considered under RMT.0722 'Provision of aerodrome data by the aerodrome operator'.

comment 216 comment by: EUROCONTROL

Annex IV, AMC1 ADR.OPS.A.005 (e) terrain data

Ref: obstacle data collection surface – there is no vertical collection surface established by ICAO (and EASA) for obstacles in Area 4. In such conditions any object on the ground (e.g. stone, bottle etc.) should be considered as an obstacle. EASA should define the vertical collection surface for obstacles in Area 4

response Noted

The specifications for obstacle collection surfaces are included in Regulation (EU) 2020/469.

comment 217 comment by: EUROCONTROL

Annex IV, AMC1 ADR.OPS.A.005 (g) performance data

Propose to rephrase: "... available measured radio navigation aid performance data and classification information to interested operators" This will need explanation, as except for the classification of ILS and GBAS no other published performance schemes exist

response Noted

The information under point (g) is transferred to implementing rule ADR.OPS.A.080 and the content is based on Amendment 1 to ICAO Doc 10066 'PANS-AIM'.

comment 218 comment by: EUROCONTROL

Annex IV, AMC1 ADR.OPS.A.005 addition

Several additional changes suggested to GM1 ADR.OPS.A.005 see comments below

response Noted

comment 219 comment by: EUROCONTROL

Addition: In GM2 ADR.OPS.B.025, section "airside vehicle driver" should include familiarization with GBAS protection areas or generally all radio nav aids and their protection areas. Suitable location is section (f)(6)

response Noted



GM2 ADR.OPS.B.025 is not part of the consultation.

comment

231

comment by: Dassault-Aviation

Text:

As mentioned in SPA.LVO.110 'ANS- and aerodrome-related requirements' page 33 "For some operations with operational credits (e.g. SA CAT I), an IAP published in the aeronautical information publication (AIP) will be required (at AMC level). However, for the majority of operations, a dedicated published IAP for operations with operational credits will be neither available nor required. These operations will use the published procedure for the standard operation, e.g. an EFVS operation with operational credits may use the CAT I IAP. ***In such cases, it is the responsibility of the operator to ensure that the IAP used is suitable for the intended operation.***

....

The new CS-AWO will not require IAPs to be promulgated as suitable for EFVS, ***so it will be the responsibility of the air operator to verify that a particular procedure is suitable (AMC4 and AMC5 SPA.LVO.110 enhances this requirement).***

Comment:

As per this NPA, the verification of the suitability of runway for EFVS is at least for the short/ mid term the entire responsibility of the air operator, this task (cf criterias in AMC2 CAT.OP.MPA.312(b), SPA.LVO.110, NCC.OP.235(b)) must be achievable with acceptable delay and effort to match business aviation operators constraints (some of them being small organisation with limited resources). Therefore, as a minimum requirement, all the aerodrome related information the air operator need to collect to verify the suitability of the runway for EFVS should be clearly mentioned in the AIP or in the chart. Even if the presence of OFZ is sometimes already mentioned in AIP and the LED light source is required by this NPA in the AIP, some information such as VSS penetration status (associated to a minima) is most of the time missing and should be requested to be added in a in AIP per this NPA (as it is done for OFZ for exemple).
new AMC to be created ?

Proposed change:

AIP should contain the essential aerodrome information related to EFVS operation.

In particular:

-	-	presence	of	OFZ
-	VSS	penetration	for	each runway/ minima
-		Presence	of	RVR sensor
-				...

These information should be presented in a clear, comprehensive and non ambiguous way.

response

Accepted

A new implementing rule (ADR.OPS.A.085) is proposed to ensure the publication of the information concerning the penetration of VSS. The proposed text is in accordance with Amendment 1 to ICAO Doc 10061 'PANS-AIM'.



comment	<p style="text-align: right;">comment by: <i>Dassault-Aviation</i></p> <p>232</p> <p>Comment: Per AMC7 SPA.LVO.105(c) Specific approval criteria OPERATING PROCEDURES: EFVS OPERATIONS (e) The approach may be continued below the DA/H provided that the pilot can identify on the EFVS image either: (1) the approach light system; or (2) both of the following: (i) the runway threshold identified by the beginning of the runway landing surface, the threshold lights or the runway end identifier lights; and (iii) the TDZ identified by the TDZ lights, the TDZ runway markings or the runway lights. Recent EFVS activities involving EASA TD and OSD confirmed that aerodrome lighting infrastructure should be thoroughly depicted in the AIP/ charts as they are essential information for EFVS operations. In particular the full geometry (number of crossbar and location) and the length of the approach lighting system, the geometry of threshold lighting system (wing bar or not...) should be clearly depicted on the chart (aerodrome chart ?). Our flight Experience has shown that these information may be missing or very approximative. In addition, per AMC3 SPA.LVO.120(b) " interpretation of approach and runway lighting systems and display characteristics when using EFVS;" is identified as a key point of the initial training.</p> <p>Proposed change: "Aerodrome Data ... -Approach lighting system length and detailed geometry - Threshold lighting system detailed geometry"</p>
response	<p>Noted</p> <p>The information on the approach lighting system is published in the AIP in accordance with Regulation (EU) 2020/469. The details of the aeronautical charts will be dealt with under RMT.0722 'Provision of aeronautical data by the aerodrome operator'.</p>
comment	<p style="text-align: right;">comment by: <i>EUROCONTROL</i></p> <p>267</p> <p>Annex IV, AMC1 ADR.OPS.A.005 (a) (14) performance data.</p> <p>Propose to rephrase: "measured radio navigation aid performance data and classification" This will need explanation, as except for the classification of ILS and GBAS no other published performance schemes exist.</p>
response	<p>Noted</p> <p>Point (a)(14) has been transferred to implementing rule as ADR.OPS.A.080 and the content is based on Amendment 1 to ICAO Doc 10066 'PANS-AIM'.</p>



comment	<p>268 comment by: <i>EUROCONTROL</i></p> <p>Annex IV, AMC1 ADR.OPS.A.005 (g) performance data</p> <p>Propose to rephrase: "... available measured radio navigation aid performance data and classification information to interested operators" This will need explanation, as except for the classification of ILS and GBAS no other published performance schemes exist</p>
response	<p>Noted</p> <p>The information under point (g) is transferred to implementing rule ADR.OPS.A.080 and the content is based on Amendment 1 to ICAO Doc 10066 'PANS-AIM'.</p>
comment	<p>281 comment by: <i>ERA Operations Group</i></p> <p>Charting will be affected by these changes. The time needed to adopt and modify charts, according to the AIRAC cycle is essential.</p>
response	<p>Noted</p>
comment	<p>282 comment by: <i>ERA Operations Group</i></p> <p>EASA has underestimated the burden of re-writing manuals to meet the implementation of the changes as they are affected by aerodromes. In addition, ERA does not anticipate that all aerodromes will change to the new terminology at the same time requiring a duplication of data in manuals.</p>
response	<p>Noted</p>
comment	<p>283 comment by: <i>ERA Operations Group</i></p> <p>Benefit offered when using Enhanced Vision may be undone by the installation of LED-lighting on runways and taxiways as not all EV systems can detect LED-lighting. To mitigate this, AIPs and charts will need to show what light sources are being used in runway and taxiway lighting systems.</p>
response	<p>Noted</p> <p>A new implementing rule ADR.OPS.A.070 is proposed for this purpose.</p>

ADR.OPS.B.030 Surface movement guidance and control system	p. 15
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comment	<p>40 comment by: <i>ACI Europe</i></p> <p>SMGCS is necessary at aerodromes with significant ground movements, highcomplexity and/or low-visibility conditions. In Europe there are several aerodromes with low traffic, with one RWY and a small apron, very good meteorological conditions or others that operate only for part of the year.</p>
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	For such airports the required investment would not be economically justifiable nor operationally necessary. Thus, the requirement should be revised and related with the no. of ground movements or other characteristics reflecting traffic volumes.
response	Noted
	SMGCS is a combination of markings, lights and procedures, which are common to all aerodromes, therefore it is not envisaged that it will create additional burden. Furthermore, the requirement already exists in Regulation (EU) No 139/2014 and the proposed revision of the implementing rule provides more clarity.
comment	72 comment by: <i>Aerodrome safety regulation departement</i>
	Proposition accepted without comments
response	Noted
comment	220 comment by: <i>EUROCONTROL</i>
	ADR.OPS.B.030 Surface movement guidance and control system (b) (2) (i)
	This should also include prevention of incursions in the protection areas of the relevant nav aids (ILS/GBAS)
response	Noted
	The SMGCS already takes into account the critical and safety areas of the nav aids.
comment	221 comment by: <i>EUROCONTROL</i>
	AMC3 ADR.OPS.B.030(b) (a)
	ICAO Values are 400m RVR (DOC7030 and EUR DOC 013) Please provide guidance on how to handle difference or revise value.
response	Noted
	Point (a) refers to the conditions under which surveillance systems should be required and is in line with ICAO Annex 14 Recommendation 9.8.7.
comment	269 comment by: <i>EUROCONTROL</i>
	Addition:In GM2 ADR.OPS.B.025, section "airside vehicle driver" should include familiarization with GBAS protection areas or generally all radio nav aids and their protection areas. Suitable location is section (f)(6)
response	Noted
	GM2 ADR.OPS.B.025 is not part of the consultation.



comment	270	comment by: EUROCONTROL
	Addition: Add in AMC1 ADR.OPS.A.010 GBAS data: Antenna position in Table 1 and 2, In Table 3 consider not separating ILS and MLS magnetic variation or add GBAS (all variation data should coincide); In table 4 GBAS FAS data bearing should be added. In table 5 the lateral ILS GP offset is not mentioned. What GBAS data should be mentioned here? In principle it is provided in the FAS?	
response	Noted	
	The required information is already included in Regulation (EU) 2020/469.	

comment	271	comment by: EUROCONTROL
	ADR.OPS.B.030 Surface movement guidance and control system (b) (2) (i).	
	This should also include prevention of incursions in the protection areas of the relevant nav aids (ILS/GBAS).	
response	Noted	
	The SMGCS already takes into account the critical and safety areas of the nav aids.	

