



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

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

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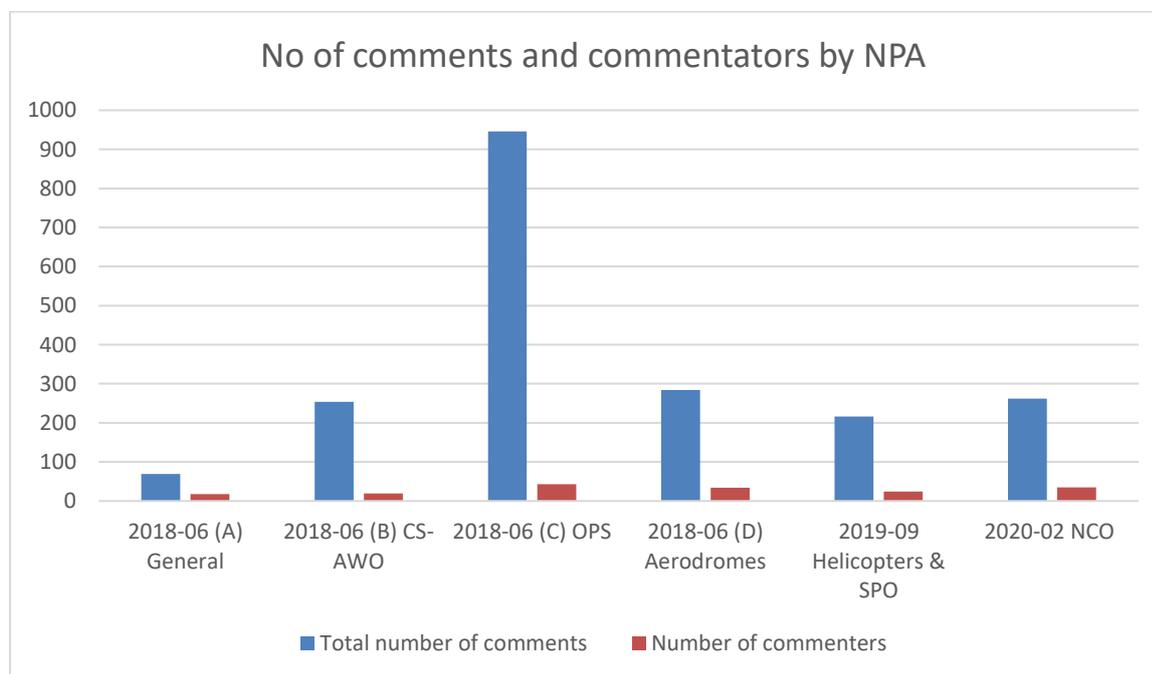
## 1. Summary of the outcome of the consultation

[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).

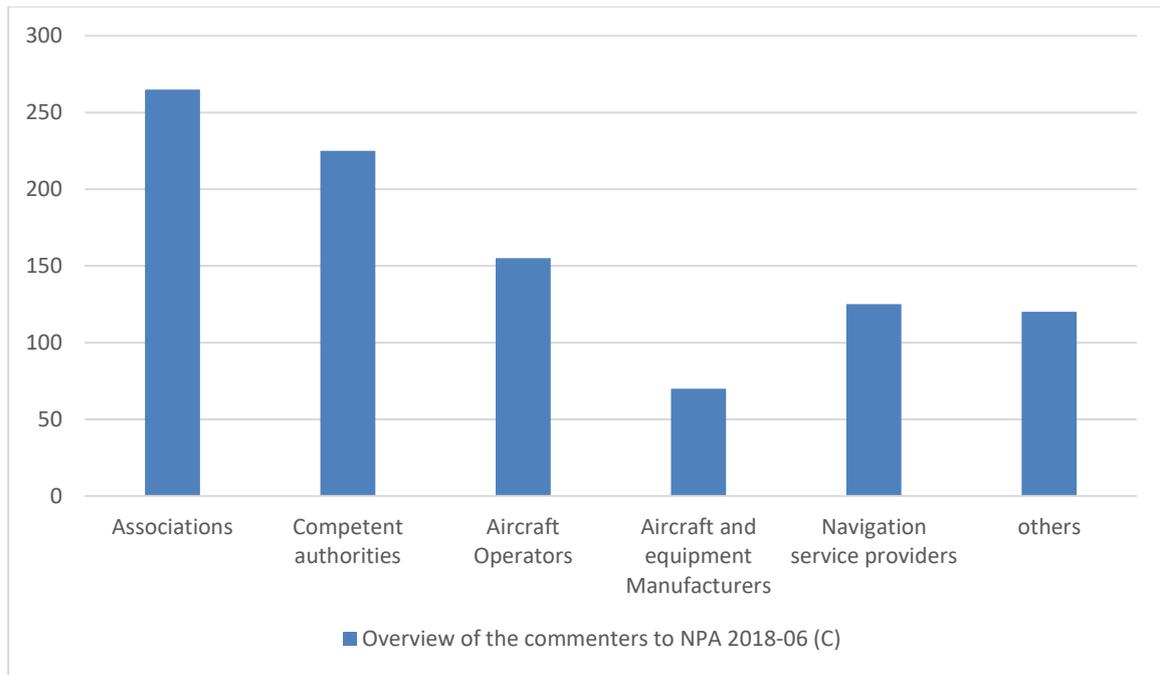
Regarding NPA 2018-06 (C), EASA received 946 comments from 43 commentators as follows:

- 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.

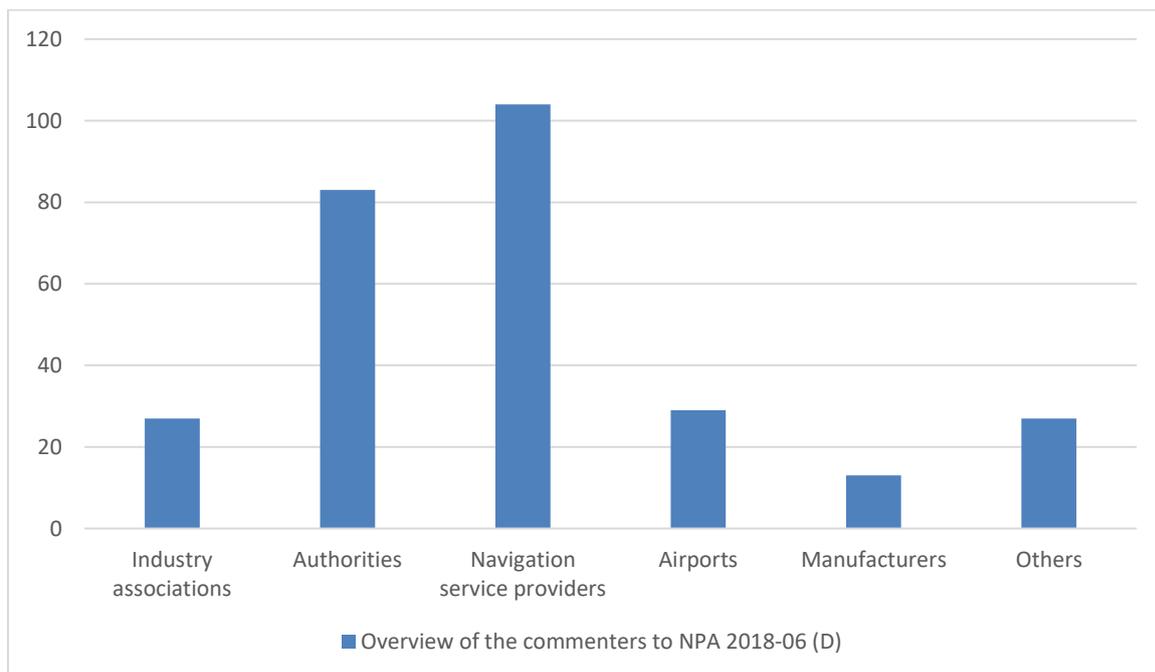


1. Summary of the outcome of the consultation



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: Wideroe Flyveselskap AS  Comments to EASA NPA 2018-06 AWO – VOL C Widerøe's Flyveselskap AS favor most of the proposed amendments put forward in the NPA 2018-06(C). Generally, the proposed IR's, AMC's, GM's and Annexes clarify and simplify interpretation. However, it may seem that some of the proposed amendments do not take into consideration short field landing and steep approach operations. Furthermore, the proposed stabilized approach criteria seem overly stringent for CAT B turbo props.
response	Noted
comment	55      comment by: British Airways Flight Operations  General Comment #1: Baulked landing ought to be spelled with a u (as here) rather than balked, which is the US spelling
response	Not accepted  The regulation term used in the regulation is 'balked'. For consistency reasons, 'balked' has been used in the proposed amendment.
comment	56      comment by: British Airways Flight Operations  General Comment #2. Alignment of definition of LVOs as all operations below 550m RVR: British Airways supports this proposal. It will make LVOs simpler to understand and is unlikely to have much operational impact
response	Noted
comment	96      comment by: AIRBUS



	<p>Specific approval criteria - Safety assessment</p> <p>The specific approval required in order to perform EFVS-A/EFVS-L operations will be heavy to set-up for the operators (in particular for those which are not CATII/CATIII approved).</p> <p>This may limit the number of EFVS operators (and the incentive to embed EVS &amp; benefit from improved situation awareness) due to the complexity of the related approval process. Has this consideration been taken into account in the regulatory impact assessment?</p>
response	<p>Noted</p> <p>The burden on operators was considered as part of the RIA. Operators will be able to implement EFVS200 operations without needing to go through the specific approval process. Only operators that need the additional benefits of EFVS operations under Part-SPA will need to go through the specific approval process.</p>
comment	<p>214                      comment by: <i>KLM</i></p> <p>Because of the many changes it is highly appreciated if EASA establishes a communication protocol that can be used by operators to inform / instruct the pilot population.</p>
response	<p>Noted</p> <p>Changes to the regulation will be published on the EASA website.</p>
comment	<p>215                      comment by: <i>EUROCONTROL</i></p> <p>Baseline for the review were the Easy Access Rules for Air Operations Edition 11 of July 2018.</p>
response	<p>Noted</p>
comment	<p>218                      comment by: <i>EUROCONTROL</i></p> <p>LPV200 name.</p> <p>In the same way the commercial term "LPV200" is recommended to be replaced by "SBAS CAT I" throughout the document. Removing the "200" in both cases removes possible confusion as to how the minima are to be calculated (it could otherwise be construed that the definition of the EFVS 200 operation always allows operation to 200ft DH even if the minima determined by application of AMC3 CAT.OP.MPA.110 or equivalent are higher).</p>
response	<p>Partially accepted</p> <p>SBAS will be used in the EASA Opinion.</p>



comment	338      comment by: Finnish Transport Safety Agency Trafi has no comments and supports the proposal.
response	Noted
comment	382      comment by: J.Woehrlin/DLH Entire Document (General comment)  NPA text Multiple passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).  Requested change Use the terms 'reported RVR'. 'minimum RVR' and 'RVR' consistently throughout the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).  Justification In AMC9 CAT.OP.MPA.110 of this NPA the terms 'reported RVR', 'minimum RVR' and 'RVR' are unambiguously used. However, in multiple other passages of the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM) these terms are inconsistently used (i.e. where the meaning would be 'reported RVR' or 'minimum RVR' simply 'RVR' or even another terminology is used). This inconsistency in the use of these terms leads to ambiguity.
response	Partially accepted.  EASA performed a revision of those terms to ensure the regulatory provisions are consistent without losing clarity in the rule.
comment	384      comment by: DGAC France DGAC France would like to thanks EASA for this NPA. As a general comment, DGAC France suggests that the rulemaking group checks throughout the AirOPS if "CAT II or CAT III" references should be replaced or not by "CAT II or CAT III or any operation with a DH lower than 200ft" to include "SA CAT I". This check is necessary to ensure consistency between rules.
response	Accepted  The proposed text has been reviewed and, in some instances where 'CAT II or CAT III' has been used 'approach operations with a DH below 200ft' has been substituted. Changes have been made in AMC3 SPA.LVO.100(b) and GM3 SPA.LVO.100(b).
comment	385      comment by: DGAC France

response	<p>General question : Do LVO operations exclude operations with operational credits (or not) ? This should be clarified in the overall text (for example see comment page 121 AMC1 SPA.LVO.105(c)).</p> <p>Noted</p> <p>The definition of operations with operational credits is independent of the definition of LVOs. Some operations with operational credits are LVOs, some are not (depending on the RVR).</p>
comment	<p>448            comment by: <i>EUROCONTROL</i></p> <p>CAT.IDE.A Flight recorder requirements already contain GLS parameters</p> <p>No change required, but AMC3 CAT.IDE.A.190 does not contain GLS requirements, if fitted lateron - change?</p>
response	<p>Accepted</p> <p>AMC3 CAT.IDE.A.190 is proposed to be amended draft AMC &amp; GM associated with Opinion No 02/2021.</p>
comment	<p>449            comment by: <i>EUROCONTROL</i></p> <p>AMC1.1 CAT.IDE.H.190 Helicopter FDR requirements do not include GLS</p> <p>Is it needed?</p>
response	<p>Noted</p> <p>Due to the limited number of representatives of the helicopters industry, it has been postponed.</p>
comment	<p>459            comment by: <i>EUROCONTROL</i></p> <p>existant NCO review</p> <p>NCO.OP.111 Table 1</p> <p>add GLS in ILS line</p>
response	<p>Partially accepted</p> <p>Opinion No 02/2021 proposes the addition of GLS in table 1. However, the addition was not done as proposed in the comment.</p>
comment	<p>460            comment by: <i>EUROCONTROL</i></p> <p>existant SPO review</p>

response	<p>AMC10 SPO.OP.110 (b)(3) and Table 6</p> <p>add GLS to ILS/MLS (2 Instances)</p> <p>Noted</p> <p>Due to the limited number of representatives of the SPO industry, it has been postponed.</p>
comment	<p>461 comment by: <i>EUROCONTROL</i></p> <p>existant SPO review</p> <p>SPO.OP.111 Table 1</p> <p>add GLS in ILS line</p>
response	<p>Noted</p> <p>Due to the limited number of representatives of the SPO industry, it has been postponed.</p>
comment	<p>462 comment by: <i>EUROCONTROL</i></p> <p>existant SPO review</p> <p>GM1 SPO.OP.200(c)(1)(ii)(A)(a)</p> <p>add GLS with ILS and MLS</p>
response	<p>Noted</p> <p>Due to the limited number of representatives of the SPO industry, it has been postponed.</p>
comment	<p>463 comment by: <i>EUROCONTROL</i></p> <p>existant SPO review</p> <p>GM1 SPO.OP.200(c)(1)(ii)(C)(a) Mode 5</p> <p>delete "ILS"</p>
response	<p>Noted</p> <p>Due to the limited number of representatives of the SPO industry, it has been postponed.</p>

comment	<p>464            comment by: <i>EUROCONTROL</i></p> <p>existant SPO review</p> <p>GM1 SPO.OP.200(c )(3)(i)(B)(b)</p> <p>delete "ILS" and replace "if"</p>
response	<p>Noted</p> <p>Due to the limited number of representatives of the SPO industry, it has been postponed.</p>
comment	<p>490            comment by: <i>Swiss International Air Lines Ltd.</i></p> <p>NPA text</p> <p>Multiple passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).</p> <p>Requested change</p> <p>SWISS requests EASA to use the terms ‘reported RVR’, ‘minimum RVR’ and ‘RVR’ consistently throughout the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).</p> <p>Justification</p> <p>In AMC9 CAT.OP.MPA.110 of this NPA the terms ‘reported RVR’, ‘minimum RVR’ and ‘RVR’ are unambiguously used. However, in multiple other sections of the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM) these terms are used inconsistently (i.e. where the meaning would be ‘reported RVR’ or ‘minimum RVR’ simply ‘RVR’ or even another terminology is used). This inconsistency in the use of these terms leads to ambiguity.</p>
response	<p>Partially accepted</p> <p>EASA performed a revision of those terms to ensure the regulatory provisions are consistent without losing clarity in the rule.</p>
comment	<p>532            comment by: <i>FNAM</i></p> <p>The FNAM (Fédération Nationale de l’Aviation Marchande) is the French Aviation Industry Federation/ Trade Association for Air Transport, gathering the following members:</p> <ul style="list-style-type: none"> <li>• CSTA: French Airlines Professional Union (incl. Air France)</li> <li>• SNEH: French Helicopters Operators Professional Union</li> <li>• CSAE: French Handling Operators Professional Union</li> <li>• GIPAG: French General Aviation Operators Professional Union</li> <li>• GPMA: French Ground Operations Operators Professional Union</li> <li>• EBAA France: French Business Airlines Professional Union</li> </ul> <p>And the following associated members:</p>

- FPDC: French Drone Professional Union
- UAF: French Airports Professional Union

The comments hereafter shall be considered as an identification of some of the major issues the French industry asks EASA to discuss with third-parties before any publication of the proposed regulation. In consequence, the following comments shall not be considered:

- As a recognition of the third-parties consultation process carried out by the European Parliament and of the Council;
- As an acceptance or an acknowledgement of the proposed regulation, as a whole or of any part of it;
- As exhaustive: the fact that some articles (or any part of them) are not commented does not mean the FNAM has (or may have) no comments about them, neither the FNAM accepts or acknowledges them. All the following comments are thus limited to our understanding of the effectively published proposed regulation, notwithstanding their consistency with any other pieces of regulation.

#### #Introduction

FNAM thanks EASA for the will of harmonizing applicable European disposals with ICAO and FAA disposals. The NPA 2018-06 may facilitate exchanges and agreements with third countries while warranting a high level of safety. Proposed disposals aim at integrating new technologies development, such as EFVS, to alleviate European requirements. FNAM welcomes EASA for this initiative which may allow operators to benefit advanced technologies during their operations and enhance pilot's situational awareness which will improve safety. FNAM thanks EASA for having taken into account and integrated the Industry point of view within this proposal. FNAM also welcomes this NPA objective which is to be applicable for voluntary operators only. If properly written, this would not impact all operators and therefore, would not increase work for non-voluntary operators. Global consequences would be to settle an appropriate regulatory framework that considers new technologies and thus improves the level of safety and the level-playing-field throughout Europe. Nevertheless, the general structure of EASA's proposals is complex to understand especially when current requirements are splitted from the four corners of the European regulations. For example, adding an option with operational credits is a good proposal, but the way it is included in the current regulation (in Low Visibility Operations requirements for which they are not limited to) makes it harder to understand.

These NPA objectives and improvements may be achieved only if international standards are correctly transposed and implemented. In this NPA 2018-06, FNAM would like EASA to focus on some key issues which may ensure global objectives of level-playing-field and high level of flight safety:

- Ensure that proposed disposals would effectively remain on a voluntary basis;
- Ensure that current applicable requirements would remain unchanged for the non-voluntary operators;
- Ensure a proportionate approach to adapt requirements to the specifics of large Airlines and SME (one size does not fit all);
- Ensure consultation phase for all stakeholders and for all new and amended IR, AMC and GM, in particular for NCO operators.



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#### #KeyPoints

A) FNAM welcomes the initiative of removing the “add-on” for CDFA operations using MDH as DH. This measure is along the line of regulatory simplification while warranting a high level of safety.

B) On the one hand, FNAM thanks EASA for alleviating CAT III assessment which was an European specificity. This will allow operators not to be limited to CAT II operations for aerodromes where they are aware that similar aircraft are already performing CAT III operations.

On the other hand, some EASA’s proposed requirements are anticipating ICAO standards presupposed evolution (*e.g.*: replacing CATIIIA, CATIIIB and CATIIIC by a single CATIIII). FNAM wonders what will happen for flights operated by EU operators in non-European countries which are applying current ICAO standards. For CATIII operations an authorization CATIIIA, CATIIIB or CATIIIC is required from the State where the operation is performed. If EU operators are approved CATIII and not CATIIIB or C anymore, FNAM wonders what will happen in non-EU countries where old categories (still in force in the ICAO documentation) are applied. FNAM fears that EU operators with an EU CATIII approval would be considered as CATIIIA capable in other than European countries instead of CATIIIB or CATIIIC. This would limit the scope of their operations which is not the objective of the proposed changes described in the NPA.

Generally speaking, if European regulators choose to include some specific ICAO standards in the European regulation, it would be advisable to stick to the wording of ICAO standards in order to avoid discrepancies. Differences of wording between ICAO standards and their EASA’s transpositions may deviate with the main objective of harmonizing European requirements with ICAO and FAA standards. Besides, the different interpretations given in Europe and worldwide regarding the wording chosen to depict these requirements may penalize European operators compared with other operators.

C) Notwithstanding the early transcription of ICAO standards presupposed evolution, EASA proposes disposals that even introduce significant change from its own former operations categorizations. For example, SA CAT I and SA CAT II are new categories of operations and substitute LTS CAT I and OTS CAT II. Since operators already have approvals for current operations, it is necessary that data and demonstrations for these current approvals can be reused for the new SA CAT I and SA CAT II approvals. Otherwise, the compliance effort that is required from operators is disproportionate compared with the benefits that implementing those requirements will bring them. That is why a sound transition period should be established in order to ensure that current approvals remain valid until their deadline. The point of the recognition of these approvals and categorizations which is beyond ICAO standards has to be dealt outside of European airports.

D) FNAM is surprised that EASA is suppressing some alternative means of compliance but encouraging operators to create AltMoc if they want to continue to apply the suppressed mean of compliance. This will create supplemental administrative burden for operators with no added value.



E) Additionally, FNAM would like to be sure that all new requirements on helicopter and NCO operations will be submitted to consultation to all stakeholders. These EASA proposed disposals are phase 1 of AWO new requirements implementation. Phase 1 introduces requirements and guidance for Part-DEF, ARO, ORO, CAT, SPA and NCC. Phase 2 will present modifications for helicopter operations and Part-SPO. NCO requirements will not be submitted to consultation since the EASA's information document proposes that NCO requirements will be directly published in Opinion of phase 1. The legitimacy of such a process needs to be investigated, especially for stakeholders who want to give their opinion on proposed NCO disposals in order to make sure that they will be applicable for each and every stakeholders.

F) Moreover, helicopter requirements are already modified by phase 1 modifications since Part-DEF, applicable for all type of operations, is changed without taking into account helicopter requirements subsidiaries. For instance, definitions are modified for all aircraft, *i.e* for both aeroplanes and helicopters. The RVR threshold for LVO is proposed for all aircraft at 550m in the NPA. Currently there is an exception for helicopter operations for which the threshold is at a level of 500m. Such a small definition change has a huge impact on operational accessibility. According to the 'voluntary basis' objective, this proposed regulation should not modify existing rules for those who are not voluntary to apply the new ones. Else, EASA's proposed disposals cannot be considered as voluntary measures.

This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders.

response

Noted

(A) Noted

(B) It is anticipated that ICAO standards will be amended to remove the classification of CAT IIIA, B; perhaps before the effective date of changes proposed by the NPA. The proposal is that an operator's Operations Specification will include the lowest minima permitted for CAT III operations which will prevent any ambiguity for operations outside Europe.

(C) The proposed criteria for SA CAT I and SA CAT II are not the same as for LTS CAT I and OTS CAT II so a demonstration of compliance with the requirements for LTS CAT I or OTS CAT II would not show compliance with the proposed criteria for SA CAT I or SA CAT II.

(D) There is no proposal to suppress alternative means of compliance (AltMoC). Approval of AltMoC is a matter dealt with by the competent authorities of the Member States.

(E) The NPA proposing amendments to Part-NCO and to helicopters will be published at a later stage.



(F) EASA has reviewed the definition of LVO in order to ensure consistency with the aerodrome domain and aeroplanes.

comment

541 comment by: Austrian Airlines

General comment (Entire Document)

NPA text

Multiple passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).

Requested change

AUSTRIAN AIRLINES requests EASA to use the terms 'reported RVR', 'minimum RVR' and 'RVR' consistently throughout the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).

Justification

In AMC9 CAT.OP.MPA.110 of this NPA the terms 'reported RVR', 'minimum RVR' and 'RVR' are unambiguously used. However, in multiple other sections of the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM) these terms are used inconsistently (i.e. where the meaning would be 'reported RVR' or 'minimum RVR' simply 'RVR' or even another terminology is used). This inconsistency in the use of these terms leads to ambiguity.

response

Partially accepted.

EASA performed a revision of those terms to ensure the regulatory provisions are consistent without losing clarity in the rule.

comment

825 comment by: German Aviation Association (BDL)

Entire Document (General comment)

NPA text

Multiple passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).

Requested change

Use the terms 'reported RVR', 'minimum RVR' and 'RVR' consistently throughout the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).