AMC1 ADR.OPS.B.030(b) Surface movement guidance and control system	p. 16
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comment	73	comment by: Aerodrome safety regulation departement
	Proposition accepted without comments	
response	Noted	

AMC2 ADR.OPS.B.030(b) Surface movement guidance and control system	p. 16
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comment	74	comment by: Aerodrome safety regulation departement
	Proposition accepted without comments	
response	Noted	

comment	120	comment by: Civil Aviation Authority - Norway
	<p><i>Comment:</i></p> <p><i>The certification Specification for stop bars (CS-ADR-DSN.M.730) already contains a requirement for interconnection between the red lights and the taxiway centreline lights in front for at least 90 m.</i></p> <p><i>Thus item (c) in the proposal seems superfluous</i></p> <p><i>Question:</i></p>	

	<i>Agreed that the taxi-route should be terminated by a stop-bar at the runway holding position, unless traffic is restricted to one unit moving on the manoeuvring area at a time. Does the requirement intend to prohibit the use of intermediate holding position lights (plus markings) only across a taxiway centreline for segmentation purposes on a continuously lit taxiway centreline?</i>	
response	Noted	This refers to stop bars and not to intermediate holding position lights.
comment	164	comment by: <i>Aleksandar Ilkovski</i>
	B & C are duplications. This information already exist in CS ADR-DSN.M.730	
response	Noted	

AMC3 ADR.OPS.B.030(b) Surface movement guidance and control system

p. 16

comment	27	comment by: <i>Brussels Airport</i>
	This AMC was Guidance Material and becomes now an AMC with at the same time changing the wording "could" into "should" what makes it mandatory. propose to keep it as Guidance Material in GM1ADR.OPS.B.030 because this can be a serious additional cost for some airports	
response	Accepted	The content is transferred to GM1 ADR.OPS.B.030(a)(3).
comment	49	comment by: <i>ACI Europe</i>
	This AMC was previously Guidance Material. With the word change from "could" to "should" it makes the AMC mandatory for aerodromes. We therefore propose to keep the provision as GM in GM1 ADR.OPS.B.030 as a change to a quasi mandatory AMC it can have significant cost implications for some airports.	
response	Accepted	The content is transferred to GM1 ADR.OPS.B.030(a)(3).
comment	63	comment by: <i>Belgian CAA</i>
	First, the proposed AMC has been found disproportional since no provisions are made available to mitigate the absences of a surface movement radar by means of procedures, which are already in place today and have proven to preform effective.	



response	<p>Second, provisions taking in account the complexity of the aerodrome, type of operations and movements in low visibility should be foreseen to omit this requirement.</p> <p>Third, the proposed AMC will require disproportional actions from EU certified aerodromes in contrast to exempted aerodromes under national law who are operating in almost equal meteorological conditions.</p>
	<p>Accepted</p> <p>The content is transferred to GM1 ADR.OPS.B.030(a)(3).</p>
comment	<p>75 comment by: <i>Aerodrome safety regulation departement</i></p> <p>The transfer of the previous GM1 ADR.OPS.B.030 to AMC3 ADR.OPS.B.030 (b) shall represent a disproportionate and expensive cost for non-complex aerodromes or aerodromes able to ensure a single taxi-route in LVP.</p> <p>We suggest :</p> <ul style="list-style-type: none"> - either to take into account criteria to modulate the AMC such as : <ul style="list-style-type: none"> - complexity of the lay-out, - density of traffic, - implementation of operational measures such as the use a unique path in LVP, -or to keep the initial level of GM.
response	<p>Accepted</p> <p>The content is transferred to GM1 ADR.OPS.B.030(a)(3).</p>
comment	<p>143 comment by: <i>Finavia Corporation</i></p> <p>AMC3 ADR.OPS.B.030(b) Surface movement guidance and control system USE OF SURFACE MOVEMENT RADAR AND OTHER SURVEILLANCE EQUIPMENT</p> <p>The requirement to use SMR or other surveillance equipment in RVR conditions less than 350 m should be published on <u>GM level</u>, not on AMC level as proposed in NPA. According to our experience, based on the collected safety incident data, the safety can be guaranteed by other means as well, i.e. by allowing only one aircraft in time operating in manoeuvring area.</p>
response	<p>Accepted</p> <p>The content is transferred to GM1 ADR.OPS.B.030(a)(3).</p>
comment	<p>154 comment by: <i>UK CAA</i></p> <p>Page No: 16</p>

	<p>Paragraph No: AMC3 ADR.OPS.B.030(b) USE OF SURFACE MOVEMENT RADAR AND OTHER SURVEILLANCE EQUIPMENT paragraph (a)</p> <p>Comment: We suggest some rewording of this paragraph as surface movement at an aerodrome is not associated with any one runway in particular. (Alternatively, visibility could be specified instead of RVR).</p> <p>Justification: Accuracy</p> <p>Proposed Text:</p> <p>'...should be provided at an aerodrome intended for use in runway visual range (RVR) conditions less than a value of 350 m; low visibility operations with any runway visual range (RVR) value less than 350 m.</p> <p>or –</p> <p>Surface movement radar or any other suitable surveillance equipment for the manoeuvring area should be provided at an aerodrome intended for use in runway visual range (RVR) visibility conditions less than a value of 350 m;</p>
response	Noted
comment	<p>165 comment by: Aleksandar Ilkovski</p> <p>(b) Should remain as GM until ICAO change. It causes significant increased costs for aerodromes.</p>
response	<p>Accepted</p> <p>The content is transferred to GM1 ADR.OPS.B.030(a)(3).</p>
comment	<p>170 comment by: Aleksandar Ilkovski</p> <p>(a)</p> <p>For smaller airports with CAT III ILS systems, this requirement will be extremely costly. At these smaller airports, Swedavia sees that an alternative methodology to establishing an SMGCS system is to limit the number of movements to one at a time - as per current LVP operations.</p>
response	<p>Accepted</p> <p>The content is transferred to GM1 ADR.OPS.B.030(a)(3).</p>
comment	<p>258 comment by: Romanian CAA</p> <p>It is a disproportionate effort of a small aerodrome with a simple layout (one or two TWYs) and/or light/medium traffic to comply with the requirement of</p>



	implementation of SMR. It is useful to define “other suitable surveillance equipment” for harmonized implementation of this requirement.
response	Accepted The content is transferred to GM1 ADR.OPS.B.030(a)(3).
comment	287 comment by: <i>Irish Aviation Authority</i> <i>"The AMC/GM to ADR.OP.B.030 'Surface movement guidance and control system' and AMC3 ADR.OPS.B.030(b) 'Use of surface movement radar and other surveillance equipment' is noted. This particularly references the requirement for:</i> <i>(a) Surface movement radar or any other suitable surveillance equipment for the manoeuvring area should be provided at an aerodrome intended for use in runway visual range (RVR) conditions less than a value of 350 m.</i> <i>An appropriate transition period should be afforded to aerodromes that are currently operating below these minima without a surface movement radar or other suitable surveillance equipment. This is to allow for the necessary arranging of financial approvals and budgeting and commercial tendering for the procurement and integration of such systems."</i>
response	Accepted The content is transferred to GM1 ADR.OPS.B.030(a)(3).

GM1 ADR.OPS.B.030 Surface movement guidance and control system GENERAL	p. 16-17
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comment	76 comment by: <i>Aerodrome safety regulation departement</i> A reference to ICAO SMGCS manual (Doc 9476) could be added in this GM.
response	Noted

ADR.OPS.B.045	p. 17
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comment	77 comment by: <i>Aerodrome safety regulation departement</i> See following comment on new proposal of ADR.OPS.B.045
response	Noted
comment	235 comment by: <i>EUROCONTROL</i> GM3 ADR.OPS.B.070 (Major Construction work) item (I) should not only mention ILS, but all radio nav aids, notably GBAS and all the surveillance means, not only radar (multilateration)

	Resolution proposal: Add to NPA material
response	Noted The referenced GM is not part of the consultation. Nevertheless, EASA under RMT.0591 is reviewing the implementing rule and the related AMC/GM and the comment will be taken into consideration.

ADR.OPS.B.045 Low-visibility operations	p. 17
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comment	28 comment by: <i>Brussels Airport</i> ADR.OPS.B.045 is deleted and replaced by new text. Propose to keep the deleted text as the IR because it covers all and gives more flexibility to aerodrome operators.
response	Not accepted The revised rule contains the basic principles for LVOS which are not addressed in the current rule. In this way, a uniform level of safety is ensured.
comment	29 comment by: <i>Brussels Airport</i> When ADR.OPS.B.045 will be replaced by the new text does this means that the wording "provide with the appropriate aerodrome equipment" in (a) includes taxiway centre line lights because they are only required in CS ADR-DSN.M.710 below a RVR less than 350m
response	Not accepted This is the reason why the term 'appropriate' is used.
comment	30 comment by: <i>Brussels Airport</i> When ADR.OPS.B.045 will be replaced by the new text, the wording "movement area" in (a) should be replaced by manoeuvring area because at larger airports the visibility on an apron can be much more when RVR is measured kilometers away from that apron and thus restrict and prohibit activities on an apron can have serious operational consequences for such airports
response	Not accepted LVPs are applicable for the whole aerodrome. Different levels of implementation may be applied depending on the visibility conditions at different areas of the aerodrome.
comment	31 comment by: <i>Brussels Airport</i>



response	<p>to delete in (a)(3) the wording "actual" because this word has no additional value as a RVR less than 550m is constantly measured and reported</p> <p>Noted</p>
comment	<p>41 comment by: <i>ACI Europe</i></p> <p>On many occasions cloud-base and low visibility are not tantamount. There can be cloud-base with good visibility beneath the clouds in which case there is no need for implementing LVP reductions in flow and procedures. As a result, some airports (e.g. LHR in coordination with ATC and approval from UK CAA) no longer use cloud-base as a trigger for LVP but only use RVR.</p> <p>The following change in AMC1 ADR.OPS.B.045 - Low visibility operations (b) is proposed: "The aerodrome operator shall establish the criteria for the preparation, initiation and termination of low-visibility procedures. The criterial shall be based on the RVRand cloud ceiling."</p> <p>In addition, at larger aerodromes in particular where aprons are far away from the measuring locations of the RVR sensors, different visibility conditions may prevail. This is due to large paved surfaces which tend to be less "foggy" than unpaved (humid) surfaces that dominate the maneuvering area.</p> <p>App. 3 of ICAO Annex 3 recommends in section 4.3.1.2 that "...Runway visual range should be assessed at a lateral distance [...] of not more than 120m."</p> <p>Taking this requirement into consideration it might be arguable, why the RVR (measured rather closely to the runway centre line) should determine the operational conditions of airport areas that are several hundred meters away from the measuring point.</p> <p>Hence, it could be beneficial to allow for additional decision criteria outside the maneuvering area. (Based on the same technical principles like the RVR (i.e. horizontal visibility), but not the RVR measured within the runway strip – which might differ.)</p>
response	<p>Noted</p> <p>LVPs are applicable to the whole aerodrome; however, different procedures may apply depending on the visibility conditions at different areas of the aerodrome.</p>
comment	<p>78 comment by: <i>Aerodrome safety regulation departement</i></p> <p>ADR.OPS.B.045 (a): See our comment about LVOs definition to remove current inconsistency between LVP definition and the scope of ADR.OPS.B.045.</p>

ADR.OPS.B.045 (b) : The ANSP may be the entity which is primarily informed of the meteorological data likely to trigger LVPs. As a consequence, the ANSP and the aerodrome operator should define the RVR and cloud ceiling limits under which LVP should be activated in coordination with each other.

we suggest to modify point (b) as follows :

ADR.OPS.B.045 (b) The aerodrome operator shall establish **in coordination with the ANSP** the criteria for the preparation, initiation and termination of low-visibility procedures. The criteria shall be based on the RVR and cloud ceiling.

In addition, mirror requirements applicable to ANSP should be inserted in ATM/ANS.

ADR.OPS.B.045 (c) : The availability of information to AIS is inappropriate when LVP are in effect. The availability to ATC is the only one relevant. On the other hand, the availability of LVP are relevant in AIS whether the LVP are in effect or not.

We thus suggest to modify point (c) as follows :

(c1) When low-visibility procedures are available at the aerodrome, the aerodrome operator shall make available to aeronautical information services;

(c2) When low-visibility procedures are in effect, the aerodrome operator shall make available to ~~aeronautical information services and/or~~ air traffic services, as appropriate, information on the status of the aerodrome equipment and facilities.

response Partially accepted

The comments in points (a) and (b) are accepted.