Justification

In AMC9 CAT.OP.MPA.110 of this NPA the terms 'reported RVR', 'minimum RVR' and 'RVR' are unambiguously used. However, in multiple other passages of the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM) these terms are inconsistently used (i.e. where the meaning would be 'reported RVR' or 'minimum RVR' simply 'RVR' or even another terminology is used). This inconsistency in the use of these terms leads to ambiguity.



response	<p>Noted</p> <p>The terms 'reported RVR' and 'minimum RVR' and 'RVR' have been reviewed for consistency.</p>
comment	<p>850                      comment by: <i>Germanwings</i></p> <p>Entire Document (General comment)</p> <p>NPA text Multiple passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).</p> <p>Requested change Use the terms 'reported RVR', 'minimum RVR' and 'RVR' consistently throughout the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).</p> <p>Justification In AMC9 CAT.OP.MPA.110 of this NPA the terms 'reported RVR', 'minimum RVR' and 'RVR' are unambiguously used. However, in multiple other passages of the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM) these terms are inconsistently used (i.e. where the meaning would be 'reported RVR' or 'minimum RVR' simply 'RVR' or even another terminology is used). This inconsistency in the use of these terms leads to ambiguity.</p>
response	<p>Partially accepted</p> <p>EASA performed a revision of those terms to ensure the regulatory provisions are consistent without losing clarity in the rule.</p>
comment	<p>905                      comment by: <i>Germanwings</i></p> <p>Germanwings and the Eurowings Group fully supports the comments of other German airlines as consolidated via the BDL (Bundesverband der Deutschen Luftverkehrswirtschaft e.V. (BDL) / German Aviation Association)</p>
response	<p>Noted</p>
comment	<p>940                      comment by: <i>Eurowings GmbH</i></p> <p>NPA text Multiple passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).</p> <p>Requested change Use the terms 'reported RVR', 'minimum RVR' and 'RVR' consistently throughout the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).</p>



	<p>Justification</p> <p>In AMC9 CAT.OP.MPA.110 of this NPA the terms ‘reported RVR’, ‘minimum RVR’ and ‘RVR’ are unambiguously used. However, in multiple other passages of the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM) these terms are inconsistently used (i.e. where the meaning would be ‘reported RVR’ or ‘minimum RVR’ simply ‘RVR’ or even another terminology is used). This inconsistency in the use of these terms leads to ambiguity</p>
response	<p>Partially accepted</p> <p>EASA performed a revision of those terms to ensure the regulatory provisions are consistent without losing clarity in the rule.</p>

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comment	<p>897                      comment by: Lufthansa Cargo</p> <p>NPA text</p> <p>Multiple passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).</p> <p>Requested change</p> <p>Lufthansa Cargo requests EASA to use the terms ‘reported RVR’, ‘minimum RVR’ and ‘RVR’ consistently throughout the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM).</p> <p>Justification</p> <p>In AMC9 CAT.OP.MPA.110 of this NPA the terms ‘reported RVR’, ‘minimum RVR’ and ‘RVR’ are unambiguously used. However, in multiple other sections of the Commission Regulation (EU) No 965/2012 and related EASA Decisions (AMC, GM) these terms are used inconsistently (i.e. where the meaning would be ‘reported RVR’ or ‘minimum RVR’ simply ‘RVR’ or even another terminology is used). This inconsistency in the use of these terms leads to ambiguity.</p>
response	<p>Partially accepted</p> <p>EASA performed a revision of those terms to ensure the regulatory provisions are consistent without losing clarity in the rule.</p>

1. About this NPA

p. 3-4

comment	<p>534                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>This introduction refers to the repealed Basic Regulation (EU) N°216/2008. Thus, FNAM suggests to replace this reference with the one of New Basic Regulation N°2018/1139.</p>
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response	Accepted
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2. Proposed amendments and rationale in detail	p. 5
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comment	<p>538 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL                  According to this proposal, only AMC and GM can be commented and amended. This chapter informs stakeholders that a consultation was already performed for European Implementing Rules (IR) regarding All-Weather Operations (AWO). Nevertheless, NPA 2018-06 (C) presents some modifications of the IR. Thus, the previous consultation should not be considered as valid anymore. New IR proposals should be commented and consulted by all affected stakeholders.                  Moreover, comments on AMC and GM are often linked to IR’s comments. Thus, comments should be considered as a whole and not only AMC and GM individually. That is why, FNAM has chosen to comment IR, AMC and GM of the whole proposal.</p>
response	<p>Noted</p> <p>Although there was a previous consultation on the IR, all comments relating to the IR and submitted through this NPA consultation have been considered.</p>

2.1.1. Annex I ‘Definitions for terms used in Annexes II to VIII’ and related AMC	p. 5-7
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comment	<p>57 comment by: British Airways Flight Operations</p> <p>British Airways very much supports the work done here. Although a disinterested party, we strongly support alignment with the FAA by the introduction of the term EFVS, and also support the operational concept EFVS 200</p>
response	Noted

comment	<p>216 comment by: <i>EUROCONTROL</i></p> <p>p.5 - 2.1.1                  If the definition of a term or another provision differs between EU rule and ICAO Annex, how are states supposed to react - do they have to file a difference to ICAO and comply with EU or vice versa? In this case it is likely that in the long term the ICAO definition will need to be adapted.                   Indicate how short and long term differences of terms with ICAO will be handled and how states should react with respect to filing differences. Any differences should be clearly marked in the text until resolved.</p>
response	<p>Noted</p> <p>Filing of differences from ICAO Standards is the responsibility of Member States. EASA assists States by maintaining a list of differences between ICAO Standards and</p>



European regulations but such differences are not annotated in the text of regulatory material.

comment

217 comment by: *EUROCONTROL*

p. 6 ff - 2.1.1 ff  
"EFVS 200 operations" definition.

The term is a misnomer based on commercial interest, as it not always allows descent to 200ft DH, depending on the published minima (GM1 CAT.OP.MPA.312 (a)). It would be much better to rename to "EFVS 550" (making reference to the 550m best RVR credit) or similar.

response

Not accepted

The term 'EFVS200' does not refer to a decision height and was not based on any commercial interest. The term was selected by experts in the rulemaking group. The '200' refers to the minimum height above the threshold by which the pilot must have natural visual reference to the runway during this type of operation, which is not the decision height.

comment

219 comment by: *EUROCONTROL*

p. 6 - 2.1.1  
LVO definition.

The AWO Manual also contains reference to DH<200ft in the definition. Is EASA proposing to remove this limitation also in ICAO material or should it be introduced here to harmonize with ICAO?

response

Accepted

comment

220 comment by: *EUROCONTROL*

p. 7 - 2.1.1  
"Operation with operational credits" definition.

"In that vein, SA CAT I allows a DH as low as 150 ft and an RVR as low as 400 m, but it is still a CAT I operation, albeit some additional requirements will apply".  
The explanation is not clear: while SA-CAT I will be a CAT I operation from the airplane perspective, it is a LVO and thus subject to special approval (which a CAT I operation is not).  
Propose to delete ",but it is...will apply".

response

Partially accepted

New definition has been proposed.



comment	<p>221 comment by: <i>EUROCONTROL</i></p> <p>p. 7 - 2.1.1 Definition of "Type B Instrument Approach operations".</p> <p>Please add: ICAO also has introduced the process of removal of the subcategories, so it will not be necessary to file differences.</p>
response	Noted
comment	<p>222 comment by: <i>EUROCONTROL</i></p> <p>p. 7 - 2.1.1 Definition of "visibility".</p> <p>Please add: The visibility definition is identical to the one in ICAO Annex 2, to which Annex 6 refers. (and Annex 3 as explained below).</p>
response	<p>Accepted</p> <p>The explanatory note has been amended as proposed.</p>
comment	<p>223 comment by: <i>EUROCONTROL</i></p> <p>p. 7-8 - 2.1.1 Definition of "LVTO".</p> <p>It may be beneficial to explain the limits of LVTO I and LVTO 2 here (400m-&gt;550mRVR) and the effect of this difference from ICAO (as contained in AWO Manual and EUR DOC 013).</p>
response	<p>Not accepted</p> <p>Although LVTO I and LVTO II were used by the RMG during the development of the proposed regulation, these terms are not used in the NPA.</p>
comment	<p>339 comment by: J.Woehrlin/DLH</p> <p>definition final approach segment (FAS) needs to be clarified. There need to be description about lateral and longitudinal boundaries.</p>
response	Not accepted
comment	<p>539 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL Annex I refers to the repealed Basic Regulation (EU) N°216/2008. Thus, FNAM suggests to replace this reference with the one of New Basic Regulation N°2018/1139.</p>



response	<p>Partially accepted</p> <p>There are no references to the Basic Regulation in the proposed changes to Annex I. Updating the remainder of the Regulation to take account of the changes to the Basic Regulation is a task for EASA but is not within the scope of RMT.0379.</p>
comment	<p>851                      comment by: <i>Germanwings</i></p> <p>Annex I: Definitions used in Annex I - III</p> <p>NPA text ‘final approach segment (FAS)’ means that segment of an instrument approach procedure (IAP) in which alignment and descent for landing are accomplished;</p> <p>Requested change A clear differentiation between approach procedure and approach operation must also be applied to the definition of the ‘final approach segment (FAS)’. Please clarify the exact beginning and end of the ‘final approach segment’.</p> <p>Justification The definition of a ‘segment’ as part of an ‘instrument approach procedure’ cannot consist of the description of an ‘approach operation’.</p>
response	Not accepted
comment	<p>852                      comment by: <i>Germanwings</i></p> <p>Annex I: Definitions used in Annex I - III</p> <p>NPA text ‘instrument approach procedure (IAP)’ means a series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix or, where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply.</p> <p>Requested change ./.</p> <p>Justification BDL supports integration of a definition. BDL also supports the opinions of the RMT experts that the definition should be revised to make it more user friendly.</p>
response	Noted
comment	<p>941                      comment by: <i>Eurowings GmbH</i></p> <p>Annex I: Definitions used in Annex I -III</p>



	<p>NPA text ‘final approach segment (FAS)’ means that segment of an instrument approach procedure (IAP) in which alignment and descent for landing are accomplished;</p> <p>Requested change A clear differentiation between approach procedure and approach operation must also be applied to the definition of the ‘final approach segment (FAS)’. Please clarify the exact beginning and end of the ‘final approach segment’.</p> <p>Justification The definition of a ‘segment’ as part of an ‘instrument approach procedure’ cannot consist of the description of an ‘approach operation’.</p>
response	Not accepted

comment	<p>942                      comment by: Eurowings GmbH</p> <p>Annex I: Definitions used in Annex I -III</p> <p>NPA text ‘instrument approach procedure (IAP)’ means a series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix or, where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply.</p> <p>Requested change . / .</p> <p>Justification EUROWINGS GMBH supports integration of a definition. EUROWINGS GMBH also supports the opinions of the RMT experts that the definition should be revised to make it more user friendly.</p>
response	Noted

comment	<p>944                      comment by: Jan Sondij</p> <p>The inclusion of a definition for ‘visibility’ is proposed. There are different (meteorological) definitions for visibility, including RVR. The definition itself seems not be included in the rule, but in the Air Ops rules. 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.</p>
response	<p>Not accepted</p> <p>A definition of visibility is provided in Annex I.</p>



## Terms amended in Annex I

p. 7-8

comment

540

comment by: *FNAM*

## ISSUE AND PROPOSAL

According to the 'voluntary basis' objective, this proposed regulation should not modify the existing rules for those who are not voluntary to apply the new ones. Else, EASA's proposed disposals cannot be considered as voluntary measures. FNAM suggests not to modify the current definitions in Annex I because they are applicable for all operators. Implementation of Annex I changes would not be on a voluntary basis.

response

Not accepted

Definitions are included in Annex I if they are required to support other parts of the regulation. Some changes are therefore required to support amendments to the regulation (for example, introduction of EFVS 200 operations).

## Terms deleted from Annex I

p. 8

comment

13

comment by: *DFS Deutsche Flugsicherung GmbH*

We understood that the terminology "LTS", "OTS" and "CAT III ABC" have been deleted resp. adapted in accordance with the new ICAO classification. However e.g. according to section 2.1.2 on page 10 these are still applied - for EASA form 139. Is this by intent?

response

Accepted

The old terms have been deleted from EASA form 139.

## Terms transferred to GM level

p. 8

comment

225

comment by: *EUROCONTROL*

p.8 - 2.1.1

Terms transferred to GM.

This section indicates that OTS CAT II definition has been moved to GM, but section 3 contains no new location - has it been deleted?

response

Noted

This was an error in the Explanatory Note. 'OTS CAT II' has been replaced by SA CAT II and the definition of OTS CAT II has been deleted.



comment

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

**Proposal:** ‘EFVS-Approach (EFVS-A)’ is a system that has been demonstrated to meet the criteria to be used for approach operations from a DA/H or an MDA/H to 30 m (100 ft) **above touchdown zone threshold or aerodrome** elevation as applicable, ~~(TDZE)~~ whilst all system components are functioning as intended, but may have failure modes that could result in the loss of EFVS capability. It should be assumed.....

**Rationale:** We don’t use TDZE in Europe (or ICAO) in OPS rules. Furthermore we don’t use meters in the OPS rules (only feet). MDA/H has been inserted to reflect that EFVS may be used in operations with an MDA/H. The aerodrome elevation has been inserted since MDH may be referenced to aerodrome elevation, and the 100 ft should be related to the same reference for pilot work load reasons

**Proposal:** ‘EFVS-Landing (EFVS-L)’ is an EFVS **system** that has been demonstrated to meet the criteria to be used for approach and landing operations that rely on sufficient **visual references** ~~visibility conditions~~ to enable unaided roll-out and to mitigate for loss of EFVS function.

**Rationale:** EFVS (A) is defined as a system and EFVS (L) should be the same.

response

Not accepted

EASA has amended the definition to be clearer; not though in the terms requested in the comment.

comment

542 comment by: *FNAM*

ISSUE AND PROPOSAL – (a)

The proposed guidance introduces a definition for EFVS-Approach. One of the implementation condition for EFVS-A is that ‘the pilot will conduct a go-around above 30m (100ft) TDZE, in the event of an EFVS failure’. In accordance with our present understanding, FNAM wonders if the landing will be forbidden even if the operation category for which the operator has an approval allows it without EFVS. FNAM suggests EASA to clarify this definition in order to allow the landing if the operation category for which the operator has an approval allows this landing without EFVS.

response

Not accepted

EASA has amended the definition to be clearer; not though in the terms requested in the comment.



## GM18 to Annex I: Instrument approach operations

p. 9-10

comment	543 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL The fourth edition of ICAO Doc 9365 Manual of All-Weather Operation was edited in 2017 and not in July 2016. Thus, FNAM suggests to change the date of edition of this manual in the proposed GM18.
response	Accepted  The reference to ICAO Doc 9365 Manual of All Weather Operations , Fourth Edition has been corrected in GM 18 and the Explanatory Note.

## GM19 to Annex I: Decision altitude or decision height

p. 10

comment	226 comment by: <i>EUROCONTROL</i>  p.10 - 2.1.1 Additional considerations for the section.  It is not clear how Appendix J from the AWO Manual (Page 51 in this document) is integrated/referenced in the EASA AWO Material. Please clarify and define relevant terms (ADOP, FLTOPSP, VCM, IFPP, NSP, PBNSG, LDA).
response	Accepted  Table 'Appendix J' has been deleted.
comment	546 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL SA CAT I and SA CAT II acronyms are not defined. FNAM suggests to add the acronym SA in GM2 of Annex I to ease the reading.
response	Accepted.  Introduced in GM2 to Annex I Definitions.

## GM20 to Annex I: Minimum descent altitude (MDA) or minimum descent height (MDH)

p. 10

comment	547 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL Some EASA's proposed requirements are anticipating ICAO standards presupposed evolution ( <i>e.g.</i> : suppressing CATIIIA, CATIIIB and CATIIIC and replacing them with a single CATIIII). Plus, FNAM wonders what will happen with flights operated by EU operators in non-European countries which are applying current ICAO standards. For CATIIII
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	<p>operations, an authorization CATIIIA, CATIIIB or CATIIIC is required from the Member State where the operation is performed. If EU operators are approved CATIII and not CATIIIB or C anymore, FNAM wonders what will happen in non-EU countries where old categories (still in force in the ICAO documentation) are applied. FNAM fears that EU operators with an EU CATIII approval would be considered as CATIIIA capable in other than European countries instead of CATIIIB or CATIIIC. This would limit the scope of their operations which is not the objective of the proposed changes described in the NPA.</p> <p>Thus, FNAM proposes to keep the three CATIII subcategories in order to ensure harmonization with ICAO standards and to facilitate understanding of the European regulations.</p>
response	<p>Partially accepted</p> <p>It is anticipated that ICAO standards will be amended to remove the classification of CAT IIIA, B; perhaps before the effective date of changes proposed by the NPA. The proposal is that an operator's Operations Specification will include the lowest minima permitted for CAT III operations which will prevent any ambiguity for operations outside Europe.</p>

2.1.2. Annex II 'Authority requirements for air operations' (Part-ARO) and related AMC	p. 10
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comment	<p>227                      comment by: <i>EUROCONTROL</i></p> <p>p.10 - 2.1.2 Ref (13) in the table.</p> <p>LTS CAT I and OTC CAT II have been removed/renamed in other parts of the NPA - why are they retained here?</p>
response	Accepted

2.1.3. Annex III 'Organisation requirements for air operations' (Part-ORO) and related AMC	p. 10
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comment	<p>548                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>The proposed disposal introduces a new requirement which should be approved by the competent authority: the method used by the operator to establish aerodrome operating minima. This demonstration is currently not oversight and no approval is required. Although the calculation of operating minima is already a fundamental task for operators, the need for approval will require additional resources in terms of time, personnel, etc. in order to complete the demonstration file for competent authorities.</p> <p>Plus, since proposed disposal is introduced in Part-ORO subpart-GEN, it will impact all operators. However, according to the 'voluntary basis' objective, this proposed regulation should not modify the existing rules for those who are not voluntary to</p>
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	<p>apply the new ones. Else, EASA's proposed disposals cannot be considered as voluntary measures. Therefore, FNAM suggests to remove this requirement.</p>
response	<p>Not accepted</p> <p>The method used by the operator to establish aerodrome operating minima and any change to that method shall be approved by the competent authority for CAT operations.</p>

AMC and GM to ORO.GEN

p. 10-11

comment	<p>549 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>The proposed disposal introduces a new requirement which should be approved by the competent authority: the method used by the operator to establish aerodrome operating minima. This demonstration is currently not oversight and no approval is required. Although the calculation of operating minima is already a fundamental task for operating, the need of approval will require additional resources in time, personnel, etc. to complete the demonstration file for competent authorities. Plus, since proposed disposal is introduced in Part-ORO subpart-GEN, it would impact all operators. According to the 'voluntary basis' objective, this proposed regulation should not modify the existing rules for those who are not voluntary to apply the new ones. Else, EASA's proposed disposals cannot be considered as voluntary measures. Therefore, FNAM suggests to remove this requirement.</p>
response	<p>Not accepted</p> <p>The method used by the operator to establish aerodrome operating minima and any change to that method shall be approved by the competent authority for CAT operations.</p>

2.1.4. Annex IV 'Commercial air transport operations' (Part-CAT) and related AMC

p. 11

comment	<p>73 comment by: <i>ERAA</i></p> <p>AMC4 CAT.OP.MPA.110:</p> <p>What is the definition of straight-in (identical to PANS-OPS?)</p> <p>Is the cut-off of 1500 m for Cat A and B always used irrespective of magnitude of MDH/DH in Table 6.A?</p> <p>We would propose to retain the current regulation AMC5 CAT.OP.MPA.110 (a) (6) to consider BALS if cross-bar is available</p>
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response	<p>Noted</p> <p>A 'straight-in' approach is one that does not require circling (see definition of 'circling approach operation').</p> <p>The cut-off of 1 500 m is proposed irrespective of the MDA /H or DA/H. Bearing in mind the definition of RVR, the experts took the view that an 'RVR' requirement was not meaningful where the value was likely to be longer than a typical runway and that no additional safety benefit was achieved by requiring higher values of converted meteorological visibility in order to continue an approach.</p> <p>The provision in the current AMC5 CAT.OP.MPA.110(a)(6) to consider BALS if crossbar is available requires the approval of the competent authority. The mechanism for the competent authority to issue such an approval is that the operator applies for an Alternative Means of Compliance in accordance with ORO.GEN.120. The fact that the proposed AMC does not mention the use of RVR values appropriate to BALS where there are approach lights of restricted length does not prevent an operator from applying for an approval.</p>
comment	<p>228                      comment by: <i>EUROCONTROL</i></p> <p>p.11 - 2.1.4 Phase 2 reference.</p> <p>Phase 2 is not defined anywhere in the present NPA. Will it be accompanied by a new NPA and is it possible to comment in the Phase I material again at this stage in the project?</p>
response	<p>Noted</p> <p>Phase 2 will be a later stage of the rulemaking task dealing with additional issues including helicopter operations. It is not anticipated that further comments will be requested on material for which consultation will already have taken place.</p>
comment	<p>443                      comment by: <i>EUROCONTROL</i></p> <p>AMC3 SPA.LVO.110 Formulation requires ILS: form requires ILS; replace by: "...operations, a radionavigation system performing to ..."; "...the worst-case performance..."; "...in terms of lateral path deviation..."; "...based on the facility performance..."; "... if the facility classification and performance..."</p>
response	<p>Not accepted</p> <p>AMC3 SPA.LVO contains specifications that are specific to ILS and not applicable to other radio navigation systems.</p>

comment	550 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL FNAM agrees that helicopter operations are too specific to be studied with aeroplanes operations. Nevertheless, since there are operators using both helicopter and aeroplane, FNAM would like to remind the need to establish potential bridges between the future helicopter all-weather operations regulation and these proposed disposals. Otherwise, this would alleviate administrative burden for numerous operators.
response	Noted

## CAT.OP.MPA.110 'Aerodrome operating minima'

p. 11-12

comment	58 comment by: British Airways Flight Operations  CAT OP MPA 110 – there is a typographical error in the fourth line, which currently reads ‘...flight segment of instrument operation operations’. It should read ‘...flight segment of instrument <i>approach</i> operations.’
response	Accepted  CAT.OP.MPA.110 has been corrected as proposed.

comment	551 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL Additional items have been added in the method used to establish aerodrome operating minima. In particular, new item (14) requires ‘the relevant operational experience of the operator’. This proposed disposal is currently requires in AirOps Regulation but only for SPA operations. FNAM wonders what is the justification of this change which will impact all CAT operators, even non-voluntary ones. Additionally, the proposed item (11) is completed by requiring the ‘available air navigation services (ANS)’ of the aerodrome. Since the current item (11) is already requiring to provide ‘the aerodrome characteristics’, available air navigation services would <i>de facto</i> be provided by operators. To avoid any additional and unnecessary complexity to current requirements, FNAM suggests to remove the additional requirement in item (11), <i>ie</i> ‘available air navigation services (ANS)’ of the aerodrome. The proposed disposal introduces also a new requirement (d) which should be approved by the competent authority: the method used by the operator to establish aerodrome operating minima. This demonstration is currently not oversight and no approval is required. Although the calculation of operating minima is already a fundamental task for operating, the need of approval will require additional resources in time, personnel, etc. to complete the demonstration file for competent authorities. FNAM proposes that competent authorities approve the method and some requirements thanks to current approved demonstrations and quality system of operators.
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response	<p>Finally, since these proposed disposals are introduced in Part-CAT subpart-MPA, it will impact all CAT operators. However, according to the ‘voluntary basis’ objective, this proposed regulation should not modify the existing rules for those who are not voluntary to apply the new ones. Else, EASA’s proposed disposals cannot be considered as voluntary measures.</p> <p>Partially accepted</p> <p>Items (b)(8) and (b)(14) have been deleted.</p> <p>The requirement for approval of the method of determination has been incorporated to align with ICAO Annex 6, but this does not create any additional burden for operators. There is no additional requirement for a demonstration file.</p>
comment	<p>783      comment by: German Aviation Association (BDL)</p> <p>CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (b) The method used to establish aerodrome operating minima shall take the following elements into account: (8) any non-standard characteristics of the aerodrome, the IAP or the environment;</p> <p>Requested change BDL requests to delete (8).</p> <p>Justification The aerodrome characteristics (11); the IAP (10) and the environment (4, 5, 6, 7) are already taken into account when establishing aerodrome operating minima. This includes all standard and non-standard characteristics of the aerodrome, the IAP and the environment. A specific listing of (8) is superfluous.</p>
response	<p>Accepted</p> <p>Item (b)(8) has been deleted.</p>
comment	<p>784      comment by: German Aviation Association (BDL)</p> <p>CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (a) The operator shall establish aerodrome operating minima for each departure, destination or alternate aerodrome planned to be used in order to ensure separation of the aircraft from terrain and obstacles and to mitigate the risk of loss of visual references during the visual flight segment of instrument operations.</p> <p>Requested change Remove safety objective from IR.</p> <p>Justification</p>

response	<p>BDL supports safety objectives. But safety objectives shall be placed in GM not in IR.</p> <p>Not accepted</p> <p>In accordance with the principles of performance-based regulation, the EASA policy is to include the safety objective in the IR. The means to achieve the objective is in AMC. Where an operator applies an AltMoC, then the safety objective of the IR must be met.</p>
comment	<p>785      comment by: German Aviation Association (BDL)</p> <p>CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p> <p>(a) The method used to establish aerodrome operating minima shall take the following elements into account:</p> <p>(11) the aerodrome characteristics and the available air navigation services (ANS);</p> <p>Requested change</p> <p>BDL requests EASA to provide Guidance Material to (11) to provide either an exact definition of which aerodrome characteristics should be taken into and in what way such characteristics should be taken into account when specifying the aerodrome operating minima.</p> <p>Justification</p> <p>The aerodrome characteristics (11); the IAP (10) and the environment (4, 5, 6, 7) are already taken into account when establishing aerodrome operating minima. This includes all standard and non-standard characteristics of the aerodrome, the IAP and the environment. A specific listing of (8) is superfluous.</p>
response	<p>Accepted</p> <p>Item (b)(8) has been deleted.</p>
comment	<p>846      comment by: Eurowings GmbH</p> <p>NPA text</p> <p>(b) The method used to establish aerodrome operating minima shall take the following elements into account:</p> <p>(8) any non-standard characteristics of the aerodrome, the IAP or the environment;</p> <p>Requested change</p> <p>EUROWINGS GMBH requests to delete (8).</p> <p>Justification</p> <p>The aerodrome characteristics (11); the IAP (10) and the environment (4, 5, 6, 7) are already taken into account when establishing aerodrome operating minima.</p>

response	<p>This includes all standard and non-standard characteristics of the aerodrome, the IAP and the environment. A specific listing of (8) is superfluous.</p> <p>Accepted</p> <p>Item (b)(8) has been deleted.</p>
comment	<p>847                      comment by: Eurowings GmbH</p> <p>NPA text (a) The operator shall establish aerodrome operating minima for each departure, destination or alternate aerodrome planned to be used in order to ensure separation of the aircraft from terrain and obstacles and to mitigate the risk of loss of visual references during the visual flight segment of instrument operations.</p> <p>Requested change Remove safety objective from IR.</p> <p>Justification EUROWINGS GMBH supports safety objectives. But safety objectives shall be placed in GM not in IR.</p>
response	<p>Not accepted.</p> <p>In accordance with the principles of performance-based regulation, the EASA policy is to include the safety objective in the IR. The means to achieve the objective is in AMC. Where an operator applies an AltMoC, then the safety objective of the IR must be met.</p>
comment	<p>899                      comment by: Eurowings GmbH</p> <p>NPA text The method used to establish aerodrome operating minima shall take the following elements into account: the aerodrome characteristics and the available air navigation services (ANS);</p> <p>Requested change EUROWINGS GMBH requests EASA to provide Guidance Material to (11) to provide either an exact definition of which aerodrome characteristics should be taken into account and in what way such characteristics should be taken into account when specifying the aerodrome operating minima.</p> <p>Justification The aerodrome characteristics (11); the IAP (10) and the environment (4, 5, 6, 7) are already taken into account when establishing aerodrome operating minima. This includes all standard and non-standard characteristics of the aerodrome, the IAP and the environment. A specific listing of (8) is superfluous.</p>
response	<p>Accepted</p>

Item (b)(8) has been deleted.

AMC and GM to CAT.OP.MPA.110 'Aerodrome operating minima'

p. 12-15

comment	<p>8 comment by: Civil Aviation Authority Czech Republic</p> <p>page 13, line 21, and page 68,last line: Par (f)(2) for Category C and D aeroplanes, 2 400 m.</p> <p>The value of RVR 2400 m is normally not supported by meteorological measurements (ref. ICAO Annex 3, Appendix 3, Par. 4.3.6.2)</p>
response	<p>Partially accepted.</p> <p>For non-related to this comment reasons, the mentioned paragraph is deleted.</p> <p>The review group checked ICAO Doc 9365 'AWO manual'.</p>
comment	<p>229 comment by: EUROCONTROL</p> <p>p.14 - 2.1.4 AMC9 CAT.OP.MPA.110</p> <p>There is a side effect in the change as that the limit for conversion is moved from 800m to 550 m. This creates a difference to ICAO and should be explained if intended.</p>
response	<p>Noted.</p> <p>The review group checked the latest version of ICAO Doc 9365 'AWO manual'.</p>
comment	<p>230 comment by: EUROCONTROL</p> <p>p.14 - 2.1.4 AMC10 CAT.OP.MPA.110.</p> <p>Some additions for nav aids other than ILS (necessary due to the change to Type B operations) in table 12.</p>
response	<p>Noted.</p> <p>The review group checked the latest version of ICAO Doc 9365 'AWO manual'.</p>
comment	<p>552 comment by: F NAM</p> <p>ISSUE AND PROPOSAL</p> <p>EASA proposes new AMC and GM to guide operators in their calculation of operating minima. EASA explains that some existing requirements are not transposed in these proposed disposals but that they could be implemented</p>



	<p>through AltMoc. FNAM wonders why these kinds of requirements are not transposed since EASA already informally agrees to authorize them <i>via</i> AltMoc. If such a disposal is not transposed, FNAM fears that operators would have to ask for an AltMoc to their Member States. This may have administrative and economic impacts on operators although this disposal is already tacitly or previously accepted by the European Regulation.</p> <p>If the previous disposal cannot be transposed because it is not the same philosophy than the new proposed disposal, FNAM proposes to create 2 different options in 2 separated AMC or GM to apply one IR requirement. In that way, both solutions could be applied without asking for an AltMoc and add administrative burden. Plus, since one of the main objective of this NPA is to introduce new possibilities on a voluntary basis without impacting all operators, the current requirement (IR, AMC and GM) should remain unchanged.</p>
response	<p>Noted</p> <p>There are two such items that have not been transposed into the proposed regulations:</p> <p>The first relates to the RVR required for operations with truncated approach lighting systems. The provision in the current AMC5 CAT.OP.MPA.110(a)(6) to consider BALS if crossbar is available requires the approval of the competent authority. The mechanism for the competent authority to issue such an approval is that the operator applies for an Alternative Means of Compliance in accordance with ORO.GEN.120. The fact that the proposed AMC does not mention the use of RVR values appropriate to BALS where there are approach lights of restricted length does not prevent an operator from applying for an approval, neither does it create an additional administrative burden as an approval was already required.</p> <p>The second relates to the use of 150 m RVR for CAT IIIA operations by aircraft certified as 'super fail-passive'. The 'normal' RVR for CAT IIIA operations has been reduced from 200 m to 175 m so the advantage of being able to use 150 m is limited. It is understood that this provision was applicable to a single aircraft type, that this aircraft type is no longer in production and that there is a small and reducing number of operators using this type for CAT III operations. EASA received no comments from operators of these aircraft. If an operator wishes to use a minimum of 150 m, then that operator would apply for an AltMoC on the basis of the established safety record. The view of the rulemaking group was that removing this specific item from the AMC allowed for a simplification of requirements to the benefit of the large majority of stakeholders.</p>
comment	<p>553                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>The demonstration of aerodrome operating minima calculation is currently not oversight and no approval is required. Although the calculation of operating minima is already a fundamental task for operators, the need for approval will require additional resources in terms of time, personnel, etc. to complete the demonstration file for competent authorities.</p>

response	<p>Plus, since the proposed disposal is introduced in Part-CAT, it will impact all CAT operators. However, according to the 'voluntary basis' objective, this proposed regulation should not modify the existing rules for those who are not voluntary to apply the new ones. Else, EASA's proposed disposals cannot be considered as voluntary measures.</p> <p>Therefore, FNAM suggests to remove this requirement.</p> <p>Not Accepted</p> <p>The requirement for approval of the method of determination of aerodrome operating minima has been incorporated to align with ICAO Annex 6. This does not impose any additional burden on operators; there is no requirement for a 'demonstration file'.</p>
comment	<p>786 comment by: German Aviation Association (BDL)</p> <p>AMC1 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text Take-off minima should be expressed as visibility (VIS) or runway visual range (RVR) limits, taking into account all relevant factors for each <del>aerodrome</del>-runway planned to be used and aircraft characteristics and equipment. Where there is a specific need to see and avoid obstacles on departure and/or for a forced landing, additional conditions, e.g. <del>ceiling</del>-cloud conditions, should be specified.</p> <p>Requested change Delete or define example 'cloud conditions'.</p> <p>Justification Not clear.</p>
response	<p>Accepted.</p> <p>The term 'cloud conditions' in AMC1 CAT.OP.MPA.110 point (a)(1) and AMC3 NCC.OP.110 point (a)(1) will revert to 'ceiling' and the ICAO definition of 'ceiling' (ICAO Doc 9365) will be included in Annex 1 – Definitions.</p>
comment	<p>787 comment by: German Aviation Association (BDL)</p> <p>AMC1 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (2) For night operations, <del>ground</del>-the prescribed runway lights should be <del>available to illuminate</del> available to illuminate in operation to mark the runway and any obstacles.</p> <p>Requested change Replace 'any obstacles' with 'any obstacles lighted'.</p> <p>Justification Runway lights do not illuminate obstacles.</p>

response	<p>Partially Accepted</p> <p>Reference to lighting obstacles has been deleted.</p>
comment	<p>788      comment by: German Aviation Association (BDL)</p> <p>AMC1 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p> <p>(4) When the reported meteorological visibility (VIS) is below that required for take-off and the RVR is not reported, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum.</p> <p>(5) When no reported meteorological visibility VIS or RVR is available, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum.</p> <p>Requested change</p> <p>Move (a)(4) and (a)(5) to (c), delete previous (c)(4).</p> <p>Justification</p> <p>Content seems to be doubled.</p>
response	<p>Partially Accepted</p> <p>(a)(4), (a)(5) and (c)(4) have been moved to AMC1 CAT.OP.MPA.265 because these are all provisions for the commander executing the take-off, not the operator calculating aerodrome operating minima.</p>
comment	<p>789      comment by: German Aviation Association (BDL)</p> <p>AMC1 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p> <p>(a) General</p> <p>(2) The commander should not commence take-off when the RVR is less than 550 m unless low-visibility procedures (LVPs) are established.</p> <p>Requested change</p> <p>Replace 'established' with 'in effect'.</p> <p>Justification</p> <p>In the explanation to the NPA (Chapter 2 – Proposed amendments and rationale in detail) the following is stated: 'A requirement is added that the commander should not commence take-off in an RVR of less than 550 m unless LVPs are in effect.'</p>
response	<p>Accepted</p> <p>This provision has been moved to AMC1 CAT.OP.MPA.265 and the wording has been amended as proposed.</p>

comment

790 comment by: German Aviation Association (BDL)

AMC3 CAT.OP.MPA.110 Aerodrome operating minima

NPA text

Table 4.A: Runway type minima

Requested change

Include criteria type for definition of 'runway type'.

Justification

The definition of 'runway type' is not clear. Could not find corresponding definition.

response

Not accepted.

comment

791 comment by: German Aviation Association (BDL)

AMC4 CAT.OP.MPA.110 Aerodrome operating minima

NPA text

Table 7.A: The visual and non-visual aids and/or on-board equipment vs minimum RVR — multi-pilot operations vs minimum RVR — multi-pilot operations

Requested change

Revise title. Delete 'multi-pilot operations'. Ensure same nomenclature in title and in table (e.g. 'minimum RVR' vs. 'lowest RVR'; facilities vs. 'visual and non-visual aids and/or on-board equipment').

Check impact on wording of (a)(3).

Justification

Not clear.

response

Accepted

The title of table 7.A has been amended as proposed.

comment

792 comment by: German Aviation Association (BDL)

AMC4 CAT.OP.MPA.110 Aerodrome operating minima

NPA text

(d) The visual aids should comprise standard runway day markings, runway edge lights, threshold lights, runway end lights and approach lights as defined in Table 8.A.

(e) For night operations or for any operation where credit for visual aids is required, the lights should be on and serviceable except as provided for in Table 12.

(g) The visual aids should comprise standard runway day markings, runway edge lights, threshold lights and runway end lights and approach lights as defined in Table 8.A.



response	<p>(h) For night operations or for any operation where credit for visual aids is required, the lights should be on and serviceable except as provided for in Table 12.</p> <p><u>Requested change</u> Delete (g) and (h).</p> <p>Justification (g) and (h) are duplicates of (d) and (e).</p> <p>Accepted</p> <p>Points (g) and (h) have been deleted as proposed. Point (i) has been renumbered.</p>
comment	<p>793      comment by: German Aviation Association (BDL)</p> <p>AMC4 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text Table 7.A: The visual and non-visual aids and/or on-board equipment vs minimum RVR — multi-pilot operations Table 8.A: Approach lighting systems</p> <p>Requested change As GM 1 CAT.OP.MPA.110(b)(5) defines as follows “includes but is not limited to lights” the relation between table 7 and table 8 need to be defined.</p> <p>Justification Title not consistent with table content.</p>
response	<p>Not accepted</p> <p>Table 7.A lists lowest RVR according to the visual and non-visual aids and on-board equipment, whereas Table 8.A describes different types of approach lighting systems.</p>
comment	<p>794      comment by: German Aviation Association (BDL)</p> <p>AMC6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (b) Conduct of flight – general (4) operators should provide tabular guidance of the relationship between height above threshold and the in-flight visibility required to obtain an sustain visual contact during the circling manoeuvre.</p> <p>Requested change Change of the term ‘in-flight visibility’.</p> <p>Justification The purpose of a table containing the relationship between height above threshold and the in-flight visibility is unclear. The in-flight visibility cannot be measured.</p>

response	<p>Not accepted</p> <p>There is no proposal to change this requirement which is in the existing regulation. No evidence has been presented of a safety or operational benefit from changing the requirement.</p>
comment	<p>795      comment by: German Aviation Association (BDL)</p> <p>AMC6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (c)(2)(iii) is able to determine the aeroplane's position in relation to the runway of intended landing with the aid of the appropriate external visual references.</p> <p>Requested change "appropriate visual reference" need to be defines.</p> <p>Justification Unclear.</p>
response	<p>Not scepted</p> <p>The appropriate visual references are those that will enable the pilot to determine the aeroplane's position in relation to the runway of intended landing.</p>
comment	<p>796      comment by: German Aviation Association (BDL)</p> <p>AMC6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (c) 3) When reaching the published instrument MAPt and the conditions stipulated in (c)(2) are unable to be established by the pilot, a missed approach should be carried out in accordance with that instrument approach procedure IAP.</p> <p>Requested change "conditions stipulated in (c)(2) cannot be complied with..."</p> <p>Justification Conditions cannot be established by the pilot, the pilot need to comply with.</p>
response	<p>Accepted</p> <p>(c)(3) has been amended as proposed but using the active voice ('if the pilot cannot...').</p>
comment	<p>797      comment by: German Aviation Association (BDL)</p> <p>AMC9 CAT.OP.MPA.110 Aerodrome operating minima</p>

response	<p>NPA text (a) If the reported RVR is not available, a converted meteorological visibility (CMV) may be substituted for the RVR, except:</p> <p>Requested change Delete “reported”.</p> <p>Justification Either RVR is “reported” or “not available”.</p> <p>Partially accepted</p> <p>The review group performs a revision of CMV, RVR, reported RVR and minimum RVR.</p>
comment	<p>798 comment by: German Aviation Association (BDL)</p> <p>AMC9 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (b) If the minimum RVR for an approach is more than the maximum value assessed by the aerodrome operator, e.g. ‘RVR more than 1 500 m’, then CMV should be used.</p> <p>Comment Unclear.</p>
response	<p>Partially accepted</p> <p>The review group performs a revision of CMV, RVR, reported RVR and minimum RVR. The example has been removed as proposed.</p>
comment	<p>799 comment by: German Aviation Association (BDL)</p> <p>AMC9 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (b) In order to determine CMV from reported or forecast visibility, the conversion factors specified in Table 11 should be used. Table 11: Conversion of reported VIS to RVR/CMV <math>RVR/CMV = \text{reported VIS} \times</math></p> <p>Requested change Delete ‘RVR’.</p> <p>Justification The conversion factor is used to determine CMV (not RVR) from reported or forecast visibility. Subsequently CMV substitutes for RVR. However, the multiplication of the reported or forecast visibility with the conversion factor always results in CMV (nor RVR).</p>
response	<p>Partially accepted</p>

	<p>The review group performs a revision of CMV, RVR, reported RVR and minimum RVR. AMC9 has been substantially amended and now contains point (c)(1) to clarify that ‘for flight planning purposes, a conversion factor of 1.0 should be used’.</p>
comment	<p>800 comment by: German Aviation Association (BDL)</p> <p>GM5 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>Comment</p> <p>The conclusion that, in certain circumstances, a published MDH may be used as a DH for a 2D operation flown using the CDFA technique is supported by BDL.</p>
response	<p>Noted</p>
comment	<p>801 comment by: German Aviation Association (BDL)</p> <p>GM5 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p> <p>However, it is necessary for operators to assess whether their cockpit procedures and training are adequate to ensure minimal height loss in case of a go-around manoeuvre. Suitable topics for the safety assessment required by each operator include:</p> <ul style="list-style-type: none"> <li>understanding of the CDFA concept including the use of the MDA/H as DA/H;</li> <li>cockpit procedures that ensure flight on speed, on path and with proper configuration and energy management;</li> <li>cockpit procedures that ensure gradual decision making; and</li> <li>identification of cases where an increase of the DA/H may be necessary because of non-standard circumstances, etc.</li> </ul> <p>Requested change</p> <p>Define “non-standard circumstances” which might justify increase of the DA/H.</p> <p>Justification</p> <p>As the operator is required to perform safety assessment about adequacy of procedures, which shall reflect the given examples, it is vital to know the definition of “non-standard circumstances”.</p>
response	<p>Not accepted</p> <p>The text is in GM and, therefore, not in any sense binding on operators. It is provided so as to give advice. It will be for the operator to determine, as part of the process for authorising an operation to a particular airport or runway end, whether there might be circumstances when the use of MDA = DA might not be appropriate.</p>
comment	<p>802 comment by: German Aviation Association (BDL)</p> <p>GM6 CAT.OP.MPA.110 Aerodrome operating minima</p>

response	<p>NPA text [...], such as downwind approaches, [...]</p> <p>Requested change Define the term 'downwind approach'.</p> <p>Justification The definition of 'downwind approach' is missing in EASA. Hence, the meaning is unclear.</p> <p>Not accepted</p> <p>It is not necessary to define every term used in GM, especially when terminology is widely understood by the intended audience.</p>
comment	<p>803      comment by: German Aviation Association (BDL)</p> <p>GM1 CAT.OP.MPA.110(b)(5) Aerodrome operating minima</p> <p>NPA text 'Visual and non-visual aids and infrastructure' refers to all equipment and facilities required for the procedure to be used for the intended instrument approach operation. This includes but is not limited to lights, markings, ground- or space-based radio aids, etc.</p> <p>Requested change Please check whether the definition "includes... lights" is correct.</p> <p>Justification Table 7A uses the term in the title, but "lights" are also described table 8A.</p>
response	<p>Noted</p> <p>GM1 CAT.OP.MPA.110(b)(5) does not contain a definition of 'visual and non-visual aids and infrastructure'. It provides examples of what the phrase refers to.</p>
comment	<p>898      comment by: Eurowings GmbH</p> <p>NPA text Take-off minima should be expressed as visibility (VIS) or runway visual range (RVR) limits, taking into account all relevant factors for each runway planned to be used and aircraft characteristics and equipment. Where there is a specific need to see and avoid obstacles on departure and/or for a forced landing, additional conditions, e.g. cloud conditions, should be specified.</p> <p>Requested change Delete or define example 'cloud conditions'.</p> <p>Justification</p>



response	<p>Not clear</p> <hr/> <p>Accepted</p> <p>The term ‘cloud conditions’ in AMC1 CAT.OP.MPA.110 point (a)(1) and AMC3 NCC.OP.110 point (a)(1) will revert to ‘ceiling’ and the ICAO definition of ‘ceiling’ (ICAO Doc 9365) will be included in Annex 1 – Definitions.</p>
comment	<p>900            comment by: Eurowings GmbH</p> <p>NPA text For night operations, the prescribed runway lights should be in operation to mark the runway and any obstacles.</p> <p>Requested change Replace ‘any obstacles’ with ‘any obstacles lighted’.</p> <p>Justification Runway lights do not illuminate obstacles.</p>
response	<p>Not accepted</p> <p>The proposed text in Opinion No 02/2021 follows the ICAO standards in this regard.</p>
comment	<p>901            comment by: Eurowings GmbH</p> <p>NPA text When no reported meteorological visibility VIS or RVR is available, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum.</p> <p>Requested change Move (a)(4) and (a)(5) to (c), delete previous (c)(4).</p> <p>Justification Content seems to be doubled.</p>
response	<p>Partially accepted</p> <p>(a)(4), (a)(5) and (c)(4) have been moved to AMC1 CAT.OP.MPA.265 because these are all provisions for the commander executing the take-off, not the operator calculating aerodrome operating minima.</p>
comment	<p>902            comment by: Eurowings GmbH</p> <p>NPA text (a) General The commander should not commence take-off when the RVR is less than 550 m unless low-visibility procedures (LVPs) are established.</p>

response	<p>Requested change Replace 'established' with 'ineffect'.</p> <p>Justification In the explanation to the NPA (Chapter2 –Proposed amendments and rationale in detail) the following is stated: 'A requirement is added that the commander should not commence take-off in an RVR of less than 550 m unless LVPs are ineffect.'</p> <p>Partially accepted</p> <p>The requirement is provided in Part-SPA, Subpart LVO.</p>
comment	<p>903      comment by: Eurowings GmbH</p> <p></p> <p>NPA text</p> <p>Requested change Include criteria type for definition of 'runway type'.</p> <p>Justification The definition of 'runway type' is not clear. Could not find corresponding definition.</p>
response	<p>Not accepted</p>
comment	<p>904      comment by: Eurowings GmbH</p> <p>AMC4 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text Table 7.A: The visual and non-visual aids and/or on-board equipment vs minimum RVR — multi-pilot operations vs minimum RVR — multi-pilot operations</p> <p>Requested change Revise title. Delete 'multi-pilot operations'. Ensure same nomenclature in title and in table (e.g. 'minimum RVR' vs. 'lowest RVR'; facilities vs. 'visual and non-visual aids and/or on-board equipment'). Check impact on wording of (a)(3).</p> <p>Justification Not clear.</p>
response	<p>Accepted</p>

comment	906	comment by: Eurowings GmbH
	<p>AMC4 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text The visual aids should comprise standard runway day markings, runway edge lights, threshold lights, runway end lights and approach lights as defined in Table8.A. For night operations or for any operation where credit for visual aids is required, the lights should be on and serviceable except as provided for in Table12. The visual aids should comprise standard runway day markings, runway edge lights, threshold lights and runway end lights and approach lights as defined in Table8.A. For night operations or for any operation where credit for visual aids is required, the lights should be on and serviceable except as provided for in Table12.</p> <p><u>Requested change</u> Delete (g) and (h).</p> <p>Justification and (h) are duplicates of (d) and(e).</p>	
response	Accepted	

comment	907	comment by: Eurowings GmbH
	<p>AMC4 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text Table 7.A: The visual and non-visual aids and/or on-board equipment vs minimum RVR — multi-pilot operations Table 8.A: Approach lighting systems</p> <p>Requested change As GM 1 CAT.OP.MPA.110(b)(5) defines as follows “includes but is not limited to lights” the relation between table 7 and table 8 need to be defined.</p> <p>Justification Title not consistent with table content.</p>	
response	<p>Not accepted</p> <p>Table 7.A lists the lowest RVR according to the visual and non-visual aids and on-board equipment whereas Table 8.A describes different types of approach lighting systems.</p>	

comment	908	comment by: Eurowings GmbH
	<p>AMC6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (b) Conduct of flight – general</p>	



	<p>operators should provide tabular guidance of the relationship between height above threshold and the in-flight visibility required to obtain an sustain visual contact during the circling manoeuvre.</p> <p>Requested change Change of the term 'in-flight visibility'.</p> <p>Justification The purpose of a table containing the relationship between height above threshold and the in-flight visibility is unclear. The in-flight visibility cannot be measured.</p>
response	<p>Not accepted</p> <p>There is no proposal to change this requirement which is in the existing regulation. No evidence has been presented of a safety or operational benefit from changing the requirement.</p>

comment	<p>909                      comment by: Eurowings GmbH</p> <p>AMC6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (c)(2)(iii) is able to determine the aeroplane's position in relation to the runway of intended landing with the aid of the appropriate external visual references.</p> <p>Requested change "appropriate visual reference" need to be defines.</p> <p>Justification Unclear.</p>
response	<p>Not accepted</p> <p>The appropriate visual references are those that will enable the pilot to determine the aeroplane's position in relation to the runway of intended landing.</p>

comment	<p>910                      comment by: Eurowings GmbH</p> <p>AMC6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text 3) When reaching the published instrument MAPt and the conditions stipulated in (c)(2) are unable to be established by the pilot, a missed approach should be carried out in accordance with that instrument approach procedure IAP.</p> <p>Requested change "conditions stipulated in (c)(2) cannot be complied with..."</p>
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response	Justification Conditions cannot be established by the pilot, the pilot need to comply with.
	Accepted

comment	911 comment by: Eurowings GmbH AMC9 CAT.OP.MPA.110 Aerodrome operating minima  NPA text If the reported RVR is not available, a converted meteorological visibility (CMV) may be substituted for the RVR, except:  <u>Requested change</u> Delete “reported”
	Justification Either RVR is “reported” or “not available”.
response	Partially accepted  The review group performs a revision of CMV, RVR, reported RVR and minimum RVR.

comment	912 comment by: Eurowings GmbH AMC9 CAT.OP.MPA.110 Aerodrome operating minima  NPA text If the minimum RVR for an approach is more than the maximum value assessed by the aerodrome operator, e.g. ‘RVR more than 1 500 m’, then CMV should be used.
	Comment Unclear.
response	Partially accepted  The review group performs a revision of CMV, RVR, reported RVR and minimum RVR. The example has been removed as proposed.

comment	913 comment by: Eurowings GmbH AMC9 CAT.OP.MPA.110 Aerodrome operating minima  NPA text In order to determine CMV from reported or forecast visibility, the conversion factors specified in Table 11 should be used.
	Table 11: Conversion of reported VIS to RVR/CMV $RVR/CMV = reported\ VIS \times$



	<p>Requested change Delete 'RVR'.</p> <p>Justification The conversion factor is used to determine CMV (not RVR) from reported or forecast visibility. Subsequently CMV substitutes for RVR. However, the multiplication of the reported or forecast visibility with the conversion factor always results in CMV (not RVR).</p>
response	<p>Partially accepted</p> <p>The review group performs a revision of CMV, RVR, reported RVR and minimum RVR.</p> <p>AMC9 has been substantially amended and now contains point (c)(1) to clarify that 'for flight planning purposes, a conversion factor of 1.0 should be used.'</p>

comment	<p>914 comment by: Eurowings GmbH</p> <p>GM5 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>Comment The conclusion that, in certain circumstances, a published MDH may be used as a DH for a 2D operation flown using the CDFA technique is supported by EUROWINGS GMBH</p>
response	<p>Noted</p>

comment	<p>915 comment by: Eurowings GmbH</p> <p>GM5 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text However, it is necessary for operators to assess whether their cockpit procedures and training are adequate to ensure minimal height loss in case of a go-around manoeuvre. Suitable topics for the safety assessment required by each operator include: understanding of the CDFA concept including the use of the MDA/Has DA/H; cockpit procedures that ensure flight on speed, on path and with proper configuration and energy management; cockpit procedures that ensure gradual decision making; and identification of cases where an increase of the DA/H may be necessary because of non-standard circumstances, etc.</p> <p>Requested change Define "non-standard circumstances" which might justify increase of the DA/H.</p> <p>Justification As the operator is required to perform safety assessment about adequacy of procedures, which shall reflect the given examples, it is vital to know the definition of "non-standard circumstances".</p>
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response	<p>Not accepted</p> <p>The text is in GM and, therefore, not in any sense binding on operators. It is provided so as to give advice. It will be for the operator to determine, as part of the process for authorising an operation to a particular airport or runway end, whether there might be circumstances when the use of MDA = DA might not be appropriate.</p>
comment	<p>916                      comment by: Eurowings GmbH</p> <p>GM1 CAT.OP.MPA.110(b)(5) Aerodrome operating minima</p> <p>NPA text 'Visual and non-visual aids and infrastructure' refers to all equipment and facilities required for the procedure to be used for the intended instrument approach operation. This includes but is not limited to lights, markings, ground- or space-based radio aids, etc.</p> <p>Requested change Please check whether the definition "includes... lights" is correct.</p> <p>Justification Table 7A uses the term in the title, but "lights" are also described table 8A.</p>
response	<p>Noted</p> <p>GM1 CAT.OP.MPA.110(b)(5) does not contain a definition of 'visual and non-visual aids and infrastructure'. It provides examples of what the phrase refers to.</p>
comment	<p>917                      comment by: Eurowings GmbH</p> <p>GM6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text [...], such as downwind approaches, [...]</p> <p>Requested change Define the term 'downwind approach'.</p> <p>Justification The definition of 'downwind approach' is missing in EASA. Hence, the meaning is unclear.</p>
response	<p>Not accepted</p> <p>It is not necessary to define every term used in GM, especially when terminology is widely understood by the intended audience</p>
comment	<p>918                      comment by: Eurowings GmbH</p>



	<p>GM1 CAT.OP.MPA.110(b)(5) Aerodrome operating minima</p> <p>NPA text ‘Visual and non-visual aids and infrastructure’ refers to all equipment and facilities required for the procedure to be used for the intended instrument approach operation. This includes but is not limited to lights, markings, ground- or space-based radio aids, etc.</p> <p>Requested change Please check whether the definition “includes... lights” is correct.</p> <p>Justification Table 7A uses the term in the title, but “lights” are also described table 8A.</p>
response	<p>Noted</p> <p>GM1 CAT.OP.MPA.110(b)(5) does not contain a definition of ‘visual and non-visual aids and infrastructure’. It provides examples of what the phrase refers to.</p>

CAT.OP.MPA.115 ‘Approach flight technique — aeroplanes’	p. 15
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comment	<p>554 comment by: <i>FNAM</i></p> <p>AGREEMENT FNAM agrees and thanks EASA for moving the old IR requirements in AMC.</p>
response	<p>Noted</p>
comment	<p>555 comment by: <i>FNAM</i></p> <p>AGREEMENT FNAM welcomes the use of the CFDA technique for NPA approaches.</p>
response	<p>Noted</p> <p>The use of the CDFA technique for NPA is required by the existing regulation.</p>

AMC and GM to CAT.OP.MPA.115 ‘Approach flight technique — aeroplanes’	p. 15-17
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comment	<p>149 comment by: Federal Office of Civil Aviation (FOCA), Switzerland</p> <p><b>Comment FOCA:</b> Stabilized approach criteria's are essential for flight safety. Therefore AMC level seems to be adequate.</p>
response	<p>Noted</p>
comment	<p>231 comment by: <i>EUROCONTROL</i></p>



response	<p>p.17 - 2.1.4 CAT.OP.MPA.185 and following.</p> <p>AMC2 CAT.OP.MPA.126, AMC3 and AMC 4 contain references to Type A approach operations - have they been reviewed for consistency with the changed rules and no changes defined as required?</p> <p>Noted</p>
comment	<p>556 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL EASA proposes new AMC and GM to guide operators in their calculation of operating minima. EASA explains that some existing requirements are not transposed in proposed disposals but that they could be implemented through AltMoc. FNAM wonders why these kinds of requirements are not transposed since EASA already informally agrees to authorize them <i>via</i> AltMoc. If such a disposal is not transposed, FNAM fears that operators would have to ask for an AltMoc to their Member States. This may have an administrative and economic impact on operators although this disposal is already tacitly or previously accepted by the European Regulation. If the previous disposal cannot be transposed because it is not the same philosophy than the new proposed disposal, FNAM proposes to create 2 different options in 2 separated AMC or GM to apply one IR requirement. In that way, both solutions could be applied without asking for an AltMoc and add administrative burden. Plus, since one of the main objective of this NPA is to introduce new possibilities on a voluntary basis without impacting all operators, the current requirement (IR, AMC and GM) should remain unchanged.</p>
response	<p>Noted</p> <p>There are two such items that have not been transposed into the proposed regulations:</p> <p>The first relates to the RVR required for operations with truncated approach lighting systems. The provision in the current AMC5 CAT.OP.MPA.110(a)(6) to consider BALS if crossbar is available requires the approval of the competent authority. The mechanism for the competent authority to issue such an approval is that the operator applies for an Alternative Means of Compliance in accordance with ORO.GEN.120. The fact that the proposed AMC does not mention the use of RVR values appropriate to BALS where there are approach lights of restricted length does not prevent an operator from applying for an approval, neither does it create an additional administrative burden as an approval was already required.</p> <p>The second relates to the use of 150 m RVR for CAT IIIA operations by aircraft certified as 'super fail-passive'. The 'normal' RVR for CAT IIIA operations has been reduced from 200 m to 175 m so the advantage of being able to use 150 m is limited. It is understood that this provision was applicable to a single aircraft type, that this aircraft type is no longer in production and that there is a small and reducing number of operators using this type for CAT III operations. EASA received no comments from</p>



operators of these aircraft. If an operator wishes to use a minimum of 150 m, then that operator would apply for an AltMoC on the basis of the established safety record. The view of the rulemaking group was that removing this specific item from the AMC allowed for a simplification of requirements to the benefit of the large majority of stakeholders.

comment

804 comment by: German Aviation Association (BDL)

AMC1 CAT.OP.MPA.115 Approach flight technique - aeroplanes

NPA text

(c) The descent path should be calculated and flown to pass at or above the minimum altitude specified at any step down fix.