The comment in point (c) is not accepted because if an ILS is out of service, this has an impact on LVPs and information should be promulgated via NOTAM if the unavailability is of long duration.

comment

105

comment by: *British Airways Flight Operations*

The rule contains the following text: '(b) The aerodrome operator shall establish the criteria for the preparation, initiation and termination of low-visibility procedures. The criteria shall be based on the RVR and cloud ceiling.'

British Airways fundamentally disagrees with the requirement to use *cloud ceiling* as a metric for entry into LVPs; their initiation and termination should be based solely upon consideration of visibility.

During research into the subject of the All Weather Operations, in the aftermath of World War 2, the UK Government established the Blind Landing Experimental Unit (BLEU). This unit conducted valuable work into the requirements for lighting and visibility to conduct various categories – Calvert, after whom the lighting pattern is named, was a superintendent of the Unit.



Some interesting results came out of the government-sponsored work, notably that there is no such thing as uniform, or homogeneous, fog. Moreover, the BLEU demonstrated that there is, in fact, no functional relationship between cloudbase and visibility at all.

Put simply: a cloudbase reported as OVC / BKN 001 does not mean pilots will fail to acquire the required visual references at Cat I Decision Height. In other words: the measured cloudbase has no effect on the success or otherwise of a Cat I approach. For example, in the author's (short!) time in BA, he has landed in Jersey, from a Cat I approach, with a TDZ RVR of 1100m, and cloud reported as Overcast at less than 100 feet.

In consequence of these arguments, LHR changed its policy in the autumn of 2015, and now only uses visibility as a metric for determining when to enter LVPs, not cloudbase. During that time, there have been on average about 5 hours a year when the cloudbase has been reported as being below 200 feet, but with RVRs to support Cat I approaches. No aircraft has failed to land during that time.

We urge the rulemaking group to remove the reference to cloud ceiling in this rule.

Lastly, of course, pilots are not required to consider cloud ceiling when complying with the Approach Ban policy, only visibility.

response Accepted

comment 108

comment by: NATS

ADR.OPS.B.045 (b)

Cloud criteria are not required for LVP. Heathrow removed the cloud criteria for initiating LVPs in 2015 following extensive safety assurance work. Since then we have saved many hours of LVP time, and have not suffered any missed approaches due to aircraft unable to complete a CAT I approach.

Impact

Unneeded time in LVP with increased delays and subsequent traffic pressure when LVPs are cancelled

Suggest

Move sentence 'The criteria shall be based on the RVR and cloud ceiling' to AMC

response Accepted

comment 122

comment by: Civil Aviation Authority - Norway

Comment 1:

ADR.OPS.B.045 (a) reads Such procedures shall coordinate the movement of aircraft and vehicles on the movement area, and restrict or prohibit activities on the movement area.

We suggest that reference is made to EU 923/2012 (SERA), particularly SERA.3210 Right-of-way



SERA.3210(d)(4)(ii)(A) &(B) reads:

(ii) In conditions where low visibility procedures are in operation:

(A) persons and vehicles operating on the manoeuvring area of an aerodrome shall be restricted to the essential minimum, and particular regard shall be given to the requirements to protect the ILS/MLS sensitive area(s) when Category II or Category III precision instrument operations are in progress;

(B) subject to the provisions in (iii) the minimum separation between vehicles and taxiing aircraft shall be as specified by the Air Navigation Service Provider (ANSP) and approved by the competent authority taking into account the aids available;

Concerning item (B) above, we propose that the following text, or similar, is added at AMC or GM level to ADR.OPS.B.045.

«As part of the Low Visibility Procedures, vehicle traffic on the manoeuvring area, vehicles should be treated as aircraft for separation purposes, except for vehicles performing «follow-me» duties, where the aircraft/vehicle combination should be treated as one unit»

Alternatively:

«As part of the Low Visibility Procedures, vehicle traffic on the manoeuvring area, vehicles should be treated as aircraft for separation purposes, except for vehicles performing «follow-me» duties.

In case of Follow-me,

- A/C stationary until vehicle in position in front
- Vehicle / A/C treated as one unit
- When complete, A/C stationary until separation as above is achieved.”

Rationale: This solution is simple and works whether separation is controlled by segmentation of the manoeuvring area or by Surface Movement Radar (SMR) or similar technologies.

Comment 2

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

Comment:

We propose to add the following item(s):

“The procedures should contain any RVR limitations for taxi operation due to limitations of the Surface Movement Guidance and Control System (SMGCS).”

“Such limitations should be published in the AIP”

Rationale: Whereas it is an operator responsibility to determine RVR minima for take-off and approach/landing operations based on the published facilities, the aerodrome operator should establish any necessary RVR limitations for ground operations based on the functionality of the SMGCS, including ATS procedures.

An example would be if a runway can support take-off and approach/landing operations down to an RVR of 75 m, parts of the taxiway system may not be able to do the same.

Question:



	<i>Should such limitation(s) be specified on the “Terms of the Certificate”, reference GM1 ADR.AR.C.035(e)?</i>
response	<p>Noted</p> <p>SERA requirements already address this issue, therefore it is not necessary to repeat them.</p> <p>Taxi operations are part of the procedures taking into consideration visual aids and surveillance equipment. This is something that has to be considered at local level.</p>
comment	<p>130 comment by: <i>Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</i></p> <p>Add a new point</p> <p>(e) Information about the LVPs shall be published in the AIP</p> <p>Rationale: Knowledge about the LVPs at an aerodrome, e.g. standard taxi routes, will enhance the safety of LVO.</p>
response	Accepted
comment	<p>222 comment by: <i>EUROCONTROL</i></p> <p>ADR.OPS.B.045 Low-visibility operations : term operations very confusing</p> <p>Replace operations by procedures</p>
response	Accepted
comment	<p>223 comment by: <i>EUROCONTROL</i></p> <p>ADR.OPS.B.045 Low-visibility operations (a)(1) ICAO value is 400m - why difference and how to be handled?</p>
response	<p>Noted</p> <p>LVTO is defined as take-off operations with an RVR below 550 m. The value of RVR 400 m was introduced for air operators and requires special authorisation. From an aerodrome point of view, any operation below RVR 550 m is considered as LVO and specific measures need to be taken.</p>
comment	<p>224 comment by: <i>EUROCONTROL</i></p> <p>ADR.OPS.B.045 (b) cloud ceiling requirement not aligned with definitions in part C</p> <p>Add if necessary before cloud ceiling</p>



response	Noted
comment	225 comment by: <i>EUROCONTROL</i> ADR.OPS.B.045 (c) procedure with the Network Manager should be added
response	Noted
comment	226 comment by: <i>EUROCONTROL</i> GM1 ADR OPS B 045 (a) (4) : There is a disconnect between visibility conditions 1 to 4 and RVR 550m . Furthermore this GM should also support ADR OPS B 030. finally GM1 should be reviewed in the context of EFVS taxiing operations Resolution proposal: Visibility conditions in taxiing phase should refer to levels 1 to 4. Include EFVS taxiing guidance material
response	Noted
comment	227 comment by: <i>EUROCONTROL</i> GM1 ADR OPS.B.045(a) Low-visibility operations; Visisbility Condition 3 (a) Not in line with the 350m value in the explanatory material. Please review.
response	Noted
comment	228 comment by: <i>EUROCONTROL</i> AMC1 ADR OPS B 045: it should not be limited to the preparation of the LVP operations but should consider LVP from preparation until their cancellation. Consider LVPs from prepartion to cancellation
response	Noted This is already included in ADR.OPS.B.045 point (b).
comment	229 comment by: <i>EUROCONTROL</i> AMC1 ADR OPS B 045 © low visibility operations should be aligned with the 2D & 3D definitions. SBAS with EVS and GNSS at large should be covered Align definitions with 2D/3D and include GNSS guidance
response	Not accepted



LVPs are normally initiated at RVR values below 550 m. It is not clear how 2D/ED approaches and SBAS and GNSS guidance are related to them.

comment 239 comment by: *Heathrow airport*

The use of cloud ceiling can be a useful factor for consideration, however Heathrow disagree that it should be used as a metric for entry into LVPs; initiation and termination should be based solely upon consideration of visibility conditions alone.

response Noted

comment 286 comment by: *IATA*

The rule contains the following text: '(b) The aerodrome operator shall establish the criteria for the preparation, initiation and termination of low-visibility procedures. The criteria shall be based on the RVR and cloud ceiling.'

Comment:

Low VISIBILITY procedures initiation and termination should be based solely upon consideration of **VISIBILITY**.

Researches demonstrated that there is no functional relationship between cloudbase and visibility.

We urge the rulemaking group to remove the reference to cloud ceiling in this rule.

response Accepted

comment 292 comment by: *Jan Sondij*

Regarding (c)

is this regarding the MET equipment not the responsibility of the MET ANSP?

See MET.OR.200.(b) of Regulation 2017/373:

An aeronautical meteorological station shall inform the air traffic service units and aeronautical information service of an aerodrome of changes in the serviceability status of the automated equipment used for assessing runway visual range.

response Noted

The rule refers to the responsibilities of the aerodrome operator.

AMC/GM to ADR.OPS.B.045 'Low-visibility operation

p. 17-18

comment 32 comment by: *Brussels Airport*

(e) "When LVPs are applied, any maintenance activities in the proximity of aerodrome electrical systems should be restricted" should be rewritten and/or clarified because "in the proximity of aerodrome electrical systems" is much to



response	<p>general and covers too much as, for instance, a no-break installation can be located anywhere and is mostly within a building where some maintenance activities near that building have no influence. Text could be replaced by "when LVPs are applied, any maintenance activities on the manoeuvring area should be restricted"</p> <p>Noted</p> <p>Point (e) stems from ICAO Annex 14 10.5.13 Recommendation. Electrical systems which are connected with systems used during LVOs may not be located on the manoeuvring area.</p>
comment	<p>42 comment by: ACI Europe</p> <p>Reference (d) (8):</p> <p>(d) The procedures to be established by the aerodrome operator to support low-visibility operations should cover the following subjects: ... (8) establishment of low-visibility taxi routes.</p> <p>The text should be amended to include: (8) establishment of low-visibility taxi routes within the manoeuvring area.</p>
response	<p>Not accepted</p> <p>LVPs may apply also at the apron, therefore low-visibility taxi routes are necessary for the apron as well.</p>
comment	<p>43 comment by: ACI Europe</p> <p><u>Reference to (e):</u></p> <p>An additional cross-reference to OPS.B.070 might be beneficial.</p>
response	<p>Noted</p>
comment	<p>81 comment by: Aerodrome safety regulation departement</p> <p>1/Point (c) should become point (b) and point (d) should become (c);</p> <p>2/Point (d)(8) should be established in close coordination with ANSP;</p> <p>3/ Are coordination requirement applicable to ANSP in LVP conditions planned to be inserted in ATM/ANS ?</p> <p>4/The objective of this provision is not accurate enough : does it aim at protecting the systems from maintenance actions likely to interfere with the electrical systems or to avoid maintenance on these systems during LVP ?</p>

response	<p>we suggest to modify point (e) as follows : (e) When LVPs are applied, any maintenance activities on or in the proximity of likely to interfere with aerodrome electrical systems should be restricted.</p> <p>Noted</p> <p>As regards comment #1, numbering will be fixed when the text is finalised.</p> <p>As regards comment #2, it is covered in the implementing rule, therefore it is not really necessary to repeat.</p> <p>As regards comment #4, the coordination between aerodrome operators and air traffic services is addressed in ATS.OR.110 in Regulation (EU) 2020/469</p>
comment	<p>109 comment by: NATS</p> <p style="text-align: center;">AMC1 ADR.OPS.B.045 (d) (8)</p> <p>Low visibility taxi routes are only one solution, and one which the UK CAA does not use, as declared in UK AIP.</p> <p>Impact: Inflexible proposal.</p> <p>Suggest: Add '.....or other suitable methods'.</p>
response	<p>Not accepted</p> <p>The purpose of the AMC is to provide the means to comply with the implementing rule; the proposed addition is very generic. In any case, if there are other methods, then an AltMoC can be used.</p>
comment	<p>110 comment by: NATS</p> <p>Suggest Additional AMC</p> <p>To reduce confusion/increase consistency and safety</p> <p>Suggest including: LVPs should only be used to protect operations when RVR is 550m or less to avoid confusion. Currently many CAT I-only aerodromes initiate LVP when RVR is 1500m or greater. This can lead to confirmation bias on behalf of flight crew expecting to fly CAT II/III approach due to them hearing that LVP s are in force.</p> <p>Reduced Aerodrome Visibility Procedures, as defined in EUR Doc013, should be used by aerodromes to protect operations in poor visibility but RVR is greater than 550m.</p>
response	<p>Not accepted</p>