(e)(1) the pilot monitoring to verbalise any deviation from the required descent path;

Requested change

(c) Delete 'and flown'.

(e)(1) Rephrase wording to: 'the pilot monitoring to verbalise deviations from the required descent path as specified by the operator' (Delete 'any'; add 'as specified by the operator').

Justification

(c) In order to avoid additional safety risks caused by flight guidance mode changes during final approach, the operator should have the possibility to define an acceptable tolerance over step down fixes (e.g. -50ft). This acceptable tolerance should not be valid for the calculated descent path but for the flown descent path.

(e)(1) According to other passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions, the term 'required descent path' can be interpreted as to having zero tolerance. The proposed text in the NPA would trigger a call-out even if the deviation was as small as 1ft. To avoid unnecessary call-outs within acceptable tolerance of the required descent path, the operator should have the possibility to define the extent of deviation when a call- out is required.

response

Partially accepted

(c) To ensure obstacle clearance during approach, it is necessary for an aircraft to fly above stepdown fixes on a non-precision approach procedure. See PANS-OPS 1.7.2.2.

(e)(1) The text has been amended to require the pilot monitoring 'to verbalise deviations' rather than 'to verbalise any deviation'. Operators may choose to provide additional guidance to crew about the magnitude of deviations that must be verbalised.

comment

805 comment by: German Aviation Association (BDL)

AMC1 CAT.OP.MPA.115(a) Approach flight technique - aeroplanes



	<p>NPA text (g)(2) the means to identify the predetermined point referred to in (a) and (b) above. This should normally be the FAF.</p> <p>Requested change Replace ‘This should normally be the FAF.’ with ‘This should be a point not lower than 1’500 ft above the landing runway threshold elevation”.</p> <p>Justification This AMC is valid for all approach procedures and aircraft types. There is no FAF but a FAP on precision approaches. Occasionally an approach is not flown via the FAF/FAP when being vectored by ATC (i.e. vectors to intercept the localizer past the FAF/FAP). Sometimes ATC is, for various reasons, not able to let the aircraft descent to the intermediate altitude before reaching the FAF/FAP resulting in an interception of the glide slope from above. With the requirements stated in (b)(2) (‘the target rate of descent should be that required to maintain the correct vertical path at the planned approach speed.’) and (c) (‘Variations in the rate of descent should normally not exceed 50% of the target rate of descent.’) it will no longer be possible to perform an interception of the glide slope from above.</p>
response	<p>Not accepted</p> <p>The proposed amendment would facilitate unstable approaches. The justification provided is contrary to the safety objective of the rule.</p>

comment

919	comment by: Eurowings GmbH
AMC1 CAT.OP.MPA.115 Approach flight technique -aeroplanes	
<p>NPA text (c) The descent path should be calculated and flown to pass at or above the minimum altitude specified at any step down fix. (e)(1) the pilot monitoring to verbalise any deviation from the required descent path;</p> <p>Requested change (c) Delete ‘and flown’. (e)(1) Rephrase wording to: ‘the pilot monitoring to verbalise deviations from the required descent path as specified by the operator’ (Delete ‘any’; add ‘as specified by the operator’).</p> <p>Justification In order to avoid additional safety risks caused by flight guidance mode changes during final approach, the operator should have the possibility to define an acceptable tolerance over step down fixes (e.g. -50ft). This acceptable tolerance should not be valid for the calculated descent path but for the flown descent path. (e)(1) According to other passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions, the term ‘required descent path’ can be interpreted as to having zero tolerance. The proposed text in the NPA would trigger a call-out even if the deviation was as small as 1ft. To avoid unnecessary call-outs within acceptable tolerance of the</p>	



response	<p>required descent path, the operator should have the possibility to define the extent of deviation when a call- out is required.</p> <p>Partially accepted</p> <p>(c) To ensure obstacle clearance during approach, it is necessary for an aircraft to fly above stepdown fixes on a non-precision approach procedure. See PANS-OPS 1.7.2.2.</p> <p>(e)(1) The text has been amended to require the pilot monitoring ‘to verbalise deviations’ rather than ‘to verbalise <u>any</u> deviation’. Operators may choose to provide additional guidance to crew about the magnitude of deviations that must be verbalised.</p>
comment	<p>920                      comment by: Eurowings GmbH</p> <p>AMC1 CAT.OP.MPA.115(a) Approachflight technique - aeroplanes</p> <p>NPA text</p> <p>(g)(2) the means to identify the predetermined point referred to in (a) and (b) above. This should normally be the FAF.</p> <p>Requested change</p> <p>Replace ‘This should normally be the FAF.’ with ‘This should be a point not lower than 1’500 ft above the landing runway threshold elevation”.</p> <p>Justification</p> <p>This AMC is valid for all approach procedures and aircraft types. There is no FAF but a FAP on precision approaches. Occasionally an approach is not flown via the FAF/FAP when being vectored by ATC (i.e. vectors to intercept the localizer past the FAF/FAP). Sometimes ATC is, for various reasons, not able to let the aircraft descent to the intermediate altitude before reaching the FAF/FAP resulting in an interception of the glide slope from above. With the requirements stated in (b)(2) (‘the target rate of descent should be that required to maintain the correct vertical path at the planned approach speed.’) and (c) (‘Variations in the rate of descent should normally not exceed 50% of the target rate of descent.’) it will no longer be possible to perform an interception of the glide slope from above.</p>
response	<p>Not accepted</p> <p>The proposed amendment would facilitate unstable approaches. The justification provided is contrary to the safety objective of the rule.</p>

CAT.OP.MPA.265 ‘Take-off conditions’

p. 17

comment	<p>806                      comment by: German Aviation Association (BDL)</p> <p>CAT.OP.MPA.265 Take-off conditions</p> <p>NPA text</p> <p>(b) the selected aerodrome operating minima are consistent with:</p> <p>(1) the operative ground equipment;</p>
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	<p>(2) the operative aircraft systems;                  (3) the aircraft performance; and                  (4) flight crew qualifications.</p> <p>Requested change                  Proposal to change wording from “are consistent” to “correspond to”.</p> <p>Justification                  The selected minima are based on the given criteria, but are not part of them.</p>
<p>response</p>	<p>1. Not accepted</p> <p>The phrase ‘shall be satisfied’ provides the commander with the flexibility to use good judgement, whereas ‘shall verify’ would require proof, which may not be practical in-flight. CAT.OP.MPA.265 will be amended to read ‘shall be satisfied’.</p> <p>2. Not accepted</p> <p>a) CAT.OP.MPA.265 does not employ the word ‘correspond’.</p> <p>b) The appropriate aerodrome operating minima are determined by the status of the aircraft, systems, ground equipment and flight crew qualification; the term ‘correspond’ does not imply the same level of accuracy as the term ‘consistent’.</p>

<p>comment</p>	<p>921                      comment by: Eurowings GmbH</p> <p>CAT.OP.MPA.265 Take-offconditions</p> <p>NPA text                  theselectedaerodromeoperatingminimaareconsistentwith:                  the operative groundequipment;                  the operative aircraftsystems;                  the aircraft performance;and                  flight crewqualifications.</p> <p>Requested change                  Proposal to change wording from “are consistent” to “correspond to”.</p> <p>Justification                  The selected minima are based on the given criteria, but are not part of them.</p>
<p>response</p>	<p>Not accepted</p> <p>The appropriate aerodrome operating minima are determined by the status of the aircraft, systems, ground equipment and flight crew qualification; the term ‘correspond’ does not imply the same level of accuracy as the term ‘consistent’.</p>

CAT.OP.MPA.300 ‘Approach and landing conditions’	p. 17
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<p>comment</p>	<p>557                      comment by: FNAM</p>
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	<p>ISSUE AND PROPOSAL</p> <p>CAT.OP.MPA.265 and CAT.OP.MPA.300 disposals propose to add a step in commander checklist before take-off and before starting an approach. The operative ground equipment, operative aircraft systems, aircraft performances and flight crew qualifications are additional new items that the commander has to check twice, <i>i.e.</i> during these two phases of the flight. FNAM wonders if these items are necessary twice per flight to enhance flight-safety level. Indeed, current CAT.OP.MPA.110 is already moved to CAT.OP.MPA.265 for take-off procedures. Alleviated procedures should be provided for in-flight checks (before starting the approach for instance) when some unchangeable items have already been checked before take-off. It could help and simplify the in-flight check. Commanders will be more focused on flight parameters. This may enhance the flight-safety level. For example, crew member qualification could be checked only once before the take-off.</p> <p>Plus, this requirement would imply changes of procedures and operating documents. It would therefore impact all operators.</p>
response	<p>Partially accepted.</p> <p>1. The requirements of CAT.OP.MPA 300 ‘Approach and landing conditions’ have been transferred from the existing rule CAT.OP.MPA.110 point (e). The identical requirements of CAT.OP.MPA.265 ensure consistency. In all cases, the commander should be satisfied that the status of the aircraft, systems, ground equipment and flight crew qualification are consistent with the selected aerodrome operating minima. These requirements may differ according to the intended operation.</p> <p>2. The phrase ‘shall verify’ in CAT.OP.MPA 265 will be amended to ‘shall be satisfied’ to allow the flexibility for the commander to exercise good judgement, as opposed to requiring proof.</p>
comment	<p>807      comment by: German Aviation Association (BDL)</p> <p>CAT.OP.MPA.300 Approach and landing conditions</p> <p>NPA text</p> <p>Before commencing an approach operation, the commander shall be satisfied that:</p> <p>(b) the selected aerodrome operating minima are consistent with:</p> <p>(1) the operative ground equipment;</p> <p>(2) the operative aircraft systems;</p> <p>(3) the aircraft performance; and</p> <p>(4) flight crew qualifications.</p> <p>Requested change</p> <p>Proposal to change wording analogue to CAT.OP.265 Take-off conditions, instead of “the commander shall be satisfied” use “shall verify”.</p> <p>Justification</p> <p>Verification is the correct phrase, as “satisfaction” is not measurable.</p> <p>Requested change</p>

response	<p>Proposal to change wording analogue to CAT.OP.265 Take-off conditions, from “minima are consistent” to “minima correspond to”.</p> <p>Justification The selected minima are based on the given criteria, but are not part of them.</p> <p>1. Not accepted</p> <p>The term ‘shall be satisfied’ provides the commander with the flexibility to use good judgement, whereas ‘shall verify’ would require proof, which may not be practical in-flight. CAT.OP.MPA.265 will be amended to read ‘shall be satisfied’.</p> <p>2. Not accepted</p> <p>The appropriate aerodrome operating minima are determined by the status of the aircraft, systems, ground equipment and flight crew qualification; the term ‘correspond’ does not imply the same level of accuracy as the term ‘consistent’.</p>
comment	<p>922                      comment by: Eurowings GmbH</p> <p>CAT.OP.MPA.300 Approach and landing conditions</p> <p>NPA text Before commencing an approach operation, the commander shall be satisfied that:</p> <p>theselectedaerodromeoperatingminimaareconsistentwith: the operative groundequipment; the operative aircraftsystems; the aircraft performance;and flight crewqualifications.</p> <p>Requested change Proposal to change wording analogue to CAT.OP.265 Take-off conditions, instead of “the commander shall be satisfied” use “shall verify”.</p> <p>Justification Verification is the correct phrase, as “satisfaction” is not measurable.</p> <p>Requested change Proposal to change wording analogue to CAT.OP.265 Take-off conditions, from “minima are consistent” to “minima correspond to”.</p> <p>Justification The selected minima are based on the given criteria, but are not part of them.</p>
response	<p>1. Not accepted.</p> <p>The phrase ‘shall be satisfied’ provides the commander with the flexibility to use good judgement, whereas ‘shall verify’ would require proof, which may not be practical in-flight. CAT.OP.MPA.265 will be amended to read ‘shall be satisfied’.</p>



2. Not accepted

a) CAT.OP.MPA.265 does not employ the word 'correspond'.

b) The appropriate aerodrome operating minima are determined by the status of the aircraft, systems, ground equipment and flight crew qualification; the term 'correspond' does not imply the same level of accuracy as the term 'consistent'.

CAT.OP.MPA.305 'Commencement and continuation of approach'

p. 17-18

comment

232 comment by: *EUROCONTROL*

p.18 - 2.1.4  
CAT.OP.MPA.305.

The new definition uses the term go-around, which is multiple times in the ops-rule, but is not defined. Does it need to be? This relates notably to the use of missed approach vs baulked landing in procedure design.

response

Noted  
A definition of 'go-around' is included in Annex I.

comment

233 comment by: *EUROCONTROL*

p.18 - 2.1.4  
CAT.OP.MPA.305.

AC120-28D is now replaced with AC120-118. The reference needs update and verification.

response

Noted

comment

808 comment by: German Aviation Association (BDL)

CAT.OP.MPA.305 Commencement and continuation of approach  
GM1 CAT.OP.MPA.305 Commencement and continuation of approach  
APPLICATION OF RVR OR VIS REPORTS

NPA text

(IR) a) If the reported visibility or controlling RVR for the runway to be used for landing is less than (...)

(GM) a) There is no prohibition on the commencement of an approach based on the reported RVR or VIS

Requested change

Use consistent wording.



response	<p>IR is “reported visibility and controlling RVR” whereas GM is “reported RVR and VIS”.</p> <p>Justification Avoidance of misinterpretation, by confusion.</p> <p>Not accepted</p> <p>While a pilot may choose to continue approach down to DA/H, there is no reason to mandate this.</p> <p>Visibility has been amended to ‘VIS’.</p>
comment	<p>810      <i>comment by:</i> German Aviation Association (BDL)</p> <p>CAT.OP.MPA.305 Commencement and continuation of approach</p> <p>NPA text (b) If the required visual reference is not established, then a missed approach shall be executed at or before the DA/H or the MDA/H.</p> <p><u>Requested change</u> Deletion of “before”.</p> <p>Justification In context with establishment of visual contact, it is counterproductive to initiate GA before reaching the minimum.</p>
response	<p>Partially accepted</p> <p>The review group has redrafted CAT.OP.MPA.305.</p>
comment	<p>924      <i>comment by:</i> Eurowings GmbH</p> <p>CAT.OP.MPA.305 Commencement and continuation of approach</p> <p>NPA text If the required visual reference is not established, then a missed approach shall be executed at or before the DA/H or theMDA/H.</p> <p><u>Requested change</u> Deletion of “before”.</p> <p>Justification In context with establishment of visual contact, it is counterproductive to initiate GA before reaching the minimum</p>
response	<p>Partially accepted</p> <p>The review group has redrafted CAT.OP.MPA.305.</p>

comment	<p>15      comment by: DFS Deutsche Flugsicherung GmbH</p> <p>The last sentence in point a) is misleading: "in the event that there is no report of RVR or VIS, then there is no restriction on continuation of the approach." It contradicts to the actual requirement CAT.OP.MPA.305.</p> <p>The requirement CAT.OP.MPA.305 is deemed correct and does not address the non-availability of RVR or VIS report.</p> <p>It states that continuation is allowed after deterioration report, as long as visual reference is given at DA/H.</p> <p>Otherwise this would mention with bad RVR and VIS report you shall not continue approach, but without any RVR and VIS reported you may. This is not supported.</p>
response	<p>Not accepted</p> <p>Nevertheless, the review group has redrafted both the implementing rule and the AMC.</p>

comment	<p>809      comment by: German Aviation Association (BDL)</p> <p>CAT.OP.MPA.305 Commencement and continuation of approach GM1 CAT.OP.MPA.305 Commencement and continuation of approach APPLICATION OF RVR OR VIS REPORTS</p> <p>NPA text (IR) a) If the reported visibility or controlling RVR for the runway to be used for landing is less than (...) (GM) a) There is no prohibition on the commencement of an approach based on the reported RVR or VIS</p> <p>Requested change Use consistent wording. IR is "reported visibility and controlling RVR" whereas GM is "reported RVR and VIS".</p> <p>Justification Avoidance of misinterpretation, by confusion.</p>
response	<p>Not accepted</p> <p>While a pilot may choose to continue approach down to DA/H, there is no reason to mandate this.</p> <p>Visibility has been amended to 'VIS'.</p>

comment	<p>923      comment by: Eurowings GmbH</p>
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	<p>GM1 CAT.OP.MPA.305 Commencement and continuation of approach APPLICATION OF RVR OR VIS REPORTS</p> <p>NPA text (IR) a) If the reported visibility or controlling RVR for the runway to be used for landing is less than (...)(GM) a) There is no prohibition on the commencement of an approach based on the reported RVR or VIS</p> <p>Requested change Use consistent wording. IR is "reported visibility and controlling RVR" whereas GM is "reported RVR and VIS".</p> <p>Justification Avoidance of misinterpretation, by confusion.</p>
response	<p>Not accepted</p> <p>While a pilot may choose to continue approach down to DA/H, there is no reason to mandate this.</p> <p>Visibility has been amended to 'VIS'.</p>

CAT.OP.MPA.312 'EFVS 200 operations'

p. 19-20

comment	<p>234 comment by: <i>EUROCONTROL</i></p> <p>p.19 - 2.1.4 CAT.OP.MPA.312.</p> <p>The explanation does not provide for the case that the CAT I minima are higher than 200ft DH. From the following GM text it can be understood that no DH credit is granted ("the DH for EFVS 200 operations is always the same as for the same approach conducted without EFVS"). So throughout the document "200ft" should be replaced by "CAT I DH" for this operation.</p>
response	<p>Not accepted</p> <p>For EFVS 200 operations, 200 feet is the minimum height above the threshold by which natural visual reference is required if the approach is to be continued. This is not the decision height.</p>
comment	<p>235 comment by: <i>EUROCONTROL</i></p> <p>p.19 - 2.1.4 CAT.OP.MPA.312 - entire set of rules.</p> <p>The rules are not written in a concise way. Analysis based on a specific runway (ENSB RWY 10, where ILS and RNAV procedures exist) indicate that an aircraft could, on lost EFVS visibility below DH, be stranded in a situation where no landing and no safe extraction is possible (the last protected start of turn is at 740m before</p>



response	<p>THR, while the aircraft would nominally at 200ft be at 830m from THR. Neither a 1s pilot reaction time to start the turn, nor protection in case of altimetry error are possible). The entire set of EFVS200 rules should be reviewed in this respect.</p>
response	<p>Noted</p> <p>The proposed rules for EFVS 200 assume that it is more likely that an EFVS 200 operation would result in the initiation of a go-around below DA/H than an equivalent approach flown without EFVS. The operational assessment as per AMC1 CAT.OP.MPA.312(b) takes into account the possibility of a baulked landing in situations such as that described in the comment. An operator contemplating the use of ENSB RWY 10 for EFVS 200 operations would therefore be required to conduct an operational assessment including obstacle clearance in the event of a baulked landing.</p>

comment	<p>236                      comment by: <i>EUROCONTROL</i></p> <p>p.19 - 2.1.4                  "but would be a departure from ICAO standards, which require any operation with operational credits to be an 'approval' item (ICAO Annex 6 Part II, paragraph 2.2.2.1.1)"</p> <p>How will this departure from ICAO Annex material be notified as difference to ICAO by States?</p>
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response	<p>Noted.</p> <p>ICAO Annex 6 Part I and Part II have been amended and aligned with the approach proposed in the Opinion.</p>
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comment	<p>558                      comment by: <i>FNAM</i></p> <p>AGREEMENT                  FNAM agrees with EASA's proposals for EFVS 200 which should not need specific approvals</p>
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response	<p>Noted</p>
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AMC and GM to CAT.OP.MPA.312 and to NCC.OP.235 'EFVS 200 operations' p. 20-22

comment	<p>82                      comment by: <i>AIRBUS</i></p> <p>There is a inconsistency between introduction Guidance Materials for allowed angle between final approach path and the extended runway centerline :</p> <p>Page 20:</p>
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	<p>“The EFVS will include path information (e.g. a flight path vector). In order for this flight path information to correlate with the EFVS or natural visual image, the proposal is that EFVS 200 operations should only be flown where the final approach track is aligned with the runway centreline (<b>+/- 2 degrees</b>). This will ensure that the pilot can ‘place’ the flight path vector over the runway threshold when flying the approach. Further explanation of the other requirements (point (a)) is provided in GM1 CAT.OP.MPA.312(b) and respectively in GM1 NCC.OP.235(b).”</p> <p>Page 95:</p> <p>AERODROMES AND INSTRUMENT PROCEDURES SUITABLE FOR EFVS 200 OPERATIONS</p> <p>(b) EFVS 200 operations should only be conducted as 3D operations, using an IAP in which the final approach track is off-set by a maximum of <b>3 degrees</b> from the extended centreline of the runway and intercepts the centreline at the threshold. Please correct this inconsistency.</p>
response	Accepted
comment	<p>237                      comment by: <i>EUROCONTROL</i></p> <p>p. 22 - PART.CAT.IDE</p> <p>RNP APCH requirements in this section have not been reviewed related to AWO rule updates. But Type B approaches to LPV minima using CAT I procedure design criteria could fall under these rules, notably if operational credits are applied. I have not seen any statement that these credits (for the instrument segment) could not be applied to such approaches. Does Part.CAT.IDE (A and H) have to be reviewed?</p>
response	Noted
comment	<p>559                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>These AMC and GM refer to the repealed Basic Regulation (EU) N°216/2008. Thus, FNAM suggests to replace this reference with the one of New Basic Regulation N°2018/1139.</p>
response	<p>Accepted</p> <p>The explanatory note has been amended to include reference to the new Basic Regulation.</p>
comment	<p>853                      comment by: General Aviation Manufacturers Association / Hennig</p> <p>This section discusses requirements in GM CAT.OP.MPA.312(b) and respectively GM1 NCC.OP.235(b) for Verifying the suitability of runways for EFVS operations.</p>



	<p>This section is written as if an operator with EFVS would have to determine if the airport of intended landing would have been assessed as "for EFVS operations". This adds an unnecessary burden to operators. GAMA recommends that aerodromes with Cat I ILS or LPV approaches be approved without further action by the operator to conduct the EFVS operation.</p> <p>GAMA notes that FAA regulations allow the pilot to acquire the approach lighting system at approach minimums and then continue to 100 feet above touchdown zone elevation. GAMA sees no additional operational value in performing aerodrome surveys below this altitude on approach.</p> <p>GAMA recommends that EASA review and harmonise rules for EFVS in this visual approach environment.</p>
response	<p>Not accepted</p> <p>CAT.OP.MPA.312 establishes the requirement for the operator to determine which approaches are suitable for EFVS operations. The aircraft operator is responsible for the safety of its operation and has the most information about the proposed operation. The aircraft operator is therefore in the best position to decide which IAP and runways are suitable. The criteria for making the determination are detailed in AMC1 and AMC2 to CAT.OP.MPA.312(b). CAT I ILS and LPV approaches will generally be suitable, but there may be some circumstances or combinations of IAP and runway where hazards, such as the lack of an OFZ, obstacles close to the approach path or use of LED lighting might present unacceptable risks. A 'blanket' authorisation of all CAT I and LPV approaches would not absolve the operator from its responsibility to assess the risk of the operation but could be interpreted as providing assurance that all such approaches would ensure an acceptable level of safety.</p>

SPA.GEN.100 'Competent authority'

p. 23

comment	<p>560                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>Low visibility operations are added in the proposed requirement. In that way, third-country would be authorized to perform low-visibility operations without approvals. Since this disposal may impact the competitiveness between European and third-country operators, FNAM wonders why flexibility is allowed for third-country operators.</p> <p>Plus, FNAM does not understand why LVO are allowed without approval but not LVTO nor operational credits.</p> <p>If requirements for third-country operators are alleviated compared to European operators requirements, the risk is that Europe would continue to loss aircraft matriculation. Indeed, it would be easier to operate in Europe with aircraft registered N rather than F.</p>
response	Noted



SPA.GEN.100(b) refers to Union operators using aircraft registered in a third country. These are not ‘third-country operators’. Such operators do not require an approval from the State in which they have their principal place of business provided that they hold an approval issued by the State of registry. This is in accordance with Member States’ obligations under the Chicago Convention.

The definition of LVO includes LVTO, so approval is required for both low-visibility take-off and low-visibility approach operations.

The proposed regulation does not include the acceptance of approval of operations with operational credits because the proposed operations with operational credits are not aligned with an ICAO standard.

There is no proposal to alleviate requirements for aircraft registered outside the Member States.

SPA.LVO.100 ‘Low-visibility operations and operations with operational credits’ p. 23

comment 239 comment by: *EUROCONTROL*

p.23 - 2.1.4  
AMC and GM to SPA.LVO.100.