It is clearly stated that LVPs are used to protect operations when RVR less than 550 m and shall apply below this criterion. Adding another term such as Reduced Aerodrome Visibility Conditions will create more confusion because the pilots need to understand the difference between LVP and RAVC.

comment

122 ❖

comment by: Civil Aviation Authority - Norway

Comment 1:

ADR.OPS.B.045 (a) reads Such procedures shall coordinate the movement of aircraft and vehicles on the movement area, and restrict or prohibit activities on the movement area.

We suggest that reference is made to EU 923/2012 (SERA), particularly SERA.3210 Right-of-way

SERA.3210(d)(4)(ii)(A) &(B) reads:

(ii) In conditions where low visibility procedures are in operation:

(A) persons and vehicles operating on the manoeuvring area of an aerodrome shall be restricted to the essential minimum, and particular regard shall be given to the requirements to protect the ILS/MLS sensitive area(s) when Category II or Category III precision instrument operations are in progress;

(B) subject to the provisions in (iii) the minimum separation between vehicles and taxiing aircraft shall be as specified by the Air Navigation Service Provider (ANSP) and approved by the competent authority taking into account the aids available;

Concerning item (B) above, we propose that the following text, or similar, is added at AMC or GM level to ADR.OPS.B.045.

«As part of the Low Visibility Procedures, vehicle traffic on the manoeuvring area, vehicles should be treated as aircraft for separation purposes, except for vehicles performing «follow-me» duties, where the aircraft/vehicle combination should be treated as one unit»

Alternatively:

«As part of the Low Visibility Procedures, vehicle traffic on the manoeuvring area, vehicles should be treated as aircraft for separation purposes, except for vehicles performing «follow-me» duties.

In case of Follow-me,

- A/C stationary until vehicle in position in front*
- Vehicle / A/C treated as one unit*
- When complete, A/C stationary until separation as above is achieved.”*

Rationale: This solution is simple and works whether separation is controlled by segmentation of the manoeuvring area or by Surface Movement Radar (SMR) or similar technologies.

Comment 2

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



	<p><i>Comment:</i> We propose to add the following item(s): “The procedures should contain any RVR limitations for taxi operation due to limitations of the Surface Movement Guidance and Control System (SMGCS).”</p> <p>“Such limitations should be published in the AIP”</p> <p><i>Rationale:</i> Whereas it is an operator responsibility to determine RVR minima for take-off and approach/landing operations based on the published facilities, the aerodrome operator should establish any necessary RVR limitations for ground operations based on the functionality of the SMGCS, including ATS procedures. An example would be if a runway can support take-off and approach/landing operations down to an RVR of 75 m, parts of the taxiway system may not be able to do the same.</p> <p><i>Question:</i> Should such limitation(s) be specified on the “Terms of the Certificate”, reference GM1 ADR.AR.C.035(e)?</p>
response	<p>Noted</p> <p>SERA requirements already address this issue therefore it is not necessary to repeat them.</p> <p>Taxi operations are part of the procedures taking into consideration visual aids and surveillance equipment. This is something that has to be considered at local level.</p>

comment	<p>166 comment by: Aleksandar Ilkovski</p> <p>(e) This is an excellent addition.</p>
response	<p>Noted</p>

comment	<p>253 comment by: Heathrow airport</p> <p>Heathrow strongly propose that the wording in part (d) is softened from "should cover" to "should consider" and subsection (8) adjusted to “consideration of ground collision risk” rather than “establishment of low visibility taxi routes” as local aerodromes will have different proposed operating models to enable safe low visibility operaitons in an efficient manner.</p>
response	<p>Noted</p> <p>The term ‘should consider’ is not appropriate because it does not ensure that all the subjects are covered. Furthermore, the proposal to replace the ‘low visibility taxi routes’ with a very generic term such as ‘ground collision risk’ is not considered appropriate at AMC.</p>



comment	44	comment by: <i>ACI Europe</i>
response	Noted	
comment	64	comment by: <i>Belgian CAA</i>
	GM1 ADR OPS.B.045(a) section “Visibility condition 2 (c)”, conform the remark made for AMC3 ADR.OPS.B.030(b), is it desirable to add “where available” when making reference to a surface movement radar.	
response	Noted The GM has been deleted because it is irrelevant to the IR.	
comment	80	comment by: <i>Aerodrome safety regulation departement</i>
	We don't see the objective of this GM, neither the link with the related IR and AMCs. We thus suggest to remove it.	
response	Accepted The GM has been deleted.	
comment	155	comment by: <i>UK CAA</i>
	Page No: 18/19	
	Paragraph No: GM1 ADR OPS.B.045(a) Low Visibility Operations	
	Comment: We believe the listing of Visibility Conditions 1-4 is questionable for inclusion in the Aerodrome Regulations 139/2014. The Reduced Aerodrome Visibility Conditions (RAVC) are procedures for use by ATC and pilots; there does not appear to be any action required by the aerodrome operator.	
	Clarification is requested on whether this has just been included in the GM for completeness, or whether there is an expectation on the aerodrome operator.	
	Justification: Clarification	
response	Accepted The GM has been deleted.	

comment	82	comment by: <i>Aerodrome safety regulation departement</i>
	<p>We suggest to add to the list additional criteria as follows :</p> <p>AMC1 ADR OPS.B.045(b) Low-visibility operations CRITERIA FOR LOW-VISIBILITY PROCEDURES</p> <p>When establishing the criteria for the preparation of LVPs, the aerodrome operator should consider:</p> <p>(a) the aerodrome layout and its complexity; (b) the location of the control tower; and (c) the facilities and equipment available-; and (d) the density of traffic.</p>	
response	<p>Accepted</p> <p>The text has been revised as proposed.</p>	

AMC1 ADR.OPS.B.045(c) Low-visibility operations
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p. 19-23

comment	13	comment by: <i>IFATCA</i>
	<p>Equipment failure with an effect on flight operations should be an IR.</p> <p>IR1 ADR.OPS.B.045(c) Low-visibility operations EQUIPMENT FAILURES AND EXPECTED EFFECTS ON FLIGHT OPERATIONS The following equipment failures shall be reported:</p>	
response	<p>Noted</p> <p>The AMC refers to the aerodrome operator and its responsibility is to provide the required information. Operational limitations are included in Regulation (EU) No 965/2012.</p>	
comment	45	comment by: <i>ACI Europe</i>
	<p>Please note that the AMC conflicts with some national laws (e.g. Italy). According to the Italian Navigation Act, the ATS provider is responsible for ensuring the efficiency and effectiveness of non-visual aids. Responsibility should therefore lie with the respective responsible organization whichever it may be.</p>	
response	<p>Not accepted</p> <p>The AMC is in accordance with Regulation (EU) 2018/1139, which allows the aerodrome operator to have formal arrangements with third parties for the provision of services. The AMC is intended to ensure that equipment failures are reported, and the role of the aerodrome operator is to ensure the provision of the information. This</p>	



does not exclude the option to provide the information through a third party, including the ANSP.

comment 83 comment by: *Aerodrome safety regulation departement*

The third column of the table listing Equipment failure to be reported refers to actions under the responsibilities of aircrews and, when appropriate, ATC. We find it confusing for aerodrome operators to keep this column in aerodrome requirements. We would suggest to remove this column from the table.

response Partially accepted
Although there is agreement with the comment, EASA considers beneficial for the aerodrome operator to have the information on the expected effect on flight operations.

comment 106 comment by: *British Airways Flight Operations*

MLS cannot be used to support guided takeoffs, so suggest references to it should be removed from this AMC.

It is unlikely that there will be restrictions on departure operations as a consequence of the TDZ RVR system's being unserviceable – pilots can always assess the TDZ RVR when lined-up on the runway; in fact, they are required to do so.

response Noted
The majority of the failures and their possible effect refers to flight operations rules and the possible effects are not listed in the AMC.

comment 114 comment by: *AIRBUS*

In line with what is requested within the aircraft certification, Airbus suggests to add the following sentence:

“the Expected effect on flight operations also depends on aircraft certified capacities”

response Noted
The intent of the third column is to inform the aerodrome operator that failures have an effect on flight operations, which are dealt with in Regulation (EU) No 965/2012.

comment 123 comment by: *Civil Aviation Authority - Norway*

Comment:

As «Flight Operational Rules», ref NPA 2018-6 Part C are quite specific and detailed, see for example AMC10 ~~AMC11~~ CAT.OP.MPA.110 Aerodrome operating minima,



Table 9.12 and AMC7 AMC3 SPA.LVO.100(b) Low-visibility operations and operations with operational credits, Table 5, AMC1 ADR.OPS.B.045(c) should match that level of detail:

Example 1:

EQUIPMENT FAILURE TO BE REPORTED — LOW-VISIBILITY DEPARTURE OPERATIONS

Delete «runway lighting systems»

Add «runway end lights» - Flight operational rules

Rationale: «as «runway edge» and «runway centerline lights» are already specified as independent items.

Reference “RVR”

Instead of “Other RVR systems unserviceable”, specify which.

Rationale: Flight operational rules may differ depending on whether it is the midpoint or far end unit which is unserviceable

Example 2:

EQUIPMENT FAILURE TO BE REPORTED — APPROACH AND LANDING OPERATIONS

Add:

«ILS/MLS stand-by transmitter» - Flight operational rules

Delete:

«Runway lighting systems» - Flight operational rules

Add:

«Runway end lights» - Flight operational rules

«Threshold lights» - Flight operational rules

«Approach lights except the last 210 m» - Flight operational rules

«Approach lights except the last 420 m» - Flight operational rules

«Centreline lights spacing increased to 30 m» - Flight operational rules

Question: Where in the «Flight Operational Rules» do we find requirements for taxiway light systems?

Reference “RVR”

Instead of “Other RVR systems unserviceable”, specify which.