Deletion of AMC7.SPA.LVO.100 is missing.

response Accepted

The text has been updated to include the deletion of AMC7 SPA.LVO.100 as proposed.

comment 561 comment by: *FNAM*

AGREEMENT  
FNAM thanks EASA for simplifying Implementing Rules and providing guidance and details in AMC and GM. In that way, the regulation is better structured and easier to understand.  
Plus, requirements are much clearer and seem to be more adapted to the operational reality.

response Noted

comment 562 comment by: *FNAM*

ISSUE AND PROPOSAL  
The subpart E is currently dedicated to LVO. It is confusing to add operations with operational credits requirements in this subpart. Indeed, since requirement names are entitled SPA.LVO and since operations with operational credits may not be LVO, FNAM suggests to separate these two concepts in the future regulation.



response	Not accepted
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AMC and GM to SPA.LVO.100 'Low-visibility operations and operations with operational credits'	p. 23-27
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comment	7 comment by: <i>ATR</i>  Is there a roadmap developed (targeted year) for the association of SVGS/CVS and operational credits?
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response	Noted  A roadmap for a future activity is not part of the NPA/CRD process.
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comment	240 comment by: <i>EUROCONTROL</i>  p.27 - 2.1.4 A number of provisions are now "homeless" by the change in SPA.LVO.100 from (a) to (f) to (a) to (c). This concerns GM1 SPA.LVO.100(c),(e) GM1 SPA.LVO.100(e) and GM1 SPA.LVO.100(f).
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response	Accepted  GM1 SPA.LVO.100(c), (e) has been transposed to GM3 SPA.LVO.100(b).  GM1 SPA.LVO.100(e) has been transposed to GM1 SPA.LVO.105(c).  GM1 SPA.LVO.100(f) has been replaced by GM4 SPA.LVO.100(c); some of the content has also been transferred to GM17 to Annex I.  The explanatory note has been amended to explain how the provisions have been accommodated.
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comment	563 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL EASA proposes new AMC and GM to guide operators in their calculation of operating minima. EASA explains that some existing requirements are not transposed in proposed disposals but that they could be implemented through AltMoc. Thus, FNAM wonders why these kinds of requirements are not transposed since EASA already informally agrees to authorize them <i>via</i> AltMoc. If such a disposal is not transposed, FNAM fears that operators would have to ask for an AltMoc to their Member States. This may have administrative and economic impacts on operators although this disposal is already tacitly or previously accepted by the European Regulation. If the previous disposal cannot be transposed because it is not the same philosophy than the new proposed disposal, FNAM proposes to create 2 different options in 2
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	<p>separated AMC or GM to apply one IR requirement. In that way, both solutions could be applied without asking for an AltMoc and add administrative burden. Plus, since one of the main objective of this NPA is to introduce new possibilities on a voluntary basis without impacting all operators, the current requirement (IR, AMC and GM) should remain unchanged.</p>
response	<p>Noted</p> <p>There are two such items that have not been transposed into the proposed regulations:</p> <p>The first relates to the RVR required for operations with truncated approach lighting systems. The provision in the current AMC5 CAT.OP.MPA.110(a)(6) to consider BALS if crossbar is available requires the approval of the competent authority. The mechanism for the competent authority to issue such an approval is that the operator applies for an Alternative Means of Compliance in accordance with ORO.GEN.120. The fact that the proposed AMC does not mention the use of RVR values appropriate to BALS where there are approach lights of restricted length does not prevent an operator from applying for an approval, neither does it create an additional administrative burden as an approval was already required.</p> <p>The second relates to the use of 150 m RVR for CAT IIIA operations by aircraft certified as ‘super fail-passive’. The ‘normal’ RVR for CAT IIIA operations has been reduced from 200 m to 175 m so the advantage of being able to use 150 m is limited. It is understood that this provision was applicable to a single aircraft type, that this aircraft type is no longer in production and that there is a small and reducing number of operators using this type for CAT III operations. EASA received no comments from operators of these aircraft. If an operator wishes to use a minimum of 150 m, then that operator would apply for an AltMoC on the basis of the established safety record. The view of the rulemaking group was that removing this specific item from the AMC allowed for a simplification of requirements to the benefit of the large majority of stakeholders.</p>
comment	<p>564                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>Some EASA’s proposed requirements are anticipating ICAO standards presupposed evolution (e.g.: suppressing CATIIIA, CATIIIB and CATIIIC and replacing them with a single CATIIII).</p> <p>Plus, FNAM wonders what will happen for flights operated by EU operators in non-European countries which are applying current ICAO standards. For CATIIII operations, an authorization CATIIIA, CATIIIB or CATIIIC is required from the Member State where the operation is performed. If EU operators are approved CATIIII and not CATIIIB or C anymore, FNAM wonders what will happen in non-EU countries where old categories (still in force in the ICAO documentation) are applied. FNAM fears that EU operators with an EU CATIIII approval would be considered as CATIIIA capable in other than European countries instead of CATIIIB or CATIIIC. This would limit the scope of their operations which is not the objective of the proposed changes described in the NPA.</p>

	<p>Thus, FNAM proposes to keep the three CATIII subcategories in order to ensure harmonization with ICAO standards and to facilitate understanding of the European regulations.</p>
response	<p>Not accepted</p> <p>The proposed removal of the sub-categories of Cat III is under way in ICAO, and the revised text has been published for consultation via State Letter, reference AN 11/1.1.33 – 18/80, published on 24 August 2018. Therefore, the proposed changes are in fact aligned with ICAO. The operations specifications will include the minima authorised for CAT III operations, so there will be no ambiguity.</p>
comment	<p>565 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>It is confusing to add operations with operational credits requirements in this subpart. Indeed, since requirement names are entitled SPA.LVO and since operations with operational credits may not be LVO, FNAM suggests to separate these two concepts in the future regulation. It is the case for SA CATI operations. SA CAT I cannot be considered as LVO operations since its limitation in terms of DH and RVR are different than the ones for LVO.</p>
response	<p>Not accepted</p>
comment	<p>566 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>EASA's proposed disposals ensure that specific approval for EFVS operations will be available only if the third-country operators can demonstrate that the equipment meets all the requirements for certification. FNAM agrees that third-country operators should provide demonstrations in order to benefit of the same privileges than European operators.</p> <p>Nevertheless, this disposal is non-consistent with proposed disposal SPA.GEN.100 which requires specific approvals for third-country only for LVO operations. EFVS operations are operations with operational credits and not LVO operations. If requirements for third-country operators are alleviated compared to European operators requirements, the risk is that Europe would continue to loss aircraft matriculation. Indeed, it would be easier to operate in Europe with aircraft registered N rather than F.</p> <p>Thus, FNAM agrees that third country operators should provide same approvals than European operators and these requirements should be harmonized and proposed in the entire regulation.</p>
response	<p>Not accepted</p>
comment	<p>811 comment by: German Aviation Association (BDL)</p> <p>AMC1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits</p>

response	<p>NPA text Table 1.A: LVTO – aeroplanes: RVR vs facilities.</p> <p>Requested change Retain the table format from currently valid regulation (i.e. list all required facilities per RVR, iso using ‘Additionally’).</p> <p>Justification Table 1.A is ambiguous.</p> <p>Partially accepted</p> <p>The term ‘additionally’ has been removed.</p>
comment	<p>812 comment by: German Aviation Association (BDL)</p> <p>AMC1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits</p> <p>NPA text Table 1.A: LVTO – aeroplanes: RVR vs facilities.</p> <p>Requested change Simplify by merging line 3 &amp; 4.</p> <p>Justification The necessity to subdivide &lt;150m and &lt;125m is barely comprehensive.</p>
response	<p>Not Accepted</p> <p>The subdivision is required because LVTO &lt; 150 m requires 15 m centreline light spacing.</p>
comment	<p>813 comment by: German Aviation Association (BDL)</p> <p>AMC3 SPA.LVO.100(b) Low-visibility operations and operations with operational credits</p> <p>NPA text Table 5: Failed or downgraded equipment- effect on landing minima CAT II/III operation</p> <p>Requested change Line: threshold lights row CATIII DH&gt;=50ft and row CAT II Remove “as edge lights” and fill in current requirements.</p> <p>Justification The comparison “as edge lights” is not clear.</p>

	<p><u>Requested change</u> Line: runway lights Define impact if RCLL are NOT serviceable.</p> <p>Justification Not clear.</p>
response	<p>Partially Accepted</p> <p>In Table 5, the line for threshold lights has been updated as proposed.</p> <p>The impact of runway centreline lights not serviceable is already included in the table.</p>
comment	<p>925                      comment by: Eurowings GmbH</p> <p>AMC1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits</p> <p>NPA text Table 1.A: LVTO – aeroplanes: RVR vs facilities.</p> <p>Requested change Retain the table format from currently valid regulation (i.e. list all required facilities per RVR, iso using ‘Additionally’).</p> <p>Justification Table 1A is ambiguous.</p>
response	<p>Partially accepted</p> <p>The table has been amended to remove ‘additionally’ and to match the requirements of the current table.</p>
comment	<p>926                      comment by: Eurowings GmbH</p> <p>AMC1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits</p> <p>NPA text Table 1.A: LVTO – aeroplanes: RVR vs facilities.</p> <p>Requested change Simplify by merging line 3 &amp; 4.</p> <p>Justification The necessity to subdivide &lt;150m and &lt;125m is barely comprehensive.</p>
response	<p>Not accepted</p> <p>The subdivision is required because LVTO &lt; 150 m requires 15 m centreline light spacing.</p>

comment	<p>927 comment by: Eurowings GmbH</p> <p>AMC3 SPA.LVO.100(b) Low-visibility operations and operations with operational credits</p> <p>NPA text Table 5: Failed or downgraded equipment- effect on landing minima CAT II/III operation</p> <p>Requested change Line: threshold lights row CATIII DH&gt;=50ft and row CAT II Remove “as edge lights” and fill in current requirements.</p> <p>Justification The comparison “as edge lights” is not clear.</p> <p><u>Requested change</u> Line: runway lights Define impact if RCLL are NOT serviceable.</p> <p>Justification Not clear.</p>
response	<p>Partially accepted</p> <p>In Table 5, the line for threshold lights has been updated as proposed.</p> <p>The impact of runway centreline lights not serviceable is already included in the table.</p>

SPA.LVO.105 'Specific approval criteria'

p. 27

comment	<p>567 comment by: FNAM</p> <p>ISSUE AND PROPOSAL EASA proposed disposal is really complex by its structure and its writing. SPA.LVO.105 is a good example of this remark : SA CAT I and SA CAT II (operations with operational credits) are described in LVO requirements. Nevertheless, LVO operations are differentiate with operations with operational credits. FNAM suggests to clarify and to separate LVO and operations with operational credits since they cannot be compared.</p>
response	<p>Not accepted</p> <p>SA CAT I and SA CAT II are both LVOs and operations with operational credits.</p>

AMC and GM to SPA.LVO.105 'Specific approval criteria'

p. 27-32

comment	<p>241 comment by: EUROCONTROL</p>
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	<p>p.30 - 1.2.4</p> <p>The fact that there are specific operating procedures, specific aircraft cert requirements and specific AD requirements seem to indicate that this in fact a separate operation and not an ops credit for CAT I.</p> <p>Consider updating the entire NPA in this sense.</p>
response	<p>Not accepted</p> <p>SA CAT I remains a CAT I operation. GM1 SPA.LVO.100(b) describes the classification of approach operations and GM2 SPA.LVO.100(c) explains that SA CAT I is an operational credit that extends the instrument approach segment of a CAT I approach.</p>
comment	<p>568                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>FNAM thanks EASA for describing precisely the general specific approval criteria. Indeed, this AMC is clear and therefore is easy to understand and to implement. Nevertheless, FNAM wonders what would become current approvals and what are the measures for operators for the transition period . Can operators use their current approvals, for example LTS CAT I and OTS CAT II, in order to obtain new approvals and demonstrate only new requirements proposed in this disposal? FNAM suggests that current demonstrations and approvals could remain applicable and could be reused for further demonstrations. For example, it should be the case for an operator performing OTS CAT II operations willing to perform SA CAT II operations.</p>
response	<p>Not accepted</p> <p>The criteria for SA CAT I and SA CAT II are different from LTS CAT I / OTS CAT II, thus a new demonstration of compliance will be required. Each operator will determine whether data gathered from previous LVOs will be relevant.</p>
comment	<p>569                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>Additional data to collect and requirements are provided. FNAM suggests to ensure a smooth transition period for allowing operators to adapt their activities to this new requirement. Plus, some demonstrations could take benefit of current and approved quality systems of operators. This would reduce the administrative burden for operators but also for NAA.</p>
response	<p>Noted</p> <p>Each operator will determine how to present a safety assessment and whether data gathered from previous LVOs will be relevant to the safety assessment.</p>
comment	<p>814                      comment by: German Aviation Association (BDL)</p>

	<p>GM1 SPA.LVO.105 Specific approval criteria</p> <p>NPA text (b) An automatic landing may be considered to be successful if: (4) longitudinal touchdown is beyond a point on the runway 60 m after the threshold and before the end of the touchdown zone TDZ light (900 m from the threshold); (5) lateral touchdown with the outboard landing gear is not outside the touchdown zone TDZ light edge</p> <p>Requested change (4)(5) proposal to change wording “touchdown in lateral/ longitudinal direction”</p> <p>Justification The phrase touchdown cannot be divided in a lateral/ longitudinal part.</p>
response	<p>Not accepted</p> <p>There is no proposal to amend the wording of this section in the NPA. The existing wording has been in use for a significant period of time and there is no evidence that it has been misunderstood or that there would be any safety or operational benefit from amending the GM as proposed.</p>
comment	<p>815 comment by: German Aviation Association (BDL)</p> <p>AMC1 SPA.LVO.105(c) Specific approval criteria OPERATING PROCEDURES FOR LVOs</p> <p>NPA text Prior to commencing an LVO, the pilot-in-command/commander should be satisfied that: [...]</p> <p>Requested change Change wording “should be satisfied” to “should verify”.</p> <p>Justification Analogous to CAT.OP.MPA.265 &amp; 300.</p>
response	<p>Not accepted</p> <p>The experts in the RMG have reviewed the use of ‘be satisfied’ and ‘verify’ throughout the NPA according to the following definitions:</p> <p>Satisfy – Meet the expectations, needs or desires / adequately meet or comply with (a condition, obligation, or demand)</p> <p>Verify – Make sure or demonstrate that (something) is true, accurate, or justified</p> <p>Based on this, the wording will remain ‘be satisfied’. Changing to ‘verify’ could be interpreted as mandating the pilot to check each of these items even though he or she is already satisfied. This would increase workload without any safety benefit.</p>



comment	<p>816 comment by: German Aviation Association (BDL)</p> <p>AMC1 SPA.LVO.105(c) Specific approval criteria OPERATING PROCEDURES FOR LVOs</p> <p>NPA text (b) LVPs are in effect; and [...]</p> <p>Requested change Clarify by which means.</p> <p>Justification Is approach clearance “cleared RWY XY CATII/III” satisfying.</p>
response	<p>Noted</p> <p>There are a number of different means by which the commander may satisfy him or herself that LVPs are in effect. It would not be practical to list all of these in the AMC. Individual operators may choose to stipulate the means by which the commander is satisfied for particular airports, regions or types of operation, otherwise it is left to the discretion of the commander.</p>
comment	<p>817 comment by: German Aviation Association (BDL)</p> <p>AMC1 SPA.LVO.105(f) Specific approval criteria GM1 SPA.LVO.105(f) Specific approval criteria</p> <p>NPA text ./.</p> <p>Requested change Continuous Monitoring (Safety Performance Monitoring) for operators conducting LVOs only (i.e. not using operation with operational credits) should be retained from current regulations in line with a risk-based approach to regulation. Data collection by means of the operator’s flight data monitoring programme for operators conducting LVOs only (i.e. not using operation with operational credits) should be limited to safety assessment prior to obtaining an approval.</p> <p>Justification The current continuous monitoring for operators conducting LVOs only (i.e. not using operation with operational credit) has proven its effectivity in meeting the safety objectives and performance standards and in achieving the same level of safety as operation other than LVOs. Additional monitoring requirements will not improve the effectivity in meeting the safety objectives and performance standards.</p>
response	<p>Not accepted</p> <p>The proposal has been developed in order to implement a risk-based approach to the regulation. There is already a provision for operators to continuously monitor low-visibility operations to detect undesirable trends (AMC3 SPA.LVO.105). The revised wording reflects the provision for operators to identify hazards, conduct risk</p>

assessment and measure safety performance (AMC1 ORO.GEN.200(a)(3)). The use of FDM is only mandated for operators that are required to have an FDM programme and such operators will already be automatically collecting the data required. The proposed AMC does not introduce an additional monitoring requirement for operators, rather it clarifies the operator's safety management responsibilities in relation to LVOs.

comment

818 comment by: German Aviation Association (BDL)

AMC2 SPA.LVO.105(f) Specific approval criteria

NPA text

(b) The operator applying for the approval of low-visibility approach operations should determine the minimum number of approaches required to gather sufficient data to demonstrate an acceptable level of safety and the time period over which such data should be gathered.

Comment

BDL supports this risk-based AMC and associated GM2 SPA.LVO.105(f).

response

Noted

comment

819 comment by: German Aviation Association (BDL)

GM2 SPA.LVO.105(f) Specific approval criteria

NPA text

(b) [...] Approaches conducted for the purpose of gathering data [...]. Approaches may also be conducted in an FSTD if the operator is satisfied that this would be representative of the operation.

The data gathered from these approaches will only be representative if all required elements of the total system for LVOs are in place. [...]. If the operator chooses to collect data from approaches conducted without all required elements in place, then the data analysis should take into account the effect of at least the following: [...]

Requested change

Use separate paragraphs for:

1. required considerations for data gathering in an FSTD, and
2. required considerations for data gathering during actual flight operations without all required elements in place

Justification

Required considerations for data gathering in an FSTD and for data gathering during actual flight operations (without all required elements in place) are not clear from the proposed amendment due to missing distinction.

response

Not accepted



The text is in GM and is therefore not binding on an operator. The text presents information about data gathering during flight operations or in an FSTD. The considerations for data gathering without all elements of the total system are equally applicable to flight operations and FSTD operations. It is for the operator to determine the extent to which the data is representative or relevant.

comment

929 comment by: Eurowings GmbH

GM1 SPA.LVO.105 Specific approval criteria

NPA text

An automatic landing may be considered to be successful if:

longitudinal touch

down is beyond a point on the runway 60m after the threshold and before the end of the

touchdown zone TDZ light (900m from the threshold);

lateral touch down with the outboard landing gear is not outside the touch

down zone TDZ light edge

Requested change

(4)(5) proposal to change wording "touchdown in lateral/ longitudinal direction"

Justification

The phrase touchdown cannot be divided in a lateral/ longitudinal part.

response

Not accepted

There is no proposal to amend the wording of this section in the NPA. The existing wording has been in use for a significant period of time and there is no evidence that it has been misunderstood or that there would be any safety or operational benefit from amending the GM as proposed.

comment

930 comment by: Eurowings GmbH

AMC1 SPA.LVO.105(c) Specific approval criteria OPERATING PROCEDURES FOR LVOs

NPA text

Prior to commencing an LVO, the pilot-in-command/commander should be satisfied that: [...]

Requested change

Change wording "should be satisfied" to "should verify".

Justification

Analogous to CAT.OP.MPA.265 &amp; 300.

response

Not accepted



The experts in the RMG have reviewed the use of ‘be satisfied’ and ‘verify’ throughout the NPA according to the following definitions:

Satisfy – Meet the expectations, needs or desires / adequately meet or comply with (a condition, obligation, or demand)

Verify – Make sure or demonstrate that (something) is true, accurate, or justified

Based on this, the wording will remain ‘be satisfied’. Changing to ‘verify’ could be interpreted as mandating the pilot to check each of these items even though he or she is already satisfied. This would increase workload without any safety benefit.

comment	<p>932 comment by: Eurowings GmbH</p> <p>AMC1 SPA.LVO.105(c) Specific approval criteria OPERATING PROCEDURES FORLVOs</p> <p>NPA text LVPs are in effect;and [...]</p> <p>Requested change Clarify by which means.</p> <p>Justification Is approach clearance “cleared RWY XY CATII/III” satisfying.</p>
response	<p>Noted</p> <p>There are a number of different means by which the commander may satisfy himself or herself that LVPs are in effect. It would not be practical to list all of these in the AMC. Individual operators may choose to stipulate the means by which the commander is satisfied for particular airports, regions or types of operation; otherwise, it is left to the discretion of the commander.</p>

comment	<p>933 comment by: Eurowings GmbH</p> <p>AMC1 SPA.LVO.105(f) Specific approvalcriteria GM1 SPA.LVO.105(f) Specific approvalcriteria</p> <p>NPA text ./.</p> <p>Requested change Continuous Monitoring (Safety Performance Monitoring) for operators conducting LVOs only (i.e. not using operation with operational credits) should be retained from current regulations in line with a risk-based approach to regulation. Data collection by means of the operator’s flight data monitoring programme for operators conducting LVOs only (i.e. not using operation with operational credits) should be limited to safety assessment prior to obtaining an approval.</p> <p>Justification</p>
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	<p>The current continuous monitoring for operators conducting LVOs only (i.e. not using operation with operational credit) has proven its effectivity in meeting the safety objectives and performance standards and in achieving the same level of safety as operation other than LVOs. Additional monitoring requirements will not improve the effectivity in meeting the safety objectives and performance standards.</p>
<p>response</p>	<p>Not accepted</p> <p>The proposal has been developed in order to implement a risk-based approach to the regulation. There is already a provision for operators to continuously monitor low-visibility operations to detect undesirable trends (AMC3 SPA.LVO.105). The revised wording reflects the provision for operators to identify hazards, conduct risk assessment and measure safety performance (AMC1 ORO.GEN.200(a)(3)). The use of FDM is only mandated for operators that are required to have an FDM programme and such operators will already be automatically collecting the data required. The proposed AMC does not introduce an additional monitoring requirement for operators, rather it clarifies the operator’s safety management responsibilities in relation to LVOs.</p>

<p>comment</p>	<p>934 <span style="float: right;">comment by: Eurowings GmbH</span></p> <p>AMC2 SPA.LVO.105(f) Specific approvalcriteria</p> <p>NPA text The operator applying for the approval of low-visibility approach operations should determine the minimum number of approaches required to gather sufficient data to demonstrate an acceptable level of safety and the time period over which such data should be gathered.</p> <p>Comment EUROWINGS GMBH supports this risk-based AMC and associated GM2 SPA.LVO.105(f).</p>
<p>response</p>	<p>Noted</p>

<p>comment</p>	<p>935 <span style="float: right;">comment by: Eurowings GmbH</span></p> <p>GM2 SPA.LVO.105(f) Specific approvalcriteria</p> <p>NPA text [...]Approaches conducted for the purpose of gathering data[...]. Approaches may also be conducted in an FSTD if the operator is satisfied that this would be representative of the operation. The data gathered from these approaches will only be representative if all required elements of the total system for LVOs are in place. [...]. If the operator chooses to collect data from</p>
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	<p>approaches conducted without all required elements in place, then the data analysis should take into account the effect of at least the following: [...]</p> <p>Requested change Use separate paragraphs for: required considerations for data gathering in an FSTD, and required considerations for data gathering during actual flight operations without all required elements in place</p> <p>Justification Required considerations for data gathering in an FSTD and for data gathering during actual flight operations (without all required elements in place) are not clear from the proposed amendment due to missing distinction.</p>
response	<p>Not accepted</p> <p>The text is in GM and is therefore not binding on an operator. The text presents information about data gathering during flight operations or in an FSTD. The considerations for data gathering without all elements of the total system are equally applicable to flight operations and FSTD operations. It is for the operator to determine the extent to which the data is representative or relevant.</p>

SPA.LVO.110 'ANS-and aerodrome-related requirements'

p. 33

comment

20 comment by: DFS Deutsche Flugsicherung GmbH

This section explains that it is the responsibility of the operator to choose for SA operations only aerodromes and instrument procedures that are suitable. SPA.LVO.110 is written accordingly.

When flying SA CAT I an OFZ is required. This is addressed in Part D of the NPA, page 8 (**CS ADR-DSN.H.445 'Obstacle Free Zone (OFZ)'** ).  
But we found no information for e.g. the sensitive area, which in such case should be extended.

Neither the ANSP nor the ADR operator have knowledge about a potential special approval of a pilot. Is it mandatory to indicate this in the FPL?

Finally, laying down further requirements on ANSP and ADR Operator within the AMC of this requirement is not a good solution, as regulation 965/2012 is not applicable to them.

The renaming of SPA.LVO.110 as "ANS- and aerodrome-related requirements" is not supported. We suggest to keep the former title "general operating requirements" or even use "operator requirements" and put - if any - relevant requirements on ANSP and ADR operator in the regulations applicable to them.

response

Not accepted

SPA.LVO.110 does not impose any obligation on ANSP or ADR operators.



comment	<p>242 comment by: EUROCONTROL</p> <p>p.33 - 2.1.4 AMC3 SPA.LVO.110.</p> <p>There are different ILS classifications (new table in PANS OPS VOL III). Normally the coverage should extend to half the DH, which would as a minimum require a I/T/1 system. Possibly a coverage to point C (100ft) could also be tolerable. Is it useful to provide guidance on the minimal system classification, unless the AFM specifies otherwise?</p>
response	<p>Not accepted</p> <p>The minimum ILS performance requirement will be part of the system design and certification requirement for SA CAT I and will be published in the AFM. There is no default ILS classification.</p>
comment	<p>426 comment by: Dassault-Aviation</p> <p><u>Text:</u> SPA.LVO.110 page 33 "Since ICAO Annex 14 Standards do not yet address operations with operational credits, <b>it cannot be assumed that aerodrome operators will have to be approved for operations with operational credits.</b> 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."</p> <p>Comment: refer to ADR related comment</p>
response	<p>Noted</p>

AMC and GM to the new content of SPA.LVO.110 'ANS-and aerodrome-related requirement

p. 33-35

comment	<p>22 comment by: Luftfahrt-Bundesamt</p> <p>Proposed changes to NPA with respect to irregular pre-threshold terrain verifications</p> <p>The rationale for New AMC3 SPA.LVO.110 'Suitable aerodromes: approach operations other than EFVS operations' states:</p> <p>"According to the existing AMC6 SPA.LVO.105, an operator should verify each aircraft type/runway combination by the successful completion of at least one approach and</p>
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landing in CAT II or better conditions, prior to commencing CAT III operations. Where a runway is promulgated as suitable for CAT III operations, this is considered unnecessary and the requirement has been removed. There is also a requirement that, for runways with irregular pre-threshold terrain or other foreseeable or known deficiencies, each aircraft type/runway combination should be verified by operations in CAT I or better conditions, prior to commencing SA CAT I, SA CAT II or CAT III operations. ***The pre-threshold terrain could affect the performance of autoland systems. The intent of this requirement was to verify satisfactory autoland performance. The requirement has been amended in point (g) to clarify that the requirement relates to autoland performance, rather than to a specific classification of operation.***

The assumption that the pre-threshold terrain could only affect the performance of autoland systems is insufficient: The pre-threshold terrain could also affect other landing systems such as HUDLS, EFVS-L with flare prompt / guidance, etc., whenever there is a dependency of the flight guidance system (flight director commands) on measured height information of the airborne system (e.g. radar altimeter or similar) on the final approach flight path and during flare.

The LBA is aware that at least one European aircraft manufacturer - for system performance demonstration reasons - is proposing changes to the NPA to define and clarify the terms “Irregular pre-threshold terrain”, “Runway slope” or “Landing Area Slope” respectively to standardize, better address, and facilitate the process of assessing flight guidance / landing system performance due to irregular pre-threshold terrain. The LBA-proposed changes should be coordinated with the above mentioned proposal of the aircraft manufacturer.