Rationale: Flight operational rules may differ depending on whether it is the midpoint or far end unit which is unserviceable



response	Noted
comment	<p>131 comment by: <i>Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</i></p> <p>Proposal:</p> <p>Change title to REPORTING OF EQUIPMENT FAILURES AND EXPECTED EFFECTS ON FLIGHT OPERATIONS</p> <p>Rationale: Change this title to focus on the purpose of the table.</p> <p>Proposal: Delete text about “not permitted”.</p> <p>Rationale: To avoid misunderstandings</p> <p>Proposal Table on downgrading of ILS Other than short term downgrading should use ICAO Annex 10 three digit ILS classification.</p> <p>Rationale: This will allow operators to use the remaining capacity of the ILS better.</p> <p>Proposal: Additionally, Consider to be more consistent e.g. "unserviceable" c.f. "out of service".</p>
response	<p>Not accepted</p> <p>The purpose of the table is to provide guidance on which failures need to be reported.</p>
comment	<p>156 comment by: <i>UK CAA</i></p> <p>Page No: 19</p> <p>Paragraph No: AMC1 ADR.OPS.B.045(c) EQUIPMENT FAILURES AND EXPECTED EFFECTS ON FLIGHT OPERATIONS</p> <p>Comment: Systems should have back-up procedures to mitigate primary system failure. ICAO Annex 3, Chapter 4 states: ‘<i>At aerodromes with runways intended for Category II and III instrument approach and landing operations, automated equipment for measuring or assessing, as appropriate, and for monitoring and remote indicating of surface wind, visibility, runway visual range, height of cloud base, air and dew-point temperatures and atmospheric pressure shall be installed to support approach and landing and take-off operations. These devices shall be integrated automatic systems for acquisition, processing, dissemination and display in real time of the meteorological parameters affecting landing and take-off operations. The design of integrated automatic systems shall observe Human Factors principles and include back-up procedures.</i>’</p> <p>It is not clear whether equipment failure should be declared if:</p>

	<p>(a) the primary system has failed but a back-up system is fully supporting functionality;</p> <p>(b) back-up procedures can provide the same level of service.</p> <p>Justification: Clarity is requested as to when an equipment failure should be reported.</p> <p>Proposed Text: The following equipment failures should be reported <u>if the system is degraded or unserviceable or if back-up procedures cannot provide the same level of service...</u></p>
response	<p>Accepted</p> <p>The text has been revised as proposed.</p>

comment	<p>157</p> <p style="text-align: right;">comment by: UK CAA</p> <p>Page No: 23</p> <p>Paragraph No: AMC1 ADR.OPS.B.045(c), Table: EQUIPMENT FAILURE TO BE REPORTED — APPROACH AND LANDING OPERATIONS</p> <p>Comment: We believe that there is some missing equipment and information in the list, that should be included, as proposed below.</p> <p>Reference ICAO Annex 3, Chapter 4: <i>'At aerodromes with runways intended for Category II and III instrument approach and landing operations, automated equipment for measuring or assessing, as appropriate, and for monitoring and remote indicating of <u>surface wind, visibility, runway visual range, height of cloud base, air and dew-point temperatures and atmospheric pressure</u> shall be installed to support approach and landing and take-off operations. These devices shall be integrated automatic systems for acquisition, processing, dissemination and display in real time of the meteorological parameters affecting landing and take-off operations. The design of integrated automatic systems shall observe Human Factors principles and include back-up procedures.'</i></p> <p>Justification: Accuracy</p> <p>Proposed Text:</p> <p>Amend existing entry for 'Anemometer' as follows:</p> <p>Anemometer <u>(wind speed and/or direction)</u> unserviceable: No effect if other sources available <u>back-up procedures in place</u>; otherwise, restriction depending on flight operation rules</p> <p>The following new entries should be added:</p> <p><u>Visiometer (visibility) unserviceable:</u> <u>No effect if back-up procedures in place; otherwise restrictions depending on flight operation rules</u></p>
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	<p><u>Thermometer (air and dew-point temperatures):</u> <u>No effect if back-up procedures in place; otherwise restrictions depending on flight operation rules</u></p> <p><u>Barometer (atmospheric pressure):</u> <u>No effect if back-up procedures in place; otherwise restrictions depending on flight operation rules</u></p>
response	<p>Not accepted</p> <p>ICAO Annex 3 refers to the need of installing automated systems to support CAT II and III operations. However, the failure of these systems does not have an effect on flight operations; therefore, they are not included in the tables.</p>
comment	<p>272 comment by: <i>EUROCONTROL</i></p> <p>AMC1 ADR.OPS.B.045(c) Equipment Failure reporting table - LV departure</p> <p>GBAS addition: a GBAS line similar to the ILS is to be added: GBAS (where used for guided take-off) GBAS downgraded to CAT II or CAT I No take-off guidance. Guided take-off not permitted.</p>
response	<p>Accepted</p> <p>The table has been revised as proposed.</p>
comment	<p>273 comment by: <i>EUROCONTROL</i></p> <p>AMC1 ADR.OPS.B.045(c) Equipment Failure reporting table - App and LDG operations.</p> <p>GBAS addition: similar to first three lines of ILS.</p>
response	<p>Accepted</p> <p>The table has been revised as proposed.</p>
comment	<p>274 comment by: <i>EUROCONTROL</i></p> <p>GM3 ADR.OPS.B.070 (Major Construction work) item (I) should not only mention ILS, but all radio nav aids, notably GBAS and all the surveillance means, not only radar (multilateration)</p> <p>add to NPA material</p>
response	<p>Noted</p>

The referenced GM is not part of the consultation. Nevertheless, EASA under RMT.0591 is reviewing the implementing rule and the related AMC/GM and the comment will be taken into consideration.

comment

293

comment by: *Jan Sondij*

Failures should be reported by whom?

If ANS services are available for the aerodrome (via an AMS MET ANSP) then the MET ANSP is responsible for RVR, ceilometer and anemometer and can provide NOTAMs if systems are not available. In case back-up sensors are available NOTAMs may not be issued.

Or is envisaged that it is the aerodrome that provides the meteorological services and is not certified under Regulation 2017/373?

response

Noted

This is referenced in the implementing rule.

CS ADR-DSN.B.205 Radio altimeter operating area

p. 24

comment

57

comment by: *Aerodrome safety regulation departement*

We suggest the following modification :

CS ADR-DSN.B.205 Radio altimeter operating area

(a) A radio altimeter operating area should be established in the pre-threshold area of runway **intended to be used for approach with DH less than 200ft** ~~a precision approach runway category II and III, and where practicable, in the pre-threshold area of a precision approach runway category I.~~

response

Noted

EASA decided not to revise the existing CS. However, the need to survey the radio altimeter operating area is included in the new AMC1 ADR.OPS.B.045(a)(2).

comment

132

comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Suggest to change as follows:

....establishment of a radio altimeter operating area may enhance the usability of the ~~adjacent~~ runway and

Rationale: To avoid possible confusion.

response

Noted



EASA decided not to revise the existing CS. However, the need to survey the radio altimeter operating area is included in the new AMC1 ADR.OPS.B.045(a)(2).

comment 236 comment by: *EUROCONTROL*

To be added:
In CS ADR-DSN.A.002 (Definitions) the definition of an instrument runway should be harmonised with those in EU regulation 401/2018 and other parts of this NPA. This also applies for the definition of a non-instrument runway.

response Accepted

comment 237 comment by: *EUROCONTROL*

CS ADR-DSN.B.205 (a)

For SA-CAT I propose to rephrase: "... of a runway used with DH lower than 200ft, and where practicable..." This would be in line with the form used in CS ADR-DSN.J.480

response Noted

EASA decided not to revise the existing CS. However, the need to survey the radio altimeter operating area is included in the new AMC1 ADR.OPS.B.045(a)(2).

comment 240 comment by: *EUROCONTROL*

CS ADR DSN B 205

The radio operating area need to be adapted to SA CAT I and its 150ft DH

response Noted

EASA decided not to revise the existing CS. However, the need to survey the radio altimeter operating area is included in the new AMC1 ADR.OPS.B.045(a)(2).

comment 275 comment by: *EUROCONTROL*

CS-ADR-DSN — CS Aerodrome Design with related GM

GBAS to be added in the list of acronyms

response Noted

GM1 ADR-DSN.B.205 Radio altimeter operating area

p. 24-25

comment 58 comment by: *Aerodrome safety regulation departement*



	Proposition accepted without comments
response	Noted EASA decided not to revise the existing CS. However, the need to survey the radio altimeter operating area is included in the new AMC1 ADR.OPS.B.045(a)(2).
comment	238 comment by: EUROCONTROL GM1 ADR-DSN.B.205 The changes (b) and (c) and some in (a) are already included in the Jan 2018 version of the AD easy access rules. Why are they included again? What was the baseline used?
response	Noted EASA decided not to revise the existing CS. However, the need to survey the radio altimeter operating area is included in the new AMC1 ADR.OPS.B.045(a)(2).

CS ADR-DSN.H.445 Obstaclefreezone (OFZ)

p. 25

comment	4 comment by: Amsterdam Airport Schiphol - AMS/EHAM (and D.A.A) In Issue 4 of CS-ADR-DSN, an OFZ is not required during Category I operations. The requirement for an OFZ during Category I operations was deleted with the publication of Issue 3 in December 2016. The (deleted) NPA text seems not to be consistent with CS-ADR-DSN Issue 4. With this NPA the requirement for an OFZ for (former) category I operations is re-introduced although it is applicable only for SA CAT I.
response	Accepted EASA decided not to revise the existing CS. The need to establish an OFZ for SA CAT I approach operations is included in AMC1 ADR.OPS.B.045(a)(2).
comment	59 comment by: Aerodrome safety regulation departement The proposed modification of the CS is based on an outdated version of the CS. indeed, CS issue 3 have removed category I approach operations from the scope of OFZ requirements. As a consequence, the choice of type B as a new criterion for OFZ requirement would make these surfaces applicable to aerodromes served by CAT I approaches with a DH between 200 and 250ft and thus extending the current scope. We propose to replace Type B operations by operations with a DH less than 200ft to maintain the current applicability of OFZ and for better consistency with proposed CS ADR.DSN.J.480. CS ADR-DSN.H.445 Obstacle free zone (OFZ) (a) An OFZ is intended to protect aeroplanes from fixed and mobile obstacles during