Furthermore, the U.S. FAA has recently published the Advisory Circular AC 120-118. Appendix 4 (“Irregular Terrain Assessment”) of AC 120-118 describes possible effects of the pre-threshold terrain on flight guidance systems used for Autoland and “HUD to touchdown operations” and provides further guidance material on acceptable methods and procedures on how to assess irregular pre-threshold terrain. However, there is no corresponding guidance material to the existing AMC6 SPA.LVO.105 in EU regulation.

Given the above the following changes and modifications to the related NPA are proposed:

Rule, AMC, GM	Text in present NPA	Proposed new version
AMC3 SPA.LVO.110 (c) (4)	(4) the pre-threshold terrain should have been surveyed and assessed as suitable with regard to the usability of the radio altimeter or other device capable of providing equivalent performance and autoland systems; and	(4) the pre-threshold terrain should have been surveyed and assessed as suitable with regard to the usability of the radio altimeter or other device capable of providing equivalent performance and landing systems (e.g. autoland, HUDLS/HGS with flare prompt/guidance); and



AMC3 SPA.LVO.110 (d) (4),	(4) the pre-threshold terrain should have been surveyed and assessed as suitable with regard to the usability of the radio altimeter or other device capable of providing equivalent performance and autoland systems; and	(4) the pre-threshold terrain should have been surveyed and assessed as suitable with regard to the usability of the radio altimeter or other device capable of providing equivalent performance landing systems (e.g. autoland, HUDLS/HGS with flare prompt/guidance); and
AMC3 SPA.LVO.110 (f):	(f) Each aircraft type/equipment/runway combination should be verified by operations in CAT I or better conditions before authorising the use of autoland on any runway with irregular pre-threshold terrain or other foreseeable or known difficulties.	(f) Each aircraft type/equipment/runway combination should be verified by operations in CAT I or better conditions before authorising the use of landing systems (e.g. autoland, HUDLS/HGS with flare prompt/guidance) on any runway with irregular pre-threshold terrain or other foreseeable or known difficulties.
New paragraph AMC5 SPA.LVO.110 (f):	Not existing	(f) Each aircraft type/equipment/runway combination should be verified by operations in CAT I or better conditions before authorising the use of EFVS-L system, on any runway with irregular pre-threshold terrain or other foreseeable or known difficulties.



GM4 SPA.LVO.110 ANS- and aerodrome- related requirements	<p><b>USE OF AUTOLAND</b></p> <p>It may be assumed that category II and category III runways will support autoland systems unless the State of the aerodrome has published information indicating otherwise. Where other runways are to be authorised for autoland operations, the operator should consult the aircraft manufacturer to establish any requirements for satisfactory autoland performance and may conduct autoland in CAT I or better conditions before authorising other use of autoland.</p> <p>If an operator is not aware of current CAT II/III operations at a particular runway by some other operator and similar aircraft type, it is a good practice for the operator to have conducted at least one approach using the Category II or III system and procedures and preferably with LVPs in effect, to each runway intended for Category II/III operations in weather better than that requiring the use of Category II minima.</p>	<p><b>USE OF LANDING SYSTEM TO TOUCHDOWN (AUTOLAND, HUDLS, HGS, EVS-L)</b></p> <p>It may be assumed that category II and category III runways will support landing systems unless the State of the aerodrome has published information indicating otherwise or pre-threshold terrain characteristics conform with the criteria of the landing system certification specifications. Where other runways are to be authorised for use of landing system operations, the operator should consult the aircraft manufacturer to establish any requirements for satisfactory landing system performance and may conduct landing system test operations in CAT I or better conditions before authorising other use of landing system.</p> <p>If an operator is not aware of current CAT II/III operations at a particular runway by some other operator and similar aircraft type, it is a good practice for the operator to have conducted at least one approach using the Category II or III system and procedures and preferably with LVPs in effect, to each runway intended for Category II/III operations in weather better than that requiring the use of Category II minima.</p>
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Additionally, the LBA proposes to add an all new **GM5 SPA.LVO.110** ANS- and aerodrome-related requirements **IRREGULAR PRE-THRESHOLD TERRAIN VERIFICATION**.

The contents of this all new GM should be harmonized with FAA AC 120-118 Appendix 4 to provide a level playing field for the operators. However, modifications need to be applied to the text because of the specific differences between the U.S. (FAA) and the EU (EASA, NAAs) regulatory and administrative systems.

FAA AC 120-118 Appendix 4 can be downloaded here:



[https://www.faa.gov/regulations\\_policies/advisory\\_circulars/index.cfm/go/document.information/documentID/1033312](https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1033312)

Therefore, the following differences should be analyzed and discussed by the members of the RMT.0379 OPS drafting group in the upcoming meetings:

1. Who is responsible for establishing and maintaining the European database (equivalent to the FAA database of Restricted / Nonstandard Facilities Approved for CAT II / III Operations) containing the suitability data for aircraft type-runway-combinations that have been both positively and negatively verified and how is the communication process between all bodies / organizations involved (operator, NAA, aircraft / landing system manufacturer, EASA, etc.)? Maintaining a central database would facilitate LVO-operations to the extent that information on already verified aircraft type-runway-combinations were publicly available and redundant verification projects could thus be prevented (reduced operators' burden).
2. Who should be the "Evaluator(s)" according to AC 120-118 Appendix 4 paragraph 2.a.(3)? Adequate AWO certification competences do not necessarily rest with the NAAs anymore as this is an EASA competence now. The role and the responsibility of the aircraft / landing system manufacturer to participate in the verification process should be discussed.

Please find subsequently our particular proposals replicated on page 132 - 136 for your reference.

response

Noted.

The review group has reviewed the several points of this comment.

Furthermore, EASA has organised a task force with the participation of LBA to address the issues related to pre-threshold terrain and the work resulted in a new set of AMC and GM to SPA.LVO.105 and mainly SPA.LVO.110.

comment

29 comment by: Volkswagen AirService GmbH

Third paragraph: Please clarify as to how AMC 6. SPA.LVO.105 relates to autoland performance only. Does this explicitly exclude auto-coupled CAT II approaches with manual landing (from 100 ft AAL) from the requirement? The way our national authority currently implements this AMC requires us to prove satisfactory performance even for CAT II approaches with manual landing.

response

Noted

AMC6 SPA.LVO.105 will be deleted.



comment	30      comment by: Volkswagen AirService GmbH  Third paragraph: Please clarify how CAT II performance of aircraft without automatic landing capabilities has to be proven - if at all. After all, CAT II performance of the aircraft is part of flight testing and type certification.
response	Noted  It is not clear which text this comment refers to.
comment	59      comment by: British Airways Flight Operations  'The pre-threshold terrain could affect the performance of autoland systems. The intent of this requirement was to verify satisfactory autoland performance. The requirement has been amended in point (g) to clarify that the requirement relates to autoland performance, rather than to a specific classification of operation.'  There is no point (g) in AMC3 SPA.LVO.110
response	Accepted.  The explanatory note has been corrected. (g) has been changed to (f).
comment	243      comment by: EUROCONTROL  p.33 - 2.1.4 AMC3 SPA.LVO.110.  Phrase "The new CS-AWO will not require IAPs to be promulgated as suitable for EFVS". How does that link to the 'EFVS-ready' publication requirement in the AD section?
response	Noted  There will be no obligation for an IAP or runway to be promulgated as suitable for EFVS, so it will be the aircraft operator's responsibility to determine the suitability.
comment	244      comment by: EUROCONTROL  p.34 - 2.1.4 AMC5 SPA.LVO.110  Both baulked and balked are used in the text. Use balked throughout.
response	Accepted  The regulation uses 'balked' rather than 'baulked' so the proposal has been amended to use 'balked' throughout.
comment	570      comment by: FNAM

response	<p>AGREEMENT</p> <p>FNAM thanks EASA for alleviating CAT III assessment which is an European specificity. This will allow operators not to be limited to CAT II operations for aerodromes where they are aware that similar aircraft are already performing CAT III operations.</p> <p>Noted</p>
comment	<p>820 comment by: German Aviation Association (BDL)</p> <p>AMC1 SPA.LVO.110 ANS- and aerodrome-related requirements</p> <p>NPA text</p> <p>(a) CAT II instrument approach operations should only be conducted using a CAT II IAP.</p> <p>(b) CAT III instrument approach operations should only be conducted using a CAT III IAP.</p> <p><u>Requested change</u> Rephrase (a) (b) (c) (d).</p> <p>Example for (a): ‘CAT II instrument approach operations should only be conducted using a precision approach procedure with a DH lower than 200ft and an RVR lower than 550m’.</p> <p>Justification</p> <p>The terms used in the NPA (CAT I IAP, CAT II IAP, CAT III IAP) are ambiguous due to missing definitions. According to Annex I, IAPs are divided into NPA, APV and PA. No further division is defined.</p>
response	<p>Not accepted</p> <p>The proposed definition is self-referential. The decision height and RVR are determined by the classification of operation. The intent of the AMC is to ensure that the operator uses approach procedures designed for the correct category of operation.</p>
comment	<p>821 comment by: German Aviation Association (BDL)</p> <p>AMC3 SPA.LVO.110 ANS- and aerodrome-related requirements</p> <p>NPA text</p> <p>(a) For CAT II instrument approach operations, a PA runway category II or category III should be used.</p> <p>(b) For CAT III instrument approach operations, a PA runway category III should be used. [...]</p> <p>(e) The operator should verify [...].</p> <p>(f) Each aircraft type/equipment/runway combination [...].</p> <p><u>Requested change</u></p> <p>Define the terms ‘PA runway category II’ and ‘PA runway category III’.</p> <p>(e) and (f): This change is supported by BDL.</p>

response	<p>Justification The terms used in the NPA (PA runway category II, PA runway category III) are ambiguous due to missing definitions.</p> <p>Not accepted</p> <p>The specifications of various types of instrument runways is a matter for aerodrome operators and the definitions appear in Regulation (EU) No 139/2014. The responsibility of the aircraft operator is to ensure that suitable runways are used for LVOs.</p>
comment	<p>822      comment by: German Aviation Association (BDL)</p> <p>AMC4 SPA.LVO.110 ANS- and aerodrome-related requirements LOW-VISIBILITY PROCEDURES</p> <p>NPA text (2) suitable low-visibility procedures (LVPs) have been established and are in effect as verified by the commander before each approach.</p> <p>Requested change Change “suitable” to “corresponding”.</p> <p>Justification It is defined which requirements need to correspond with.</p> <p>Requested change Clarify by which means.</p> <p>Justification Is approach clearance “cleared RWY XY CATII/III” satisfying.</p>
response	<p>Partially accepted</p> <p>‘Suitable’ has been deleted. The details of LVPs is a matter for the aerodrome operator, not the aircraft operator. The responsibility of the aircraft operator is to confirm that LVPs are established rather than to review the detail of those procedures.</p> <p>The requirement to verify that LVPs are in effect at the time of the approach has been deleted here because it is a duplication of AMC1 SPA.LVO.105(c) and this is an operating procedure not a requirement for selecting aerodromes suitable for LVOs.</p>
comment	<p>823      comment by: German Aviation Association (BDL)</p> <p>GM4 SPA.LVO.110 ANS- and aerodrome-related requirements USE OF AUTOLAND</p> <p>NPA text If an operator is not aware of current CAT II/III operations at a particular runway by some other operator and similar aircraft type, it is a good practice for the operator</p>

response	<p>to have conducted at least one approach using the Category II or III system and procedures and preferably with LVPs in effect, to each runway intended for Category II/III operations in weather better than that requiring the use of Category II minima.</p> <p>Requested change Clarify whether is required or recommended.</p> <p>Justification Phraseology does not make clear if it is required or not.</p>
	Noted
comment	<p>829 comment by: German Aviation Association (BDL)</p> <p>GM4 SPA.LVO.110 ANS- and aerodrome-related requirements USE OF AUTOLAND</p> <p>NPA text It may be assumed that category II and category III runways will support autoland systems unless the State of the aerodrome has published information indicating otherwise. Where other runways are to be authorised for autoland operations, the operator should consult the aircraft manufacturer to establish any requirements for satisfactory autoland performance and may conduct autoland in CAT I or better conditions before authorising other use of autoland.</p> <p>Comment BDL strongly appreciates the RMT expert's decision to consider the RWY's suitability for PA CATII/III and suitability for autoland separately acc. to AMC3 SPA.LVO.110. It needs to be clearly pointed out in the regulation, that a suitable PA CATII/III RWY does support autoland function without any further restriction and therefore no additional assessment is necessary. Only if a RWY has irregular pre-threshold terrain (IPTT), there might be the need to verify by different means, whether there IPTT could have an effect on the autoland performance on this specific runway. For a necessary verification, there seem to be multiple options for analysis. Considering the AFM data it might be possible to perform a desktop analysis based on contour charts or radar altimeter readouts, as well as analysing flight data monitoring data. However it must be ensured, that the national authority, in cooperation with the aerodrome operators, provide sufficient data concerning RWY suitability to enable the operators to perform the required assessment, whether a RWY does have reg. or irreg. pre-threshold terrain. This is how GM4 SPA.LVO 110 need to be understood and should be clear, that deficiencies even concerning the pre- threshold terrain have to be announced by the NAA.</p>
response	Noted



EASA has organised a task force with the participation of LBA to address the issues related to pre-threshold terrain and the work resulted in a new set of AMC and GM to SPA.LVO.105 and mainly SPA.LVO.110.

comment

936

comment by: Eurowings GmbH

AMC1SPA.LVO.110ANS-andaerodrome-relatedrequirements

NPA text

CATII instrument approach operations should only be conducted using a CATIII AP.

CATIII instrument approach operations should only be conducted using a CATIIIAP.

Requested change Rephrase (a) (b) (c) (d).

Example for (a): 'CAT II instrument approach operations should only be conducted using a precision approach procedure with a DH lower than 200ft and an RVR lower than 550m'.

Justification

The terms used in the NPA (CAT I IAP, CAT II IAP, CAT III IAP) are ambiguous due to missing definitions. According to Annex I, IAPs are divided into NPA, APV and PA. No further division is defined.

response

Not accepted

The proposed definition is self-referential. The decision height and RVR are determined by the classification of operation. The intent of the AMC is to ensure that the operator uses approach procedures designed for the correct category of operation.

comment

937

comment by: Eurowings GmbH

AMC3SPA.LVO.110ANS-andaerodrome-relatedrequirements

NPA text

ForCATIIinstrumentapproachoperations,aPARunwaycategoryIIorcategoryIIIshouldbeused.

For CAT III instrument approach operations, a PA runway category III should be used.

[...]

The operator should verify[...].

Each aircraft type/equipment/runway combination[...].

Requested change

Define the terms 'PA runway category II' and 'PA runway category III'.

and (f): This change is supported byEUROWINGS GMBH.

Justification

The terms used in the NPA (PA runway category II, PA runway category III) are ambiguous due to missing definitions.



response	<p>Not accepted</p> <p>The specifications of various types of instrument runways is a matter for aerodrome operators and the definitions appear in Regulation (EU) No 139/2014. The responsibility of the aircraft operator is to ensure that suitable runways are used for LVOs.</p>
comment	<p>938                      comment by: Eurowings GmbH</p> <p>AMC4 SPA.LVO.110 ANS- and aerodrome-related requirements LOW-VISIBILITYPROCEDURES</p> <p>NPA text (suitable low-visibility procedures (LVPs) have been established and are in effect as verified by the commander before each approach.</p> <p>Requested change Change “suitable” to “corresponding”.</p> <p>Justification It is defined which requirements need to correspond with.</p> <p>Requested change Clarify by which means.</p> <p>Justification Is approach clearance “cleared RWY XY CATII/III” satisfying.</p>
response	<p>Partially accepted</p> <p>‘Suitable’ has been deleted. The details of LVPs is a matter for the aerodrome operator, not the aircraft operator. The responsibility of the aircraft operator is to confirm that LVPs are established rather than to review the detail of those procedures.</p> <p>The requirement to verify that LVPs are in effect at the time of the approach has been deleted here because it is a duplication of AMC1 SPA.LVO.105(c) and this is an operating procedure not a requirement for selecting aerodromes suitable for LVOs.</p>
comment	<p>939                      comment by: Eurowings GmbH</p> <p>GM4 SPA.LVO.110 ANS- and aerodrome-related requirements USE OFAUTOLAND</p> <p>NPA text If an operator is not aware of current CAT II/III operations at a particular runway by some other operator and similar aircraft type, it is a good practice for the operator to have conducted at least one approach using the Category II or III system and procedures and preferably with LVPs in effect, to each runway intended for Category II/III operations in weather better than that requiring the use of Category II minima.</p>

response	<p>Requested change Clarify whether is required or recommended.</p> <p>Justification Phraseology does not make clear if it is required or not.</p>
	<p>Noted</p> <p>It is neither required nor recommended, but it is good practice. Being GM, this text does not place any obligation on operators.</p>

comment	<p>943                      comment by: Eurowings GmbH</p> <p>AMC3 SPA.LVO.110 ANS- and aerodrome-related requirements SUITABLE AERODROMES – APPROACH OPERATIONS OTHER THAN EFVS OPERATIONS</p> <p>NPA text For CAT II instrument approach operations, a PA runway category II or category III should be used. For CAT III instrument approach operations, a PA runway category III should be used. The operator should verify the suitability of a runway before authorising the use of autoland on any runway other than a PA runway category II or a PA runway category III. Each aircraft type/equipment/runway combinations should be verified by operations in CAT I or better conditions before authorising the use of autoland on any runway with irregular pre-threshold terrain or other foreseeable or known difficulties.</p> <p>GM4 SPA.LVO.110 ANS- and aerodrome-related requirements USE OF AUTOLAND</p> <p>NPA text It may be assumed that category II and category III runways will support autoland systems unless the State of the aerodrome has published information indicating otherwise. Where other runways are to be authorised for autoland operations, the operator should consult the aircraft manufacturer to establish any requirements for satisfactory autoland performance and may conduct autoland in CAT I or better conditions before authorising other use of autoland.</p> <p>Comment EUROWINGS GMBH strongly appreciates the RMT expert's decision to consider the RWY's suitability for PA CAT II/III and suitability for autoland separately acc. to AMC3 SPA.LVO.110. It needs to be clearly pointed out in the regulation, that a suitable PA CAT II/III RWY does support autoland function without any further restriction and therefore no additional assessment is necessary. Only if a RWY has irregular pre-threshold terrain (IPTT), there might be the need to verify by different means, whether there IPTT could have an effect on the autoland performance on this specific runway.</p>
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	<p>For a necessary verification, there seem to be multiple options for analysis. Considering the AFM data it might be possible to perform a desktop analysis based on counture charts or radar altimeter readouts, as well as analysing flight data monitoring data. However it must be ensured, that the national authority, in cooperation with the aerodrome operators, provide sufficient data concerning RWY suitability to enable the operators to perform the required assessment, whether a RWY does have reg. or irreg. pre-threshold terrain.</p> <p>This is how GM4 SPA.LVO.110 need to be understood and should be clear, that deficiencies even concerning the pre- threshold terrain have to be announced by the NAA.</p>
response	<p>Noted</p> <p>EASA has organised a task force with the participation of LBA to address the issues related to pre-threshold terrain and the work resulted in a new set of AMC and GM to SPA.LVO.105 and mainly SPA.LVO.110.</p>

AMC and GM to the new content of SPA.LVO.120 'Flightcrew competence'

p. 35-38

comment	<p>148      comment by: Federal Office of Civil Aviation (FOCA), Switzerland</p> <p><b>Comment FOCA:</b> This useful table shall be at AMC level in order to set a common training standard.</p>
response	<p>Not accepted</p> <p>The table in GM1 SPA.LVO.120(b) presents the information from AMC2 SPA.LVO.120(b). The provisions are already at AMC level, the table only provides the information in a different format.</p>
comment	<p>571      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL EASA proposed guidance and requirements on the definition of recent experiences are confusing. They are splited on the four corners of this proposed regulation and the scope of each and every AMC and GM is not precise. Plus, these requirements and guidance seem to be redundant which introduces complexity on this proposed regulation.</p>
response	<p>Partially accepted</p> <p>AMC4 SPA.LVO.120(b) and GM1 SPA.LVO.120(b) have been amended to clarify the requirements for recent experience.</p>
comment	<p>572      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL Additional data to collect and requirements are provided. FNAM suggests to ensure a smooth transition period for allowing operators to adapt their activities to this</p>



	new requirement. Plus, some demonstrations could take benefit of current and approved quality systems of operators. This would reduce the administrative burden for operators but also for NAA.
response	Noted
comment	<p>573 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>The scope of EASA's proposed disposal is confused. Titles describe AMC applicable for SA CAT I, SA CAT II, CAT II and CAT II approaches although LVO requirements are clearly described in this AMC. Indeed, SA CAT I and SA CAT II (operations with operational credit) are differentiate from LVO operations. <i>FNAM</i> suggests to review the structure of this AMC in order to differentiate LVO requirements and operations with operational credits requirements in order to ensure the efficient interpretation and implementations of these EASA proposed disposals.</p>
response	<p>Not accepted</p> <p>SA CAT I, SA CAT II, CAT II and CAT III are all LVOs.</p>

2.1.6. Annex VI 'Non-commercial operations with complex motor-powered aircraft' (Part-NCC) and related AMC & GM

p. 38

comment	<p>574 comment by: <i>FNAM</i></p> <p>ISSUE and PROPOSAL</p> <p>This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders.</p>
response	<p>Noted</p> <p>A consistency check has been performed.</p>

NCC.OP.110 'Aerodrome operating minima — general'

p. 38

comment	<p>575 comment by: <i>FNAM</i></p> <p>ISSUE and PROPOSAL</p> <p>This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders.</p>
response	Noted



A consistency check has been performed.

AMC and GM to NCC.OP.110 'Aerodrome operating minima — general'

p. 38-39

comment

576

comment by: *FNAM*

ISSUE and PROPOSAL

This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders.

response

Noted

A consistency check has been performed.

NCC.OP.112 'Aerodrome operating minima—circling approach operations with aeroplanes'

p. 39

comment

577

comment by: *FNAM*

ISSUE and PROPOSAL

This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders.

response

Noted

A consistency check has been performed.

NCC.OP.115 'Departure and approach procedures'

p. 39

comment

578

comment by: *FNAM*

ISSUE and PROPOSAL

This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders.

response

Noted

A consistency check has been performed.

NCC.OP.230 'Commencement and continuation of approach'

p. 39



comment	579	comment by: <i>FNAM</i>
	<p>ISSUE and PROPOSAL</p> <p>This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders.</p>	
response	<p>Noted</p> <p>A consistency check has been performed.</p>	

NCC.OP.235 'EFVS 200 operations'	p. 40
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comment	580	comment by: <i>FNAM</i>
	<p>AGREEMENT</p> <p>FNAM agrees with EASA's proposals for EFVS 200 which would not need specific approvals.</p>	
response	<p>Noted</p>	

2.1.7. Annex VII 'Non-commercial operations with other-than complex motor-powered aircraft' (Part-NCO) and related AMC & GM	p. 40
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comment	52	comment by: Europe Air Sports
	<p>The text beginning with "The changes to Part-NCO will be made taking into account the proportionality..." is slightly contradictory / misleading.</p> <p>The first sentence infers that NCO rules would be less demanding than NCC and CAT, following the general proportionality principle, while the second sentence infers more demanding ("<i>more prescriptive</i>") NCO rules.</p> <p>It is important that prescriptive implementing rules are used only where absolutely necessary to capture requirements where non-compliance would <i>never in any circumstances</i> be the safest decision.</p> <p>We understand that the reason for this apparent contradiction could be that Part-NCO differs from other Parts, in that AMCs in Part-NCO are less binding than in other Parts. The consequence is that in Part-NCO, more rules have to be within the IR itself.</p> <p>An explanation to this effect would explain this apparent contradiction.</p>	
response	<p>Noted</p>	



comment	<p>438 comment by: European Powered Flying Union</p> <p>2.1.7 Annex VII ...(Part-NCO) and related AMC &amp; GM page 40</p> <p>The text the Agency proposes requires clarifications: In the second sentence of 2.1.7 we read the statement "The changes to Part-NCO will be made taking into account the proportionality principles towards the more complex Part-CAT or Part NCC operations." Then the Agency continues: "Consequently, the IRs in Part-NCO will be more prescriptive than for CAT operations, including detailed technical aspects".</p> <p>Question: Is it really the intention of the Agency to put a heavier burden on the lighter operations conducted with "simpler" aircraft by adding more prescriptions and supplementary technical requirements?</p> <p>We propose: Consequently, the IRs in Part-NCO will be adjusted to the nature of the operations in order to maintain an acceptable level of safety. Detailed technical aspects will be introduced where required.</p>
response	<p>Noted.</p> <p>The GA community is well-represented in the review group.</p>
comment	<p>581 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL FNAM is really surprised that NCO proposals will not be submitted to consultation. This is totally unacceptable for stakeholders who want to give their opinions on proposed NCO dispositions in order to make sure that they will be applicable for each and every stakeholders.</p>
response	<p>Noted</p> <p>The NPA proposing amendments to Part-NCO and to helicopters will be published at a later stage. Stakeholders will have the opportunity to provide their opinions.</p>

2.1.9. Helicopter issues in Annexes IV (Part-CAT)–VIII (Part-SPO) and related AMC & GM p. 41

comment	<p>582 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL The current LVP for helicopter operations is defined with and RVR lower than 500m. However, the proposed RVR for LVO operations for all type of aircraft is proposed lower than 550m. Since the proposed disposal applies for all helicopter operations, this modification would impact them.</p>
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	<p>Since one of the NPA main objective is to introduce new possibilities on a voluntary basis without impacting all operators, FNAM suggests to remove take-off possibilities in LVO definition since it is already taking into account in LVTO definition. Plus, in order to be consistent with current helicopter requirements, FNAM suggests to precise helicopter specific definition with an RVR lower than 500m.</p>
response	<p>Not accepted</p> <p>The objective is to ensure consistency across all operations in the European regulatory framework (e.g. Aerodromes Regulation).</p>

## Article 5 Air operations

p. 43

comment	<p>583 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (2)(a)(iv)</p> <p>The proposed article adds the concept of operations with operational credits to Air operations options and requirements. Nevertheless, since low visibility operations could be performed without operational credits and, in the same way, that operational credits could be performed apart from low visibility operation, FNAM suggests to link the two different types of operations in (iv) with ‘or’ instead of ‘and’.</p>
response	<p>Accepted</p> <p>Article 5(2) has been amended as proposed.</p>

## Annex I Definitions for terms used in Annexes II to VIII

p. 43-47

comment	<p>1 comment by: Jose Luis CABRERA GONZALEZ</p> <p><a href="#">Attachment #1</a></p> <p>CDFA is an improvement in safety.</p> <p>By current and proposed CDFA definitions, the final approach segment must be flown without level-off to a runway. As defined, CDFA technique can only be suitable for straight-in approaches. For this kind of approaches, there is not problem to use CDFA technique to fly the approach whether the landing is made on the runway to which the procedure is made or on another runway. Main reason is that Final Approach Segment ends over a runway.</p> <p>Not all approaches have straight-in minimums, as final approach segment is to bring the aircraft into a position to start a visual approach ('circling' as defined on page 44). In these cases, only circling minima are published and the Final-approach segment is not able to be extended to reach runway threshold. For these cases a special treatment must be considered. i.e. GEML NDB approach attached.</p>
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On page 44, following definitions are amended or added:

- 'circling' means the visual phase of a circling approach operation;
- 'circling approach operation' means an approach operation to bring an aircraft into position for landing on a runway/final approach and take-off area (FATO) that is not suitably located for a straight-in approach. Circling is a Type A instrument approach operation;
- 'continuous descent final approach (CDFA)' means a technique, consistent with stabilised approach procedures, for flying the final-approach segment (FAS) of a non-precision approach (NPA) procedure as a continuous descent, without level-off, from an altitude/height at or above the final approach fix altitude/height to a point approximately 15 m (50 ft) above the landing runway threshold or the point where the flare manoeuvre begins for the type of aircraft flown; for the FAS of an NPA procedure followed by a circling, the CDFA technique applies until circling minima (circling obstacle clearance altitude/height (OCA/H)) or visual flight manoeuvre altitude/height are reached;

All these definitions are consistent.

In my opinion, 'circling approach operation' must be considered in accordance with ICAO DOC 8168 Vol I Part I — Section 4, Chapter 8 paragraph 8.5.1.2.5 Circling approach.

Using definitions above stated, circling approach operations, understood as ICAO DOC 8168 Vol I Part I - Section 4 Chapter 8 paragraph 8.5.1.2.5 mentioned above, are outside the scope of CAT.OP.MPA.115, as CDFA is only applicable to those approaches when straight-in minima is defined for the non-precision approach (NPA) procedure. Indeed, an approval for a particular approach to a particular runway is required from the competent authority in accordance with CAT.OP.MPA.115 paragraph (a). When there are no approaches to a particular runway, CAT.OP.MPA.115 paragraph (a) and proposed paragraph (b) may not be applicable as circling approach is serving the airport and not an specific runway.

If this is right, it must be clarified to avoid misunderstandings.

In negative case, CDFA definition must be changed to specify following cases:

*'continuous descent final approach (CDFA)' means a technique, consistent with stabilised approach procedures, for flying the final approach segment (FAS) as a continuous descent, without level-off, from an altitude/height at or above the final approach fix altitude/height to :*

1. *For straight-in approach: a point approximately 15 m (50 ft) above the landing runway threshold or the point where the flare manoeuvre begins for the type of aircraft flown; for the FAS of an NPA procedure followed by a circling, the CDFA technique applies until circling minima (circling obstacle clearance altitude/height (OCA/H)) or visual flight manoeuvre altitude/height are reached;*
2. *For circling approach: a point where circling minima (circling obstacle clearance altitude/height (OCA/H)) or visual flight manoeuvre altitude/height are reached;*



response	<p>Partially accepted</p> <p>The CDFA technique is applicable to circling approach operations and such operations are within the scope of CAT.OP.MPA.115. In order to clarify this, GM1 CAT.OP.MPA.115(b) has been amended to include a new point (c) describing the application of the CDFA technique to circling approach operations, and the definition of CDFA in Annex I has been amended to provide more clarity in relation to circling approach operations.</p>
comment	<p>35      comment by: Wideroe Flyveselskap AS</p> <p>Circling approach operation: P44.</p> <p>The definition states: “..., from an altitude/height at or above the final approach fix altitude/height to a point approximately 15 m (50 ft) above the landing runway threshold.....”</p> <p>Comment: Current short landing operation and steep approach operation allow crossing of the actual threshold lower than 15 m (50 ft) above the landing runway, i.e. 35 ft.</p> <p>The definition for circling approach operation should be sufficiently flexible to allow use of threshold crossing heights typically used in short field landing operations and steep approach operations</p> <p>Question      What is 'visual flight manoeuvre altitude/height'?</p>
response	<p>Noted</p> <p>The definition of circling approach operation does not exclude short landing or steep approach. 'Visual manoeuvre altitude/height' during a circling approach is the altitude or height at which the pilot manoeuvres the aircraft using external visual reference.</p>
comment	<p>91      comment by: AIRBUS</p> <p>Annex 1 - 'Type A instrument approach operation' definition</p> <p>Why no RVR/VIS criteria has been defined for the Type A approaches?</p> <p>Note: RVR criteria previously applies for NPA (750m) and APV (600m).</p>
response	<p>Noted</p> <p>Type A instrument approach operations are defined on the basis of decision height; the definition originates from ICAO Annex 6.</p>
comment	<p>98      comment by: Dassault-Aviation</p>



	<p>Text: Annex I Definitions for terms used in Annexes II to VIII page 44 "enhanced flight vision system (EFVS)' is an electronic means to provide the flight crew with a real-time sensor-derived or enhanced display of the external scene topography (the natural or man-made features of a place or region especially in a way to show their relative positions and elevation) through the use of imaging sensors; an EFVS is integrated with a flight guidance system and is implemented on a head-up display or an equivalent display system; if an EFVS is certificated according to the applicable airworthiness requirements <b>and an operator holds the necessary specific approval, then EFVS may be used for EFVS operations and may allow operations with operational credits.</b>"</p> <p>Comment: the wording is not consistent with EFVS200 that allows operational credit without requiring Ops approval.</p> <p>Proposed change: "enhanced flight vision system (EFVS)' is an electronic means to provide the flight crew with a real-time sensor-derived or enhanced display of the external scene topography (the natural or man-made features of a place or region especially in a way to show their relative positions and elevation) through the use of imaging sensors; an EFVS is integrated with a flight guidance system and is implemented on a head-up display or an equivalent display system; if an EFVS is certificated according to the applicable airworthiness requirements and an operator holds the necessary specific approval (<b>when required</b>), then EFVS may be used for EFVS operations and may allow operations with operational credits."</p>
response	<p>Accepted</p> <p>The definition suffered other changes to ensure consistency with CS-AWO.</p>
comment	<p>150 comment by: Federal Office of Civil Aviation (FOCA), Switzerland</p> <p><b>Comment FOCA:</b> RVR value is linked to an individual runway. Adding a restriction for operations on taxiways with "any RVR less than 550 m" could lead to limited operations on the whole taxiway system, while only one runway is under LVO. The proposal aims at considering the taxiways as separate elements like the runways, and not the taxi operation.</p>



response	<p><i>Suggested next text:</i> ‘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 and on selected taxiways at an aerodrome at which a runway is under LVO;</p> <p>Accepted</p> <p>The definition of LVOs has been amended to remove the reference to taxiing.</p>
comment	<p>151 comment by: UK CAA</p> <p><b>Page No:</b> 43 / 61 / 157</p> <p><b>Paragraph No:</b> Annex I, Definitions: ‘aerodrome operating minima’ paragraphs (a) and (b) / AMC1 CAT.OP.MPA.110 paragraph (a)(1) / AMC3 NCC.OP.110 paragraph (a)(1)</p> <p><b>Comment:</b> The term ‘cloud conditions’ is frequently used but is not currently defined by ICAO or EASA. It would be helpful to know exactly what information should be specified; (for example: cloud type / height or ceiling / coverage).</p> <p><b>Justification:</b> A definition of ‘cloud conditions’ would enable consistent interpretation of the term.</p>
response	<p>Partially accepted</p> <p>The term ‘cloud conditions’ has been removed and a definition of ceiling has been provided.</p>
comment	<p>152 comment by: UK CAA</p> <p>Page No: 44</p> <p><b>Paragraph No:</b> Annex I, Definitions: ‘continuous descent final approach (CDFA)’</p> <p><b>Comment:</b> A correction to the sentence construction is proposed below.</p> <p>Justification: Grammar</p> <p>Proposed Text:  ‘continuous descent final approach (CDFA)’... for the FAS of an NPA procedure followed by a circling, the CDFA technique applies until circling minima (circling obstacle clearance altitude/height (OCA/H)) or visual flight manoeuvre altitude/height are reached;’</p>
response	<p>Accepted</p> <p>The definition of ‘continuous descent final approach (CDFA)’ has been updated. In addition to the changes suggested the reference to obstacle clearance</p>



altitude/height (OCA/H) has been deleted because the circling minima selected by the operator will not necessarily be coincident with OCA/H)

comment

153 comment by: UK CAA

Page No: 45

**Paragraph No:** Annex I, Definitions: ‘head-up display landing system (HUDLS)’

**Comment:** We suggest the definition could be simplified for easier reading, as proposed below.

Justification: Clarity

Proposed Text:  
 ‘head-up display landing system (HUDLS)’ means the total airborne system which provides head-up guidance to the pilot to enable the pilot to either control the aircraft, or to monitor the autopilot during take-off (if applicable), approach, and landing (and roll-out, if applicable), or go-around, **as applicable.** ~~The system~~ includes all the sensors, computers, power supplies, indications and controls; **related to the display.**

response

Not accepted

The proposed definition is aligned with CS AWO.A.HUD.101.

comment

154 comment by: UK CAA

Page No: 45

**Paragraph No:** Annex I, Definitions: ‘instrument approach operation’

**Comment:** (1) It is recommended that the abbreviations used should be added to GM2 Annex I Definitions, ‘ABBREVIATIONS AND ACRONYMS’ - or written in full for clarity; (2) Alignment with ICAO definition.

Justification: Clarity

Proposed Text:  
 ‘instrument approach operation’ means an approach and landing using instruments for navigation guidance based on an IAP **instrument approach procedure (IAP).** There are two methods for ~~conducting~~ **executing** instrument approach operations:  
 (a) ~~2D~~ **a two-dimensional (2D)** instrument approach operation, using lateral navigation guidance only; and  
 (b) ~~3D~~ **a three-dimensional (3D)** instrument approach operation, using both lateral and vertical navigation guidance;  
 Note.— Lateral and vertical navigation guidance refers to the guidance provided either by:  
 a) a ground-based radio navigation aid; or



response	<p>b) computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.'</p> <p>Accepted</p> <p>The definition of 'instrument approach operation' has been amended as proposed and the abbreviations 'IAP', '2D' and '3D' have been added to the list of abbreviations and acronyms in GM2 Annex I.</p>
comment	<p>155                      comment by: <i>UK CAA</i></p> <p>Page No: 45</p> <p><b>Paragraph No:</b> Annex I, Definitions: (74) 'low visibility procedures'</p> <p><b>Comment:</b> The definition of 'low visibility procedures (LVP)' is proposed to be deleted but does not appear to have been transferred to GM level, as suggested on page 8. We believe the definition should be included, as frequent references are made to LVPs.</p> <p>Justification: Reference</p>
response	<p>Accepted</p> <p>The LVP definition has been introduced in GM to Annex I.</p>
comment	<p>156                      comment by: <i>UK CAA</i></p> <p>Page No: 45</p> <p><b>Paragraph No:</b> Annex I, Definitions: 'low-visibility operations (LVOs)'</p> <p>Comment:</p> <p>(1) We believe the term 'operation' should be singular to align with the other definitions; alternatively, the other definitions could be made plural (e.g. 'instrument approach operations');</p> <p>(2) We recommend the definition is rewritten to avoid unnecessary repetition, as suggested below.</p> <p><b>Justification:</b> Consistency, simplification.</p> <p>Proposed Text:</p> <p>'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; <b><u>the arrival, departure or surface movement of aircraft at an aerodrome at which any RVR is less than 550 m;</u></b></p>



response	<p>Partially accepted</p> <p>The definition of LVOs has been amended to remove the reference to taxiing.</p>
comment	<p>157                      comment by: <i>UK CAA</i></p> <p>Page No: 45</p> <p><b>Paragraph No:</b> Annex 1 Definitions: ‘low-visibility take-off’</p> <p><b>Comment:</b> In light of the proposed definition for low-visibility operations, this definition is potentially redundant. However, there could be some benefit in revising the LVTO definition to highlight when a specific approval would be required.</p> <p>Justification: Clarity</p>
response	<p>Accepted.</p> <p>The definition has been amended.</p>
comment	<p>158                      comment by: <i>UK CAA</i></p> <p>Page No: 46</p> <p><b>Paragraph No:</b> Annex I, Definitions: ‘operation with operational credits’</p> <p><b>Comment:</b></p> <p>(1) ‘Lower-than-standard’ was a term used for LTS CAT I approaches which are being discontinued, so it would be best to avoid using this term;</p> <p>(2) According to the definition of Type B instrument approach operation (on page 46), CAT I, II and III are ‘categories’ - not ‘classes’;</p> <p>(3) As currently worded, it might suggest that ‘aerodrome operating minima’ does not include visibility;</p> <p>(4) We suggest the definition could be revised using detail provided by ICAO in Annex 6 Part I and Doc 9365.</p> <p><b>Justification:</b> Accuracy, clarity.</p> <p><b>Proposed Text:</b></p> <p>‘operation with operational credits (<b>OWOC</b>)’ 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. <b>the combined capability of the aircraft’s equipment and on-ground infrastructure for the purpose of:</b></p> <p>a) reducing aerodrome operating minima for a specific instrument approach operation; or</p> <p>b) allowing visibility requirements to be fulfilled, wholly or partly, by means of the aircraft’s on-board systems; or</p>



response	<p>c) using airborne capabilities to compensate for fewer ground facilities.</p> <p>Partially accepted</p> <p>The definition of ‘operational credit’ has been introduced. The definition is transposed from ICAO Doc 9365 AWO.</p>
comment	<p>159 comment by: UK CAA</p> <p>Page No: 46</p> <p><b>Paragraph No:</b> Annex I, Definitions: ‘Type A and Type B instrument approach operation’</p> <p><b>Comment:</b></p> <p>(1) Instrument approach operations are classified Type A and B according to decision <u>height</u> or minimum descent <u>height</u>; (i.e. not altitude).</p> <p>(2) We recommend the abbreviations should be expanded for easier reference and alignment with ICAO; (Annex 6, Part I, 4.2.8.3).</p> <p><b>Justification:</b> Accuracy, clarity</p> <p><b>Proposed Text:</b></p> <p>‘Type A instrument approach operation’ means an <b>instrument approach</b> operation with an <del>MDA/H</del> or a <del>DA/H</del> <b>a minimum descent height or decision height</b> at or above 250 ft;</p> <p>‘Type B instrument approach operation’ means an <b>instrument approach</b> operation with a <del>minimum DA/H</del> <b>decision height</b> below 250 ft. Type B instrument approach operations are categorised as:</p> <p>(a) Category I (CAT I): a <del>DA/H</del> <b>decision height</b> not lower than 200 ft and with either a visibility not less than 800 m or an <del>RVR</del> <b>a runway visual range</b> not less than 550 m;</p> <p>(b) Category II (CAT II): a <del>DH</del> <b>decision height</b> lower than 200 ft but not lower than 100 ft, and an <del>RVR</del> <b>a runway visual range</b> not less than 300 m;</p> <p>(c) Category III (CAT III): a <del>DH</del> <b>decision height</b> lower than 100 ft or no <del>DH</del> <b>decision height</b>, and an <del>RVR</del> <b>a runway visual range</b> less than 300 m or no <del>RVR</del> <b>runway visual range</b> limitations;’</p>
response	<p>Partially accepted</p> <p>Consistency with ICAO Doc 9365.</p>
comment	<p>160 comment by: UK CAA</p> <p>Page No: 46</p> <p><b>Paragraph No:</b> Annex I, Definitions: ‘visibility’</p> <p><b>Comment:</b> The World Meteorological Organization (WMO) definition of visibility and the ICAO Annex III definition of visibility are different:</p>



	<p>WMO definition:                  ‘Visibility, meteorological visibility (by day) and meteorological visibility at night are defined as the greatest distance at which a black object of suitable dimensions (located on the ground) can be seen and recognized when observed against the horizon sky during daylight or could be seen and recognized during the night if the general illumination were raised to the normal daylight level’</p> <p>ICAO Annex 3 definition:                  ‘Visibility. Visibility for aeronautical purposes is the greater of:                  a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background;                  b) the greatest distance at which lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background.                  Note.— The two distances have different values in air of a given extinction coefficient, and the latter b) varies with the background illumination. The former a) is represented by the meteorological optical range (MOR).’</p> <p>The difference in definitions has already raised concerns at ICAO about possible inconsistencies between visibility and CMV (reference ICAO paper AMOFSG/10-SN No. 11).</p> <p>It is also noted that throughout NPA 2018-06(C), ‘CMV’ has often been replaced with ‘VIS’; and ‘VIS’ and ‘RVR’ are regularly paired.</p> <p>Correct usage of meteorological terms is fundamental to all-weather operations and it is of utmost importance that the terms are used correctly. Therefore, the UK CAA respectfully recommends that EASA seeks expert meteorological advice to ensure that all references to (and relationships between) visibility (VIS), CMV and RVR are accurately placed and correctly aligned.</p> <p>Justification: Accuracy</p>
response	<p>Partially accepted</p> <p>After extensive discussions, the RMG took the view that the most appropriate definition for visibility was that of ‘aeronautical visibility’. This promotes a common definition across the aeronautical domains and ensures compliance with ICAO standards.</p> <p>The regulation has been revised with the intent of eliminating ambiguity in relation to the use of RVR, CMV and VIS. RVR is specified for aerodrome operating minima for straight-in approaches. VIS is applicable for circling approach operations. CMV may be used in certain circumstances to substitute for RVR or VIS and these circumstances are defined in AMC9 CAT.OP.MPA.110. ‘RVR/CMV/VIS’ is no longer used.</p>
comment	<p>161                      comment by: UK CAA</p> <p>Page No: 46</p>



	<p><b>Paragraph No:</b> Annex I, Definitions: 'visibility'</p> <p><b>Comment:</b> Although already listed in GM2 Annex I Definitions, we recommend that the abbreviation should be included in the definition for reference purposes.</p> <p>Justification: Clarity</p> <p>Proposed Text:  'visibility (<b>VIS</b>)' means visibility for aeronautical purposes, which is the greater of:  (a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognised when observed against a bright background; and  (b) the greatest distance at which lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background;'</p>
response	<p>Accepted</p> <p>The abbreviation 'VIS' has been included in the definition of visibility as proposed.</p>
comment	<p>162                      comment by: <i>UK CAA</i></p> <p>Page No: 46</p> <p><b>Paragraph No:</b> Annex I, Definitions: 'visual approach operation'</p> <p><b>Comment:</b> (1) Amendments to the definition are proposed below to align with ICAO Doc 9365; (2) The missed approach would also be conducted with visual reference to terrain and the definition could be amended to include this.</p> <p>Justification: Clarity</p> <p>Proposed Text:  'visual approach operation' means an approach operation <b>by an IFR flight</b> when either part or all parts of an IAP <b>instrument approach procedure</b> (IAP) is <del>are</del> not completed and the approach operation is <b>and missed approach are</b> executed with visual reference to the terrain;</p>
response	<p>Partially accepted</p> <p>Consistency with ICAO Doc 9635.</p>
comment	<p>245                      comment by: <i>EUROCONTROL</i></p> <p>p.43 - Annex I  Definition of AOM.</p> <p>Semantics issue - procedures are expressed in terms of lowest minima allowable, operations can be flown to certain lowest minima, which never can be lower than the procedure definition minima (AMC3 CAT.OP.MPA.110 (a) (2)).  Proposal for each line: "...operations, flown to minima expressed in..."</p>

response	<p>Partially accepted</p> <p>The review group has amended the definition taking into account this comment, but the final version does not exactly follow the proposed wording of this comment.</p>
comment	<p>246                      comment by: <i>EUROCONTROL</i></p> <p>p.44 - Annex I Definition, of "circling approach operation".</p> <p>Formally the last phrase is not correct looking at the previous definition. Should be "A Circling approach operation is a Type A instrument approach operation."</p>
response	<p>Accepted</p> <p>The definition of circling approach operation has been amended as proposed.</p>
comment	<p>247                      comment by: <i>EUROCONTROL</i></p> <p>p.44 - Annex I Definition of EFVS200.</p> <p>Rename "EFVS 200" to "EFVS CAT I" throughout the document and replace "...approach to 200ft above the ..." by "...approach to the lowest published DH above the ...".</p>
response	<p>Not accepted</p> <p>EFVS operations can be applied to type A instrument approach operations as well as CAT I operations, and the use of EFVS does not affect the decision height used for the approach. Renaming 'EFVS 200' as 'EFVS CAT I' would therefore be inappropriate.</p>
comment	<p>248                      comment by: <i>EUROCONTROL</i></p> <p>p.44 - Annex I EFVS 200 operation : definition is very unclear.</p> <p>Proposal is to remove "in other than low visibility operations" and replace it by "with a minimum RVR of 550m".</p>
response	<p>Partially accepted</p> <p>The review group has improved the definition.</p>
comment	<p>249                      comment by: <i>EUROCONTROL</i></p> <p>p.45 - Annex I Definition of IAP (b).</p>



response	<p>This definition clarifies that the so-called "LPV200" procedures if allowed to be flown to DH &lt;250ft, are not APV's, but PA procedures. The definition thus also implies that flight validation, runway infrastructure and approval processes are those of (CAT I ) precision approach procedures. This is slightly different from FAA usage.</p> <p>Noted</p>
comment	<p>340 comment by: J.Woehrlin/DLH</p> <p>NPA text          'final approach segment (FAS)' means that segment of an instrument approach procedure (IAP) in which alignment and descent for landing are accomplished;</p> <p>Requested change          A clear differentiation between approach procedure and approach operation must also be applied to the definition of the 'final approach segment (FAS)'. Please clarify the exact beginning and end of the 'final approach segment'.</p> <p>Justification          The definition of a 'segment' as part of an 'instrument approach procedure' cannot consist of the description of an 'approach operation'.</p>
response	<p>Not accepted</p> <p>Alignment with ICAO.</p>
comment	<p>386 comment by: DGAC France</p> <p>Page 45          Annex I Definitions for terms used in Annexes II to VIII          'low-visibility operations (LVOs)'</p> <p>Comment:          The following 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' should be replaced by :  <u>'low-visibility operations (LVOs)' means approach on a runway with any RVR less than 550 m or DH less than 200ft, or means take-off operations on a runway with any RVR less than 550 m or means taxiing at an aerodrome at which any RVR is less than 550 m'</u></p> <p>Rational: LVO operation should include all operations with DH lower than 200ft. If not, CAT II operations with RVR above 550m, but with a DH below 200ft would not be considered as LVO operations and SPA.GEN.100 would not apply for this example.</p>
response	<p>Accepted</p>



DH of less than 200 feet has been added to the definition of LVOs.

comment

387 comment by: *DGAC France*

Page 45

Annex I Definitions for terms used in Annexes II to VIII

'low-visibility take-off (LVTO)' means a take-off with an RVR lower than 400 m but not less than 75 m; less than 550 m;

Comment:

It should remain 400m rather than 550m. This change of definition is considered useless with regards the complexity it may induce at the OPS level. It creates a new category of LVTO with RVR comprised between 400m and 550m of RVR. Aerodrome may decide to require LVP from 550m of RVR regardless of the type of operations (landing or take-off), however it should not impact the OPS definitions.

response

Not accepted

comment

388 comment by: *DGAC France*

Page 46

Annex I Definitions for terms used in Annexes II to VIII

'Type B instrument approach operation' means an operation with a minimum DA/H below 250 ft. Type B instrument approach operations are categorised as: ...

Comment:

SA CAT1 and SA CAT2 should be defined. Indeed SA CAT1 approaches require new design criteria compared to CAT 1 (missed approach, OCH based on radio altimeter area), modification of the electrical backup installation (switch overtime), OFZ (which are not required for CAT1 operations), and as a consequence, the publication of new approach procedures. SA CAT2 approaches rely also on specific provisions at the aerodrome level (in particular regarding the lighting systems). They can't be categorized as operational credit as EFVS are for instance.

Related comment/Rational: See also comment page 115 (GM2 SPA.LVO.100(c) Low-visibility operations and operations with operational credits, SPECIAL AUTHORISATION CATEGORY 1 (SA CAT I) OPERATIONS).

response

Not accepted

comment

389 comment by: *DGAC France*

Page 46

Annex I Definitions for terms used in Annexes II to VIII

'Type B instrument approach operation' means an operation with a minimum DA/H below 250 ft. Type B instrument approach operations are categorised as:[...]

(c) Category III (CAT III): a DH lower than 100 ft or no DH, and an RVR less than 300 m or no RVR limitation;'



<p>response</p>	<p>Comment: CAT III definition should be replace by : a DH lower than 100 ft or no DH, <del>and</del> or an RVR less than 300 m or no RVR limitation</p> <p>Not accepted.</p> <p>ICAO alignment.</p>
<p>comment</p>	<p>429                      comment by: <i>DGAC France</i></p> <p>Page 46 Annex I Definitions for terms used in Annexes II to VIII '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.</p> <p>Comment: Regarding the activity to do at the aerodrome level and ANSP level to make a CAT 1 be a SA CAT 1 (cf. CS-ADR + dedicated OCH based on radio altimeter, dedicated missed approach procedure), it will certainly require a new publication. As a consequence from an OPS point of view a SA CAT 1 is closer to a new category of approach (between CAT 1 and CAT2) than an "operational credit" operation. EFVS is a real operational credit compared to SA CAT 1. Trying to fit SA CAT 1 in the same "category" than EFVS operations may be confusing for the operators since the impact on ground is not the same. SA CAT2 approaches rely also on specific provisions at the aerodrome level (in particular regarding the lighting systems).</p> <p>Therefore, to clarify and therefore simplify the overall concept, 'operation with operational credits' should be regarded as a credit for the aircraft only and should not depend on ground infrastructures (it is not intended to be an additional constraint for the airport operator).</p> <p>Proposed definition : 'operation with operational credits' means an operation using specific aircraft 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.</p> <p>See also comments on page 46 (definition of 'Type B instrument approach operation'), page 54 (Part-ARO Appendix II, OPS SPEC) and page 115 (GM2 SPA.LVO.100(c) Low-visibility operations and operations with operational credits, SPECIAL AUTHORISATION CATEGORY 1 (SA CAT I) OPERATIONS).</p>
<p>response</p>	<p>Partially accepted</p>



A definition of operation with operational credit is proposed but it follows the latest wording provided by ICAO Doc 9635 AWO manual.

comment

584

comment by: *FNAM*

ISSUE AND PROPOSAL – aerodrome operating minima definition

Annex I proposes the definition of the aerodrome operating minima terms. Since one of the NPA main objectives is to harmonize European requirements with ICAO standards and guidance, FNAM suggests that this definition fit more with ICAO definition.

Indeed, ICAO Annex 6 part 1 definition is different:

“The limits of usability of an aerodrome for:

a) take-off, expressed in terms of runway visual range and/or visibility and, if necessary, cloud conditions;

b) landing in 2D instrument approach operations, expressed in terms of visibility and/or runway visual range minimum descent altitude/height (MDA/H) and, if necessary, cloud conditions; and

c) landing in 3D instrument approach operations, expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H) as appropriate to the type and/or category of the operation.”

Considering all differences and there potential impacts, FNAM suggests to fit exactly to ICAO standards and guidance. The consequence could be a different interpretation of the same concept between Member-States and third-countries. This may affect agreements and operations in third-countries.

response

Accepted

The definition of ‘aerodrome operating minima’ will be aligned with the ICAO definition (Annex 6 Part I).

comment

585

comment by: *FNAM*

ISSUE AND PROPOSAL – Instrument Approach operations definition

The proposed definition of instrument approach operation transposes ICAO definition. FNAM thanks for this initiative. Nevertheless, this definition is slightly different from ICAO definition by replacing ‘there are two methods for executing instrument approach operations’ with ‘there are two methods for conducting instrument approach operations’.