	<p>Category I, II or III Type B approach operations with a DH less than 200ft when approaches are continued below the decision height (DH), and during any subsequent missed approach or bailed landing with all engines operating normally. It is not intended to supplant the requirement of other surfaces or areas where these are more demanding.</p> <p>....</p>
response	<p>Accepted</p> <p>EASA decided not to revise the existing CS. The need to establish an OFZ for SA CAT I approach operations is included in AMC1 ADR.OPS.B.045(a)(2).</p>
comment	<p>133 comment by: <i>Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</i></p> <p>Suggest to change as follows:</p> <p>An OFZ is intended to protect aeroplanes aircraft from fixed and mobile obstacles during Category I, II or III type B approach operations when approaches are continued below the decision height (DH), and during any subsequent missed approach or bailed landing with all engines operating normally. It is not intended to supplant replace the requirement ...</p> <p>Delete "subsequent" and change "supplant" to "replace"</p> <p>Rationale: "Subsequent" may create confusion about the difference between missed approach and bailed landing. "Replace" is more widely known than "supplant".</p>
response	<p>Noted</p> <p>EASA decided not to revise the existing CS. The need to establish an OFZ for SA CAT I approach operations is included in AMC1 ADR.OPS.B.045(a)(2).</p>
comment	<p>241 comment by: <i>EUROCONTROL</i></p> <p>Addition: GM1.ADR-DSN.H.410 (Outer horizontal surface) should contain references to ICAO EUR 013 (BRA) as to the need of an aeronautical study</p>
response	<p>Noted</p>
comment	<p>242 comment by: <i>EUROCONTROL</i></p> <p>CS ADR-DSN.H.445 (a)</p> <p>Type B operations are not defined in this part of the NPA. EU Reg. 401/2018 uses the term but does not define it within the AD rules. Cross reference?</p>
response	<p>Noted</p> <p>The definitions have been updated</p>

comment	243	comment by: EUROCONTROL
	CS ADR-DSN.H.445 Special case of SA CAT I and EFVS not addressed	
response	Noted	
	The need for the establishment of an OFZ for SA CAT I operations is established in AMC1 ADR.OPS.B.045(a)(2). For EFVS operations, this is not required because the approach is flown to the established by the procedure DH. The EFVS provides operational credit in terms of visibility only.	
comment	278	comment by: EUROCONTROL
	GBAS addition to GM1.ADR-DSN.D.340 (holding points) should be considered (reference to the FAA GBAS siting order?) Similar for (GM1.ADR-DSN.G.380 (De-icing pad location)	
response	Noted	

CS ADR-DSN.J.480 Precision approach runways

p. 25-26

comment	60	comment by: <i>Aerodrome safety regulation departement</i>
	The proposed modification of the CS may be confusing for the design of OFZ for runways supporting SA CAT I without supporting CAT II/III because table J-1 still connects the characteristics of OFZ to CAT I or CATII/III operations. Because, it has not been defined, it is not clear which criteria will be applicable to determine SA CAT I OFZ : CAT I OFZ characteristics or CATII/III ?	
response	Noted	
	EASA decided not to revise the existing CS. The need to establish an OFZ for SA CAT I approach operations is included in AMC1 ADR.OPS.B.045(a)(2). The surfaces that comprise the OFZ are detailed in CS ADR-DSN.H.445 and the dimensions for CAT I runways are detailed in the CS.	
comment	167	comment by: <i>Aleksandar Ilkovski</i>
	CS ADR-DSN.H.445 Obstacle free zone (OFZ) (b) If a 3.5% GP is applied, does this effect the slope of the inner approach surface. Can the slope criteria be harmonised with a steeper GP? If that is possible, please provide it in a GM.	
response	Noted	



The slope of the inner approach surface is detailed in the CS, which is in accordance with ICAO Annex 14 and does not consider the GP slope.

comment 244 comment by: *EUROCONTROL*
 CS ADR-DSN.J.480 (a)
 Table J-1 and GM1.ADR-DSN.J.480 also needs to be updated in line with these changes. Why is the transitional surface (a)(4) not included in the list in the guidance material?

response Noted
 EASA decided not to revise the existing CS. The need to establish an OFZ for SA CAT I approach operations is included in AMC1 ADR.OPS.B.045(a)(2). The table does not require revision since the OFZ for CAT I runways is already defined in the table.

comment 276 comment by: *EUROCONTROL*
 GBAS change required in GM1 ADR- DSN.C.210 (RESA): in (a) (5) (vi) rephrase:"..if a precision approach radionavigation aid is only available..."

response Noted

comment 277 comment by: *EUROCONTROL*
 GM1 ADR- DSN.C.210 (RESA) Additional change in (b) (1) (iv): "...runways (including the provision of PBN or precision approach systems, location...)

response Noted

CS ADR-DSN.S.880 Electrical power supply systems p. 26-29

comment 1 comment by: *Sergejs Jahnovics*
 1) The instrumental approach usually include DME facility for Instrumental approach in combinations with other navaids: VOR/DME approach, Localiser only (LOC/DME) approach or NDB/DME approach. The Table S-2 in "Instrumental approach" section not include DME and ILS localiser and it maximum switch-over times.
 2) The precision approach category I and II could be based on ILS localiser, glide path and DME (instead markers). The Table S-2 in "Precision approach" section not include DME and it maximum switch-over times.

response Noted
 EASA decided not to provide switch-over requirements now. This will be addressed under RMT.0161 'Conformity assessment' which deals with the



certification/declaration of ATM/ANS systems and constituents and safety-related aerodrome equipment.

comment	15	comment by: IFATCA
	runway touchdown zone - type	
response	Noted	

comment	46	comment by: ACI Europe
	<p><u>Reference to (Table S-1 and Table S-2):</u> Please note that the CS conflicts with some national laws (e.g. Italy). According to the Italian Navigation Act, the ATS provider is responsible for ensuring the efficiency and effectiveness of non-visual aids. Responsibility should therefore lie with the respective responsible organization whichever it may be.</p> <p><u>Reference to Table S-1 on page 28:</u> Please amend formatting of table to improve legibility.</p>	
response	<p>Noted</p> <p>Please refer to the response to the similar comment.</p>	

comment	84	comment by: Aerodrome safety regulation departement
	<p>(a)(7) and table S-2</p> <p>The technical specifications of the electrical power supply systems attached to radio navigation aids are currently the responsibility of the CNSP in charge of the installation and maintenance of radio navigation aids. The requirements applicable to CNSP are currently covered by R UE 1035 and its annexes that refer to ICAO standards and in particular to annex 10. Any necessary updating of this regulation should fall under the scope of ATM/ANS. Shifting these provisions to IR-ADR, which addresses requirements applicable to aerodrome operators coming from ICAO annex 14, will add useless complexity to the regulation frame. We thus propose that this requirement was removed from IR-ADR and if necessary, analysed through ATM/ANS working group in close coordination with aerodrome and AIROPS teams to define the appropriate level of coordination between aerodrome operators and CNSP in regulations.</p> <p>Table S-1 Note e should be limited to EFVS operations with visibility conditions less than 550m RVR and/or DH less than 200ft (that is to say in LVOs). Indeed, requiring a switch-off time less than 1s for any EFVS operations is disproportionate unless if operated under 550m RVR.</p>	



response

Accepted

The issue will be addressed under RMT.0161 'Conformity assessment', which deals with the certification/declaration of ATM/ANS systems and constituents and safety-related aerodrome equipment.

For EFVS operations on CAT I runway with lower than 550 m RVR, the switch-over time remains 15 sec.

comment

116

comment by: AIRBUS

Airbus proposes to keep 15 seconds for the maximum switch-over time in case of EFVS operation (deletion of (e)).

Rationale:

The reduction of minimum switchover time (15s to 1s) applicable to Runway edge, Runway threshold and Runway end lights for EFVS operations seems not justified.

It may limit the number of airport/runway eligible to EFVS operations whereas the impact in case of transient light shutdown is in fact alleviated when performing EFVS operation:

- If runway is equipped with incandescent lamps, the lamps will continue to provide heat shortly after the power cutoff (heat which may be visible by pilot thanks to EFVS).

- EVS display may provide to the pilots other information than the lamps (e.g. runway markings, other context elements etc...).

- EVS display is supported by HUD system, therefore the pilots keep head-up all the primary flight information enabling him to control the aircraft (and potentially perform a go-around if needed) without needing to revert head down and potentially enabling to perform a go-around in a more timely manner if needed.

response

Accepted

comment

134

comment by: Swedish Transport Agency, Civil Aviation Department
(Transportstyrelsen, Luftfartsavdelningen)

- Table – SA CAT I requirements

Proposal:

The switch over time should be the same for the runway lights (thr, edge and rwy end) as for the inner parts for the approach light system, If however, rwy centre line lights are provided, only the threshold lights SOT needs to be aligned with that for the inner 300 m of the approach lights.

Correct typo to "touch down".



response	<p>Rationale: The comparison with CAT II for the 1 sec SOT for the 300 meter inner approach lights may not be entirely relevant. US does not require 1 sec SOT for SA CAT I and any such requirement should be based on a more in-depth risk analysis. If decision is to require 1 sec SOT that requirement should also be applicable for RWY edge, threshold and runway end lights. Otherwise a safety problem may be created by leading in to “a black hole”.</p> <p>Noted</p> <p>The requirements for switch-over time for SA CAT I remain the same as for CAT I.</p>
comment	<p>140 comment by: <i>Federal Office of Civil Aviation (FOCA), Switzerland</i></p> <p>Comment FOCA to CS ADR-DSN.S.880 Electrical power supply systems Table S-1: Missing footnote for REDL: “One second where no runway centre line lights are provided.”</p> <p><i>Suggested Text:</i> Runway meant for take-off in runway visual range conditions less than a value of 800 m Runway edge^f 15 seconds</p> <p>f. One second where no runway centre line lights are provided.</p> <p>Noted</p>
comment	<p>144 comment by: <i>Finavia Corporation</i></p> <p>CS ADR-DSN.S.880 Electrical power supply systems:</p> <p>Table S-1, Runway meant for take-off in runway visual range conditions less than a value of 800 m: 1 sec switch-over time in these conditions is still not in line with switch over times for approaches. Should be 15 sec for all mentioned lighting aids – or RVR value limit less than 550 m. To reach 1 sec demand is often related to LVP procedures and RVR values less than 550 m.</p> <p>Table S-2, Precision approach category I: Maximum switch-over time of 10 sec is not in line with switch-over times for lighting aids. Should be 15 sec, as for other systems in same conditions. Technically, with diesel generators the 10 sec demand is often hard to reach.</p>
response	<p>Noted</p> <p>There will be no change in the switch-over times, which are in accordance with ICAO Annex 14.</p>

comment	<p>168 comment by: Aleksandar Ilkovski</p> <p>Comments on cell: Precision approach category I intended to be used for SA CAT I. Maximum switch-over time.</p> <p>Clarification needed. Which switch over time applies to which lighting aids requiring power? The values in the table is not in order.</p>
response	<p>Noted</p> <p>The switch-over time for SA CAT I runways are the same as for CAT I runways. Please refer to the relevant AMC for SA CAT I.</p>

comment	<p>169 comment by: Aleksandar Ilkovski</p> <p>Comment to cell: Runway meant for take-off in runway visual range conditions less than a value of 800 m. Maximum switch-over time.</p> <p>No reference available to C note. Additionally, this text should not be grey highlighted as the whole text is the same as previous issue.</p>
response	<p>Noted</p> <p>Switch-over times remain unchanged.</p>

comment	<p>173 comment by: Finnish Transport Safety Agency</p> <p>Table S-1, Runway meant for take-off in runway visual range conditions less than a value of 800 m:</p> <p>1 sec switch-over time in these conditions is still not in line with switch over times for approaches. Should be 15 sec for all mentioned lighting aids – or RVR value limit less than 550 m. To reach 1 sec demand is often related to LVP procedures and RVR values less than 550 m.</p> <p>Table S-2, Precision approach category I: Maximum switch-over time of 10 sec is not in line with switch-over times for lighting aids. Should be 15 sec, as for other systems in same conditions. Technically, with diesel generators the 10 sec demand is often hard to reach.</p>
response	<p>Noted</p> <p>There will be no change in the switch-over times, which are in accordance with ICAO Annex 14.</p>



comment	230	comment by: <i>Dassault-Aviation</i>
	<p><u>Text:</u> Page 28 "e. One second where approaches are conducted using EFVS"</p> <p><u>Comment:</u> Should this requirement be limited to RVR value such rollout cannot be safely terminated in case of EFVS failure. For take off, secondary power supply with 1 second requirement is requested below RVR 800m.</p> <p><u>Proposed change:</u> "e. One second where approaches are conducted using EFVS in RVR conditions less than a value of 800m "</p>	
response	Noted	
comment	245	comment by: <i>EUROCONTROL</i>
	<p>First line of table - typo Replace touchdown by touchdown</p>	
response	Accepted	
comment	246	comment by: <i>EUROCONTROL</i>
	<p>Legend formatting problem for table S-1 Proposed resolution Review</p>	
response	Accepted	
comment	247	comment by: <i>EUROCONTROL</i>
	<p>Table S-2: 0 values for ILS in CAT II/III seem inappropriate: use "<1s" instead</p>	
response	<p>Noted</p> <p>The issue will be addressed under RMT.0161 'Conformity assessment', which deals with the certification/declaration of ATM/ANS systems and constituents and safety-related aerodrome equipment.</p>	
comment	248	comment by: <i>EUROCONTROL</i>
	<p>Addition: In CS ADR-DSN.S.890 (Monitoring) change item (d) to : For a runway meant for use in runway visual range conditions less than a value of 550m and/or DH<200ft, 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</p>	

	serviceability level specified in CS ADR-DSN.S.895(c) to (h). This information should be automatically relayed to the maintenance crew. Consider also removing the duplication in (d) and (e) and combine into a single item.
response	Noted
comment	249 comment by: EUROCONTROL Addition: GM1 ADR-DSN.S.890 item (a) seems redundant with new form of CS ADR-DSN.S.895
response	Noted
comment	279 comment by: EUROCONTROL Table S-2: GBAS to be added:PBN operations: 15s; CAT I: 10s; CAT II and III: 1s
response	Noted The issue will be addressed under RMT.0161 'Conformity assessment', which deals with the certification/declaration of ATM/ANS systems and constituents and safety-related aerodrome equipment.
comment	280 comment by: EUROCONTROL Table S-2 Non ILS systems to be added Add non ILS systems
response	Noted
comment	294 comment by: Jan Sondij (d) is this a responsibility of the aerodrome? And such the aerodrome is responsible for the costs of the secondary power supply regarding (4) meteorological equipment?
response	Noted The issue of cost allocation is not relevant.

CS ADR-DSN.S.895 Serviceability levels	p. 29-32
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comment	5 comment by: Amsterdam Airport Schiphol - AMS/EHAM (and D.A.A) The following abbreviations introduced in the Certification Specifications need to be added to the list of abbreviations in CS-ADR-DSN: - SA CAT I
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	-	MDA/H
	-	DA/H
	-	NDB
	-	LOC
	-	VOR
	-	GNSS
	-	LNAV
	-	APV
	-	SBAS
	-	METAR
	- SPECI	
response	Noted	
comment	<p>86 comment by: <i>Aerodrome safety regulation departement</i></p> <p>It would be useful in CS M or related GM, that the lighting set-up required for SA CAT I operations was clarified as being a standard cAT operation lighting system. This comment meets up with the lack of definition of SA CAT I operations mentioned in general comments.</p>	
response	<p>Accepted</p> <p>The lighting system requirements for SA CAT I will be the same as for CAT I.</p>	
comment	<p>124 comment by: <i>Civil Aviation Authority - Norway</i></p> <p>Reference item (f)(3) and (g)(3), at least 85 % of the lights are serviceable in the runway end lights;</p> <p><i>Comment: If only the minimum 6 light units are installed, one unserviceable light would render the runway end lights unserviceable. (One in Six is 16,67%)</i></p>	
response	<p>Noted</p> <p>The serviceability level requirements will be the same as for CAT I.</p>	
comment	<p>141 comment by: <i>Federal Office of Civil Aviation (FOCA), Switzerland</i></p> <p>Comment FOCA to CS ADR-DSN.S.895 Serviceability levels (i):</p> <p>- Allowable percentages of serviceable lights for runway centre line lights in Table S-3 are not in line with CS ADR-DSN.S.895 Serviceability levels (i), especially for a runway meant for take-off in runway visual range conditions of a value of 550 m or greater (RVR>550 m, take-off).</p> <p><i>Suggested Text</i> :The system of preventive maintenance employed for a runway meant for take-off in runway visual range conditions of a value of 550 m or greater should have as its objective that, during any period of operations, all runway lights are serviceable, and that, in any event, at least 85 % of the lights are serviceable in the runway centre line lights (where provided), the runway edge lights and runway</p>	



	end lights. In order to provide continuity of guidance, an unserviceable light should not be permitted adjacent to another unserviceable light.
response	Noted The specific CS has been deleted and its content has been already transferred as implementing rule in Regulation (EU) 2020/2148.
comment	250 comment by: EUROCONTROL Table S-3: Add EFVS considerations
response	Noted

CS ADR-DSN.S.925 Radio navigation aids

p. 32-33

comment	6 comment by: Amsterdam Airport Schiphol - AMS/EHAM (and D.A.A) The following abbreviations introduced in the Certification Specifications need to be added to the list of abbreviations in CS-ADR-DSN: - SA CAT I - MDA/H - DA/H - NDB - LOC - VOR - GNSS - LNAV - APV - SBAS - METAR - SPECI
response	Noted
comment	8 comment by: Amsterdam Airport Schiphol - AMS/EHAM (and D.A.A) under (b) The form in which the required navigation aids for non-precision approaches are described (points 1 to 4 divided by ‘;’ and the word ‘and’) might suggest that <u>all</u> four (radio navigation) aids listed under point (b) are required. This is however not the case. It is therefore suggested to divide the subpoints (1) to (4) under point (b) of this CS by the words ‘and / or’ .
response	Noted EASA decided not to propose CSs for radio navigation aids. These will be addressed under RMT.0161 ‘Conformity assessment’ which will deal with the



certification/declaration of ATM/ANS systems and constituents and safety related aerodrome equipment. The necessary radio navigation aids and their performance provisions are included in AMC.

comment 10 comment by: *Shannon Airport Authority*
 why should airports in future be responsible for ILS and RVR equipment when in many cases the are owned and operated by ATC
 - how should other equipments, e.g. ceilometers etc, be dealt with and based on which criteria where ILS and RVR selected as the responsibility of airports?
 - some parts of the NPA are already mentioned in other EASA rules, this may lead to confusion or conflicts between regulations

response Noted
 EASA decided not to propose CSs for radio navigation aids. These will be addressed under RMT.0161 ‘Conformity assessment’ which will deal with the certification/declaration of ATM/ANS systems and constituents and safety related aerodrome equipment. The necessary radio navigation aids and their performance provisions are included in AMC.
 According to Regulation (EU) 2018/1139, the aerodrome operator is responsible to ensure either by itself or through formal arrangements with third parties the availability of the necessary systems and equipment to support operations. This does not exclude the provision of the system by ANSPs.

comment 14 comment by: *IFATCA*
 This is safety critical and should be an IR.
 CS ADR-DSN.S.925
 Radio navigation aids
 (a) Applicability
 Instrument runways shall be supported by radio navigation aids to provide vertical and/or lateral guidance up to the MDA/H or the DA/H, whichever is applicable.

response Noted
 EASA decided not to propose CSs for radio navigation aids. These will be addressed under RMT.0161 ‘Conformity assessment’ which will deal with the certification/declaration of ATM/ANS systems and constituents and safety-related aerodrome equipment. The necessary radio navigation aids and their performance provisions are included in AMC.

comment 33 comment by: *Brussels Airport*



response	<p>The current text as it is now in (b) means that a precision approach consists of a non-directional beacon (NDB) and a LOC and a VHF omnidirectional radio range (VOR) and a global navigation satellite system (GNSS) lateral navigation (LNAV) which is not correct because a non-precision approach is either one of this four mentioned. Propose to add the wording "or" after (NDB) in (1), after LOC in(2) and to replace the word "and" into "or" after (VOR) in (3).</p> <p>Noted</p> <p>EASA decided not to propose CSs for radio navigation aids. These will be addressed under RMT.0161 'Conformity assessment' which will deal with the certification/declaration of ATM/ANS systems and constituents and safety related aerodrome equipment. The necessary radio navigation aids and their performance provisions are included in AMC.</p>
comment	<p>47 comment by: <i>ACI Europe</i></p> <p>Please note that the CS conflicts with some national laws (e.g. Italy). According to the Italian Navigation Act, the ATS provider is responsible for ensuring the efficiency and effectiveness of non-visual aids. Responsibility should therefore lie with the respective responsible organization whichever it may be.</p>
response	<p>Noted</p> <p>Please refer to the response to the similar question.</p>
comment	<p>87 comment by: <i>Aerodrome safety regulation departement</i></p> <p>The technical specifications of radio navigation aids are currently the responsibility of the CNSP in charge of the installation and maintenance of radio navigation aids in coordination with airspace design services.</p> <p>The requirements applicable to CNSP and or ASD fall under the scope of ATM/ANS. Shifting these provisions to IR-ADR, which addresses requirements applicable to aerodrome operators coming from ICAO annex 14, will add useless complexity to the regulation frame.</p> <p>Moreover, we see no direct link between this provision and the objective of developing operations with operational credits.</p> <p>We thus propose that this requirement was removed from IR-ADR and if necessary, analysed through ATM/ANS working group in close coordination with aerodrome and AIROPS teams to define the appropriate level of coordination between aerodrome operators, CNSP and ASD in regulations.</p>
response	<p>Noted</p> <p>EASA decided not to propose CSs for radio navigation aids. These will be addressed under RMT.0161 'Conformity assessment' which will deal with the certification/declaration of ATM/ANS systems and constituents and safety-related</p>

aerodrome equipment. The necessary radio navigation aids and their performance provisions are included in AMC.

comment

135

comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Suggest to change as follows:

(g) Where two separate ILS facilities serve opposite ends of a single runway, an interlock should ensure that only the localiser serving the approach direction in use radiates, ~~except where the~~ localiser in operational use is facility performance category I ILS and no operationally harmful interference results.

Rationale: With increasingly more reliance on the localizer signal (autoland, HUDLS), it is important to ensure the best possible performance of the localizer.

response

Noted

EASA decided not to propose CSs for radio navigation aids. These will be addressed under RMT.0161 'Conformity assessment' which will deal with the certification/declaration of ATM/ANS systems and constituents and safety-related aerodrome equipment. The necessary radio navigation aids and their performance provisions are included in AMC.

comment

251

comment by: *EUROCONTROL*

CS ADR DSN S 925 (b): Add procedures

response

Noted

EASA decided not to propose CSs for radio navigation aids. These will be addressed under RMT.0161 'Conformity assessment' which will deal with the certification/declaration of ATM/ANS systems and constituents and safety-related aerodrome equipment. The necessary radio navigation aids and their performance provisions are included in AMC.

comment

252

comment by: *EUROCONTROL*

CS ADR-DSN.S.925 (d)(2): Major comment: to be replaced by: "any other navigation aid that has aircraft-level guidance and, if applicable, touchdown performance at least equivalent to an ILS mentioned in point (1) above."

response

Noted

EASA decided not to propose CSs for radio navigation aids. These will be addressed under RMT.0161 'Conformity assessment' which will deal with the certification/declaration of ATM/ANS systems and constituents and safety-related



aerodrome equipment. The necessary radio navigation aids and their performance provisions are included in AMC.

comment 255 comment by: EUROCONTROL

CS ADR-DSN.S.925 (e)(2)
Major comment: to be replaced by: "any other navigation aid that has aircraft-level guidance and, if applicable, touchdown performance at least equivalent to an ILS mentioned in point (1) above."

response Noted
EASA decided not to propose CSs for radio navigation aids. These will be addressed under RMT.0161 'Conformity assessment' which will deal with the certification/declaration of ATM/ANS systems and constituents and safety-related aerodrome equipment. The necessary radio navigation aids and their performance provisions are included in AMC.

comment 256 comment by: EUROCONTROL

CS ADR-DSN.S.925 (f)(2)
Major comment: to be replaced by: "any other navigation aid that has aircraft-level guidance and, if applicable, touchdown performance at least equivalent to an ILS mentioned in point (1) above."

response Noted
EASA decided not to propose CSs for radio navigation aids. These will be addressed under RMT.0161 'Conformity assessment' which will deal with the certification/declaration of ATM/ANS systems and constituents and safety-related aerodrome equipment. The necessary radio navigation aids and their performance provisions are included in AMC.

GM1 CS ADR-DSN.S.925 Radio navigation aids

p. 33

comment 9 comment by: Amsterdam Airport Schiphol - AMS/EHAM (and D.A.A)

under (b)

It can be argued whether GNSS can be classified as a radio navigation aid. Consequently it would be advisable to change the proposed title of the Certification Specification to '**Navigation aids – other than visual aids for navigation**' or to differentiate in the proposed text that GNSS is not a conventional radio navigation aid and should be seen as an alternative for or addition to (the traditional) radio navigation aids.
When GNSS is not classified as a radio navigation aid, the proposed text under point (a) should also be amended. It is suggested to rephrase point (a) into the following sentence: '*Instrument runways should be supported by radio navigation*



*aids **and / or a global navigation satellite system** to provide vertical and/or lateral guidance up to the MDA/H or the DA/H, whichever is applicable.'*

response

Noted

EASA decided not to propose CSs for radio navigation aids. These will be addressed under RMT.0161 'Conformity assessment' which will deal with the certification/declaration of ATM/ANS systems and constituents and safety-related aerodrome equipment. The necessary radio navigation aids and their performance provisions are included in AMC.

comment

61

comment by: *Aerodrome safety regulation departement*

See preceding comment about related CS.

response

Noted

EASA decided not to propose CSs for radio navigation aids. These will be addressed under RMT.0161 'Conformity assessment' which will deal with the certification/declaration of ATM/ANS systems and constituents and safety-related aerodrome equipment. The necessary radio navigation aids and their performance provisions are included in AMC.

CS ADR-DSN.S.930 Meteorological equipment

p. 33-35

comment

7

comment by: *Amsterdam Airport Schiphol - AMS/EHAM (and D.A.A)*

The following abbreviations introduced in the Certification Specifications need to be added to the list of abbreviations in CS-ADR-DSN:

- SA
- CAT
- I
- MDA/H
- DA/H
- NDB
- LOC
- VOR
- GNSS
- LNAV
- APV
- SBAS
- METAR
- SPECI

response

Noted



comment	<p data-bbox="368 199 416 235">48</p> <p data-bbox="1082 199 1394 235" style="text-align: right;">comment by: <i>ACI Europe</i></p> <p data-bbox="368 257 719 293"><u>Reference to (b) (1) and (2):</u></p> <p data-bbox="368 324 1394 398">Delete sections (b)(1) and (b)(2) entirely. Rationale: Already covered by AMC1 MET.TR.210(c)</p> <p data-bbox="368 430 1394 577">Please note that the CS conflicts with some national laws (e.g. Italy). According to the Italian Navigation Act, the ATS provider is responsible for ensuring the efficiency and effectiveness of non-visual aids. Responsibility should therefore lie with the respective responsible organization whichever it may be.</p> <p data-bbox="368 609 767 645"><u>Reference to (b) (3), (4) and (5):</u></p> <p data-bbox="368 676 1394 750">Delete sections (b)(3) to (b)(5). Rationale: Already covered by AMC1 MET.TR.210(c)(1)</p> <p data-bbox="368 781 1394 929">Please note that the CS conflicts with some national laws (e.g. Italy). According to the Italian Navigation Act, the ATS provider is responsible for ensuring the efficiency and effectiveness of non-visual aids. Responsibility should therefore lie with the respective responsible organization whichever it may be.</p>
response	<p data-bbox="368 952 459 987">Noted</p> <p data-bbox="368 1019 1394 1093">EASA decided not to propose CSs for MET equipment. Requirements for MET equipment already exist in Regulation (EU) 2020/469.</p>
comment	<p data-bbox="368 1176 416 1211">88</p> <p data-bbox="703 1176 1394 1211" style="text-align: right;">comment by: <i>Aerodrome safety regulation departement</i></p> <p data-bbox="368 1243 1394 1339">The proposed CS addresses the objectives of reliability and accuracy of the visibility(RVR) measures that fall under the responsibility of the Meteo Service provider.</p> <p data-bbox="368 1348 1394 1444">The requirements applicable to MET Service are partly covered by R UE 1035 that refers to Annex 3 and further developed in IR and AMCs of future PART MET of ATM/ANS in construction.</p> <p data-bbox="368 1453 1394 1527">Including the same provisions in CS ADR-DSN and PART MET AMC may lead to inconsistencies in case of alternative means of compliance.</p> <p data-bbox="368 1559 1394 1697">Moreover, regarding meteo equipment, the Aerodrome operators' responsibility is limited to compliance monitoring of obstacle limitation surfaces and safety areas. Thereon, current CS ADR-DSN.T.915 is already defining requirements applicable to the siting of air navigation equipment located on the runway strip.</p> <p data-bbox="368 1729 1394 1868">We thus propose that this requirement was removed from IR-ADR and if necessary, analysed through ATM/ANS working group in close coordination with aerodrome and AIROPS teams to define the appropriate level of coordination between aerodrome operators and MET services in regulations.</p>
response	<p data-bbox="368 1892 459 1928">Noted</p>

	EASA decided not to propose CSs for MET equipment. Requirements for MET equipment already exist in Regulation (EU) 2020/469.	
comment	136	comment by: <i>Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</i>
	Proposal: Add “or visibility less than 800 meter”	
	Rationale: This will ensure compliance with the recommendation in Annex 6, only to authorise operations in visibilities below 800 m if RVR is provided. This will not add any burden on the aerodromes since RVR 550 m normally corresponds a higher visibility of 800 m or more.	
response	Noted	
	EASA decided not to propose CSs for MET equipment. Requirements for MET equipment already exist in Regulation (EU) 2020/469.	
comment	257	comment by: <i>EUROCONTROL</i>
	CS ADR-DSN.S.930 (a) missing bracket, presumably as (RVRs)	
response	Noted	
	EASA decided not to propose CSs for MET equipment. Requirements for MET equipment already exist in Regulation (EU) 2020/469.	
comment	295	comment by: <i>Jan Sondij</i>
	The content of the CS seems not to be fully aligned with the (EU) 2017/373, such creating potential inconsistencies or ambiguous interpretation.	
	It is advised to EASA to cross check the MET related content with the ad-hoc RMG Part-MET for consistency with WMO and ICAO and within the EU-rulemaking framework including Regulation 2017/373.	
response	Noted	
	EASA decided not to propose CSs for MET equipment. Requirements for MET equipment already exist in Regulation (EU) 2020/469.	
comment	296	comment by: <i>Jan Sondij</i>
	Throughout this CS in many instances the term 'Runway Visual Range (RVR)' is used.	



response	<p>Proposed is to include '(RVR)' in the title and use 'RVR' only and consistently in this CS.</p> <p>Noted</p> <p>EASA decided not to propose CSs for MET equipment. Requirements for MET equipment already exist in Regulation (EU) 2020/469.</p>
comment	<p>297 comment by: Jan Sondij</p> <p><i>(a) Instrumented systems based on transmissometers or forward-scatter meters should be used to assess the runway visual range (RVR) on runways intended for approach and landing operations at runway visual ranges (RVRs less than 550 m.</i></p> <p>Are there other operations that operate with an RVR of more than 550 meter? If so, can RVR be assessed by a human observer? What instruments should be used to assess the RVR for RVR of more than 550 meter?</p> <p>The Regulation 2017/373 contains more requirements on RVR than included in CSs of NPA 2018-06(D).</p>
response	<p>Noted</p> <p>EASA decided not to propose CSs for MET equipment. Requirements for MET equipment already exist in Regulation (EU) 2020/469.</p>
comment	<p>298 comment by: Jan Sondij</p> <p><i>(c) Display (1) One display or more, if required, should be located in the meteorological station with corresponding displays in the appropriate air traffic services units.</i></p> <p>Given the terminology used - meteorological station - and in (d) local routine report, local special report and METAR - the service can be identified as the aerodrome meteorological station as described in Regulation 2017/373.</p> <p>What is the rationale to include this CS in the ADR rule? Is this not a duplication?</p>
response	<p>Noted</p> <p>EASA decided not to propose CSs for MET equipment. Requirements for MET equipment already exist in Regulation (EU) 2020/469.</p>
comment	<p>299 comment by: Jan Sondij</p> <p>Why does the CS for RVR only contain a subset of the requirements for RVR in the (EU) 2017/373? Why are for example reporting steps not included? If the argument for that would be that this is not a system requirement, why are averaging requirements included under (d)?</p>

response Noted

EASA decided not to propose CSs for MET equipment. Requirements for MET equipment already exist in Regulation (EU) 2020/469.

comment 300 comment by: Jan Sondij

(1) 1 minute for local routine and special reports and for RVR displays in air traffic services units; and

The convention used in Regulation 2017.373 is:

local routine report and local special report

response Noted

EASA decided not to propose CSs for MET equipment. Requirements for MET equipment already exist in Regulation (EU) 2020/469.

comment 301 comment by: Jan Sondij

(2) 10 minutes for meteorological terminal air report (METAR) and special weather report (SPECI), except that when the 10-minute period immediately preceding the observation includes a marked discontinuity in runway visual range (RVR) values, only those values occurring after the discontinuity should be used for obtaining mean values.

The convention used in Regulation 2017/373 is:

~~(2) 10 minutes for METAR meteorological terminal air report (METAR) and special weather report (SPECI),~~ except that when the 10-minute period immediately preceding the observation includes a marked discontinuity in RVR ~~runway visual range (RVR)~~ values, only those values occurring after the discontinuity should be used for obtaining mean values.


SPECI is not included in the Regulation as half-hourly METARs are prescribed, such there is no need to produce SPECIs.


response Noted


EASA decided not to propose CSs for MET equipment. Requirements for MET equipment already exist in Regulation (EU) 2020/469.



3. Attachments

 [Landing Area Slope_V3.pdf](#)
Attachment #1 to comment #112

 [Landing Area Slope_V3.pdf](#)
Attachment #2 to comment [#113](#)

 [Irregular Pre-Threshold_V2.pdf](#)
Attachment #3 to comment [#115](#)