Since one of the main objectives of this NPA is to harmonize European requirements with ICAO standards an guidance, FNAM suggests to fit exactly to ICAO definition:

“An approach and landing using instruments for navigation guidance based on an instrument approach procedure. There are two methods for executing instrument approach operations:

a) a two-dimensional (2D) instrument approach operation, using lateral navigation guidance only; and

b) a three-dimensional (3D) instrument approach operation, using both lateral and vertical navigation guidance.”



response	Accepted
comment	<p>586 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – LVO definition The proposed disposal introduces Low Visibility Operations. This type of operation replaces the current LVP concept. However, there are differences between the two definitions. First, <i>FNAM</i> wonders why take-off possibilities is added although LVTO is kept and is describing LVO operations for take-off. Then, since take-off possibilities are added, the same RVR limitation than the current one should be provided for LVO take-off operations. Indeed, the current LVTO RVR limitation is lower than 400m although the proposed disposal limits the RVR at less than 550. Current LVTO definition fits also with ICAO LVTO definition: “approach operations in RVRs less than 550m and/or with a DH less than 60m (200ft) or take-off operations in RVRs less than 400m.” Therefore, the proposed disposal would impose additional LVTO approvals for RVR over 400m but lower than 550m. All operators would be impacted by this change. This definition would also impact all helicopter operators. The current LVP for helicopter operations is defined with an RVR lower than 500m. However, the proposed RVR for LVOs for all type of aircraft is proposed lower than 550m. Since the proposed disposal applies for all helicopter operations, this modification will impact them. Since one of the NPA main objective is to introduce new possibilities on a voluntary basis without impacting all operators, <i>FNAM</i> suggests to stick to ICAO definition and to precise helicopter specific definition with an RVR lower than 500m in order to be consistent with current helicopter requirements.</p>
response	<p>Not accepted</p> <p>The objective is to ensure consistency across all operations in the European regulatory framework (e.g. Aerodromes Regulation).</p>
comment	<p>587 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – LVTO definition The proposed disposal modifies Low Visibility Take-Off Operations. The current LVTO RVR limitation is lower than 400m although the proposed disposal limits the RVR at less than 550m. Therefore, the proposed disposal would impose additional LVTO approvals for RVR over 400m but lower than 550m. Plus, proposed SPA.LVO.100 requires LVTO approvals only with an RVR lower than 400m. There is therefore no need of approval for RVR between 400m and 550m, which is non-consistent. In order to avoid any ‘gap of approval’, <i>FNAM</i> suggests to keep the current RVR limitation for LVTO not lower than 400m. Since one of the NPA main objective is to introduce new possibilities on a voluntary basis without impacting all operators, <i>FNAM</i> suggests to remove this new RVR limitation and keep the current LVTO definition.</p>
response	Not accepted



The objective is to ensure consistency across all operations in the European regulatory framework (e.g. Aerodromes Regulation).

comment

588 comment by: *FNAM*

ISSUE AND PROPOSAL – Type A & Type B definitions  
 These definitions describe the new categories Type A and Type B by providing DH/MDH limitations and RVR limitations. These definitions are really precise but *FNAM* highlights that the vertical metric is not harmonized in the entire NPA. Indeed, DH and MDH limitations are sometimes provided in meter, sometimes provided in feet. In order to harmonize the document and to ensure a proper implementation of DH/A, MDH/A limitations, *FNAM* suggests to precise the limitation in feet and meter in the whole proposed regulation.

response

Noted

comment

589 comment by: *FNAM*

ISSUE AND PROPOSAL – Type B CAT I definition  
 This definition will impact all helicopter operators. The current CAT I for helicopter operations is defined with and RVR not less than 500m. However, the proposed RVR limitation for Type B CAT I for all type of aircraft is proposed at not less than 550m. Since the proposed disposal applies for all helicopter operations, this modification will impact them.  
 Since one of the main objective of this NPA is to introduce new possibilities on a voluntary basis without impacting all operators, *FNAM* suggests to precise helicopter specific definition with an RVR not less than 500m.

response

Not accepted

The objective is to ensure consistency across all operations in the European regulatory framework (e.g. Aerodromes Regulation).

comment

590 comment by: *FNAM*

ISSUE AND PROPOSAL – CAT III definition  
 New definitions and operation categorizations are proposed in NPA 2018-06. The Type B instrument approach operation gathers current CAT I, CAT and CAT III operations.  
 Some EASA's proposed requirements are anticipating ICAO standards presupposed evolution (e.g.: suppressing CATIIIA, CATIIIB and CATIIIC and replacing them with a single CATIIII).  
 Plus, *FNAM* wonders what will happen with flights operated by EU operators in non-European countries which are applying current ICAO standards. For CATIII operations, an authorization CATIIIA, CATIIIB or CATIIIC is required from the Member State where the operation is performed. If EU operators are approved CATIII and not CATIIIB or C anymore, *FNAM* wonders what will happen in non-EU countries where old categories (still in force in the ICAO documentation) are applied. *FNAM* fears that EU operators with an EU CATIII approval would be



	<p>considered as CATIIIA capable in other than European countries instead of CATIIIB or CATIIIC. This would limit the scope of their operations which is not the objective of the proposed changes described in the NPA.</p> <p>Plus, EASA's proposed CATIII definition would forbid any CAT III operations with an RVR over 300m. This characteristic is more restrictive than current one and is non-consistent. This is against this NPA main objective which is to introduce new measures on voluntary basis and to provide new measures as stringent than current measures. Indeed, No operations would be possible with an RVR over 300m and with a DH bellow 100ft. This is a non-sense since pilots would have a clear vision with an RVR over 300m There will be no safety risk , thus, this kind of operations should be allowed.</p> <p>FNAM proposes to keep the three subcategories of CATIII in order to ensure harmonization with ICAO standard, to facilitate understanding of the European regulations and to redefine CAT III in order to ensure all type of operations are allowed depending of RVR and DH.</p>
response	<p>Not Accepted</p> <p>The proposed removal of the sub-categories of Cat III is under way in ICAO, and the revised text has been published for consultation via State Letter, reference AN 11/1.1.33 – 18/80, published on 24 August 2018. Therefore, the proposed changes are in fact aligned with ICAO.</p>
comment	<p>827      comment by: German Aviation Association (BDL)</p> <p>Annex I: Definitions used in Annex I - III</p> <p>NPA text 'final approach segment (FAS)' means that segment of an instrument approach procedure (IAP) in which alignment and descent for landing are accomplished;</p> <p>Requested change A clear differentiation between approach procedure and approach operation must also be applied to the definition of the 'final approach segment (FAS)'. Please clarify the exact beginning and end of the 'final approach segment'.</p> <p>Justification The definition of a 'segment' as part of an 'instrument approach procedure' cannot consist of the description of an 'approach operation'.</p>
response	<p>Not accepted</p> <p>Alignment with ICAO.</p>
comment	<p>828      comment by: German Aviation Association (BDL)</p> <p>Annex I: Definitions used in Annex I - III</p> <p>NPA text</p>

	<p>'instrument approach procedure (IAP)' means a series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix or, where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply.</p> <p>Requested change ./.</p> <p>Justification BDL supports integration of a definition. BDL also supports the opinions of the RMT experts that the definition should be revised to make it more user friendly.</p>
response	Noted

comment	<p>945                      comment by: <i>THALES</i></p> <p>IAPs are classified in three categories : (A) (B) (c). None of this categories seems to fit for LPV 200.</p> <p>Thales proposal:</p> <p>To indicate in which category LPV 200 has to be classified</p>
response	<p>Not accepted</p> <p>Only the term 'LPVs' has been used in the Opinion.</p>

## GM2 Annex I Definitions

p. 47

comment	<p>71                      comment by: <i>ERAA</i></p> <p>C DFA: what is 'visual flight manoeuvre altitude/height'?</p>
response	Not accepted
comment	<p>250                      comment by: <i>EUROCONTROL</i></p> <p>P. 47 - GM2 Annex I Abbreviation of EFVS.</p> <p>EFVS 200 (or new name) is not defined?</p>
response	Not accepted



The definition of 'EFVS 200' has been included in the proposed changes to Annex I. GM2 lists acronyms and abbreviations.

comment	591 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL SA CAT I and SA CAT II are not defined. <i>FNAM</i> suggests to describe the acronym SA in GM2 of Annex I. The understanding of SA CAT I and SA CAT II would therefore be improved.
response	Not accepted

## GM16 Annex I Definitions

p. 47-48

comment	36 comment by: Wideroe Flyveselskap AS  Weather permissible aerodrome: P47  The definition states: ".....the meteorological conditions will be at or above the required aerodrome operating minima, and the runway surface condition reports indicate that a safe landing will be possible."  Comment: Widerøe's Flyveselskap AS operates at some regional short field aerodromes that typically has less than ten movements per day. Snow clearance, runway inspection and distribution of SNOWTAMS at these aerodromes are performed just before arrival to save man hours and wear on equipment. Typically, the airport operator can deliver a runway surface with little contamination and braking action Medium to Good. Hence, dispatch planning should be allowed based on expected runway surface condition at the time of arrival.
response	Not accepted  The definition already says at the beginning 'for the anticipated time of use' and it applies to the runway condition as well.
comment	100 comment by: Dassault-Aviation  Text: GM16 Annex I Definitions DEFINITIONS USED FOR ALL-WEATHER OPERATIONS page 47 "EFVS-Approach (EFVS-A)' is a system that has been demonstrated to meet the criteria to be used for approach operations from a DA/H or an MDA to 30 m (100 ft) touchdown zone elevation (TDZE) whilst all system components are functioning as intended, but may <b>have failure modes that could result in the loss of EFVS capability</b> . It should be assumed for an EFVS-A that:



	<p>(a) the pilot will conduct a go-around above 30 m (100 ft) TDZE, in the event of an EFVS failure; and..."</p> <p>Comment: Most critical failure modes are probably the misleading situations. So pilot will be able to detect misleading situation and perform go around manoeuvre.</p> <p>Proposed change: EFVS-Approach (EFVS-A) is a system that has been demonstrated to meet the criteria to be used for approach operations from a DA/H or an MDA to 30 m (100 ft) touchdown zone elevation (TDZE) whilst all system components are functioning as intended, but may have failure modes that could result <b>in loss or misleading situations</b>. It should be assumed for an EFVS-A that: (a) the pilot will <b>detect loss or inconsistency</b> and conduct a go-around above 30 m (100 ft) TDZE, in the event of an EFVS <b>loss or misleading</b>; and</p>
response	<p>Not accepted</p> <p>EASA has amended the definition to be clearer and to be aligned with the definition in CS-AWO; not though in the terms requested in the comment.</p>
comment	<p>163                      comment by: UK CAA</p> <p>Page No: 47</p> <p><b>Paragraph No:</b> GM16 Annex I Definitions: 'EFVS-Approach (EFVS-A)'</p> <p>Comment: (1) The MDH appears to have been omitted. (2) We find the definition difficult to follow; for example, if EFVS-A system failure <u>may</u> result in 'loss of EFVS capability', this could suggest that a similar system/s failure with the EFVS-Landing system <u>would not</u> result in loss of EFVS capability.</p> <p>A clarified definition would be welcome. Please find an alternative suggestion below.</p> <p>Justification: Grammar</p> <p>Proposed Text: 'EFVS-Approach (EFVS-A) is a system that has been demonstrated to meet the criteria to be used for approach operations from a DA/H or an MDA to 30 m (100 ft) touchdown zone elevation (TDZE) whilst all system components are functioning as intended, but may have failure modes that could result in the loss of EFVS capability. <b>for approach operations to not lower than 100 ft (30 m) above touchdown zone elevation (TDZE) with all system components functioning normally.</b> It should be assumed for an EFVS-A that: (a) the pilot will conduct a go-around above 30 m (100 ft) TDZE, in the event of an EFVS failure; and (b) descent below 30 m (100 ft) above the TDZE through to</p>



	<p>touchdown and roll-out should be conducted using natural vision in order that any failure of the EFVS does not prevent the pilot from completing the approach and landing.</p> <p>(a) in the event of an EFVS failure above 100 ft (30 m), the pilot will conduct a go-around; and</p> <p>(b) descent below 100 ft (30 m) TDZE, landing and roll-out will be conducted using natural vision, so that any loss of EFVS capability does not prevent the pilot from completing the approach and landing.</p>
response	<p>Not accepted.</p> <p>EASA has amended the definition to be clearer and to be aligned with the definition in CS-AWO; not though in the terms requested in the comment.</p>
comment	<p>164                      comment by: <i>UK CAA</i></p> <p>Page No: 48</p> <p><b>Paragraph No:</b> GM16 Annex I Definitions: ‘EFVS-Landing (EFVS-L)’</p> <p><b>Comment:</b> Please find an alternative suggested definition below.</p> <p>Justification: Clarity</p> <p>Proposed Text:  ‘EFVS-Landing (EFVS-L)’ is an EFVS that has been demonstrated to meet the criteria to be used for approach and landing operations that rely on sufficient visibility conditions to enable unaided roll-out and to mitigate for loss of EFVS function.<b><u>a system that has been demonstrated to meet the criteria for approach, landing and roll-out operations, provided that visibility conditions are sufficient to enable roll-out using natural vision in the event of loss of EFVS capability.</u></b></p>
response	<p>Not accepted.</p> <p>EASA has amended the definition to be clearer and to be aligned with the definition in CS-AWO; not though in the terms requested in the comment.</p>
comment	<p>592                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (a)</p> <p>The proposed guidance introduces the definition for EFVS-Approach. One of the implementation condition for EFVS-A is that ‘the pilot will conduct a go-around above 30m (100ft) TDZE, in the event of an EFVS failure’. In the case where another category of operation conditions is gathered to allow the landing during the EFVS failure, FNAM wonders why the landing would not be allowed. Thus, FNAM suggests to modify the EFVS-A definition and to introduce the possibility to land when another category of operation conditions is gathered to allow the landing during the EFVS failure.</p>
response	<p>Not accepted</p>

EASA has amended the definition to be clearer and to be aligned with the definition in CS-AWO; not though in the terms requested in the comment.

GM17 to Annex I Definitions

p. 48-49

comment

101 comment by: Dassault-Aviation

Text:

GM17 to Annex I Definitions

ENHANCED VISION SYSTEMS (EVSs) page 48

"(b) EVS and EFVS

An EFVS is an EVS that is integrated with a flight guidance system, which presents the image from

sensors to the pilot on a head-up display (HUD) or equivalent display. If EFVS equipment is certificated

according to the applicable airworthiness requirements **and an operator holds the necessary specific**

**approval**, then an EFVS may be used for EFVS operations. An EFVS operation is an operation with an

operational credit which allows operating in visibility conditions lower than those in which operations

without the use of EFVS are permitted."

Comment:

The (b) is in a section related to EVS, not EFVS. Sentence is a duplication of EFVS definition that is already mentioned page 44 in "Annex I Definitions for terms used in Annexes II to VIII". This section should be removed.

The fact the EVSs does not permit the use of different operating minima and EVS images cannot replace

natural vision for required visual reference in any phase of flight including take-off, approach or landing is already mentioned in (e).

Proposed change:

"(b) EVS and EFVS

An EFVS is an EVS that is integrated with a flight guidance system, which presents the image from

sensors to the pilot on a head-up display (HUD) or equivalent display. If EFVS equipment is certificated

according to the applicable airworthiness requirements and an operator holds the necessary specific

approval, then an EFVS may be used for EFVS operations. An EFVS operation is an operation with an

operational credit which allows operating in visibility conditions lower than those in which operations

without the use of EFVS are permitted."

response

Not accepted



EASA has amended the definition to be clearer and to be aligned with the definition in CS-AWO; not though in the terms requested in the comment.

comment 130 comment by: *US FAA*

"Situation" not situational

response Not accepted

EASA acknowledges the lack of consistency as both 'situational awareness' and 'situation awareness' are used in the OPS rules. The decision taken is to be consistent in the text of the AMC and GM associated with Opinion No 02/2021 where only the former is going to be used.

GM18 Annex I Definitions

p. 49-50

comment 165 comment by: *UK CAA*

**Page No:** 50 and 117

**Paragraph No:** GM18 Annex I Definitions paragraph (a)(2) and GM4 SPA.LVO.100 (c) paragraph (d)(1)

**Comment:** Some grammatical corrections are proposed below.

Justification: Grammar

**Proposed Text:** Amend to read as follows:

... computer-generated navigation data from ground-based, space-based, or self-contained navigation aids, or a combination of ~~them~~these.

response Accepted

GM18 Annex I has been amended as proposed.

comment 593 comment by: *FNAM*

ISSUE AND PROPOSAL

The fourth edition of ICAO Doc 9365 Manual of All-Weather Operation was edited in 2017 and not in July 2016. Thus, FNAM suggests to change the date of edition of this manual in the proposed GM18.

response Accepted

References to ICAO Doc 9365 Manual of All-Weather Operations in GM18 and the Explanatory Note have been amended as proposed.

comment 928 comment by: *IATA*



	<p>(b) A non-precision approach procedure flown as CDFA with vertical path guidance calculated by on-board equipment is considered to be a 3D instrument approach operation. Depending on the limitations of the equipment and information sources used to generate vertical guidance, it may be necessary for the pilot to cross-check this guidance against other navigational sources during the approach and to ensure that the minimum altitude/height over published step-down fixes is observed.</p> <p>Comment: In order to explain further and in accordance with what is contained in ICAO Doc 8168 PANS-OPS Vol 1 Part I Section 4, Ch 1.7.2.2, it is suggested to add a sentence as follows (added text in bold):</p> <p>(b) A non-precision approach procedure flown as CDFA with vertical path guidance calculated by on-board equipment is considered to be a 3D instrument approach operation. Depending on the limitations of the equipment and information sources used to generate vertical guidance, it may be necessary for the pilot to cross-check this guidance against other navigational sources during the approach and to ensure that the minimum altitude/height over published step-down fixes is observed. <b>CDFAs with manual calculation of the required rate of descent are considered 2D operations.</b></p>
response	<p>Accepted</p> <p>GM18 has been amended as proposed. The Explanatory Note has been amended to include the reference to PANS-OPS.</p>

comment	<p>931 comment by: IATA</p> <p>(c) Further guidance on the classification of an instrument approach operation based on the designed lowest operating minima is contained in Appendix J to ICAO Doc 9365 Manual of All-Weather Operations, Fourth Edition, July 2016.</p> <p>Editorial: Fourth Edition, July 2017.</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>

GM 19 Annex I Definitions	p. 50
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comment	<p>166 comment by: UK CAA</p> <p>Page No: 50</p> <p><b>Paragraph No:</b> GM19 Annex I Definitions and GM20 Annex I Definitions</p> <p><b>Comment:</b> We believe GM19 is inconsistent with GM20</p> <p>Justification: Consistency</p>
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	<p>Proposed Text:                  GM19 Annex I Definitions: Add new paragraph (d) as follows:                  (a) For convenience, when both expressions are used, they may be written in the form 'decision altitude/height' and abbreviated 'DA/H'.</p> <p>GM20 Annex I Definitions: Replace current paragraph (b) with the following, and move current text in paragraph (b) to stand-alone location as proposed in the following UK CAA comment                  (b) For operations using MDA, the aircraft altimeters are set to QNH. For operations using a barometric MDH, the aircraft altimeters are set to QFE.</p>
response	<p>Accepted</p> <p>The text has been updated as proposed.</p>
comment	<p>594 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL                  SA CAT I and SA CAT II are not defined. FNAM suggests to describe the acronym SA in GM2 of Annex I. The understanding of SA CAT I and SA CAT II would therefore be improved.</p>
response	<p>Not accepted</p>

GM 20 Annex I Definitions	p. 50-51
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comment	<p>37 comment by: Wideroe Flyveselskap AS</p> <p>GM 20 Annex 1 Definitions: P50</p> <p>MDA (b)</p> <p>Question: Does 'required visual reference' only apply for MDA and not DA?</p>
response	<p>Accepted.</p> <p>Point (b) has been amended and a new definition of 'required visual reference' has been introduced in the GM.</p>
comment	<p>72 comment by: <i>ERAA</i></p> <p>GM 20 Annex 1 Definitions:</p> <p>MDA: Does 'required visual reference' only apply for MDA and not DA?</p>
response	<p>Accepted</p>



Point (b) has been amended and a new definition of 'required visual reference' has been introduced in the GM.

comment

102 comment by: Dassault-Aviation

Text:  
APPENDIX J page 51  
in the table Appendix J "performanced based approach classification summary",  
MDA/H or  
DA/H >= VCM

Comment:  
VCM should be detailed in the document or replaced by circling minima adressing  
MDA/H or DA/H and Visibility.  
Note the typo: VCM instead of VMC

Proposed change:  
MDA/H or DA/H and Visibility >= circling minima (table 4.a)

response

Partially accepted

Table 'Appendix J' has been deleted.

comment

166 ❖ comment by: UK CAA

Page No: 50

**Paragraph No:** GM19 Annex I Definitions and GM20 Annex I Definitions**Comment:** We believe GM19 is inconsistent with GM20

Justification: Consistency

Proposed Text:

GM19 Annex I Definitions: Add new paragraph (d) as follows:

(a) For convenience, when both expressions are used, they may be written in the form 'decision altitude/height' and abbreviated 'DA/H'.

GM20 Annex I Definitions: Replace current paragraph (b) with the following, and move current text in paragraph (b) to stand-alone location as proposed in the following UK CAA comment

(b) For operations using MDA, the aircraft altimeters are set to QNH. For operations using a barometric MDH, the aircraft altimeters are set to QFE.

response

Accepted

comment

167 comment by: UK CAA

Page No: 50



	<p><b>Paragraph No:</b> GM20 Annex I Definitions, paragraph (b)</p> <p><b>Comment:</b> We suggest the text in paragraph (b) should be moved to a new stand-alone location, as proposed below.</p> <p>Justification: Clarity</p> <p>Proposed Text:</p> <p>GM21 Annex I Definitions (a) 'Required visual reference' means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In the case of a circling approach, the required visual reference is the runway environment.</p>
response	Accepted
comment	<p>251 comment by: <i>EUROCONTROL</i></p> <p>p. 51 - Appendix J Reference remains to CAT III A, B &amp; C.</p> <p>Remove reference to A, B and C in the table. Maybe add the certification specs of CS AWO, CS ACNS and CS 25.</p>
response	<p>Partially accepted</p> <p>Table 'Appendix J' has been deleted.</p>
comment	<p>252 comment by: <i>EUROCONTROL</i></p> <p>p. 51 - Appendix J Table from DOC 9365.</p> <p>The term VCM used in this table in the non-instrument RWY line is undefined. So are the terms representing ICAO Panels and others? Add to abbreviations. Where will this table be referenced in the final EASA rule?</p>
response	<p>Accepted</p> <p>Table 'Appendix J' has been deleted.</p>
comment	<p>595 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (a) This definition describes precisely the Minimum Decision Altitude (MDA) or the Minimum Decision Height (MDH). FNAM would like to highlight that the vertical metric is not harmonized in the entire proposal. Indeed, MDA/MDH descriptions</p>

response	<p>are sometimes provided in meter, sometimes provided in feet. In this proposed GM, the vertical altitude/height is provided in meter and in feet. In order to harmonize the document and to ensure a proper implementation of these limitations, FNAM suggests to precise the limitation in feet and meter in the whole proposed regulation.</p> <p>Noted</p>
comment	<p>596 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – Appendix J Some EASA’s proposed requirements are anticipating ICAO standards presupposed evolution (e.g.: suppressing CATIIIA, CATIIIB and CATIIIC and replacing them with a single CATIIII).</p> <p>Plus, FNAM wonders what will happen with flights operated by EU operators in non-European countries which are applying current ICAO standards. For CATIIII operations, an authorization CATIIIA, CATIIIB or CATIIIC is required from the Member State where the operation is performed. If EU operators are approved CATIIII and not CATIIIB or C anymore, FNAM wonders what will happen in non-EU countries where old categories (still in force in the ICAO documentation) are applied. FNAM fears that EU operators with an EU CATIIII approval would be considered as CATIIIA capable in other than European countries instead of CATIIIB or CATIIIC. This would limit the scope of their operations which is not the objective of the proposed changes described in the NPA.</p> <p>Thus, FNAM proposes to keep the three CATIIII subcategories in order to ensure harmonization with ICAO standards and to facilitate understanding of the European regulations.</p>
response	<p>Not accepted</p> <p>The proposed removal of the sub-categories of Cat III is under way in ICAO, and the revised text has been published for consultation via State Letter, reference AN 11/1.1.33 – 18/80, published on 24 August 2018. Therefore, the proposed changes are in fact aligned with ICAO.</p>
comment	<p>597 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – Appendix J The proposed Table in Appendix J describes precisely the DA/H and RVR for Type A and Type B categories. FNAM would like to highlight that the vertical metric is not harmonized in the entire proposal. Indeed, DA/H and MDA/H descriptions are sometimes provided in meter, sometimes provided in feet. In this proposed Table, the vertical altitude/height is expressed with an apostrophe. In order to harmonize the document and to ensure a proper implementation of these limitations, FNAM suggests to precise the limitation in feet and meter in the whole proposed regulation as it is written in ICAO Manual.</p>
response	<p>Accepted</p> <p>Table ‘Appendix J’ has been deleted.</p>

## AMC5 ARO.OPS.200 Specific approval procedure

p. 52-55

comment	212      comment by: <i>AIR FRANCE</i> Clarification but needs a lot of updating of existing manuals.
response	Noted
comment	253      comment by: <i>EUROCONTROL</i>  p. 54 - Annex II Item 13 includes EFVS 200 which has some level of operational credit in terms of RVR but is not an LVO, nor does it require an approval.  Remove reference to EFVS 200 in item 13.
response	Accepted
comment	390      comment by: <i>DGAC France</i>  Page 54 Part-ARO Appendix II AMC5 ARO.OPS.200 Specific approval procedure  Comments: - SA CAT 1 and SA CAT 2 should be part of (12) and not (13) - EFVS and EFVS 200: do not change the DH. It is not described enough how the operational credit should be written for EFVS. Shall we insert the lowest RVR which can be considered with such system or the visual advantage (30%, 50%,...) provided by the system ?
response	Noted  Amendments have been made for clarity.
comment	598      comment by: <i>FNAM</i>  ISSUE AND PROPOSAL – (12) & (13) SA CAT I is more restrictive than LTS CAT I in particular by forbidding operations in BALS and NALS conditions (see current requirements for LTS CAT I in AMC3 SPA.LVO.100). This is against the NPA main objective which is to introduce new possibilities only on a voluntary basis without impacting all operators.
response	Not accepted  Alignment at ICAO level and with other authorities (e.g. FAA) is required.



comment	<p>743 comment by: Volkswagen AirService GmbH</p> <p>(f) Clarify the necessary procedrues to establish LVO eligibility of runways. The procedures to establish the suitability of runways for LVO should take aircraft capabilities and operating procedures (i.e. capability to maintain required approach trajectory) into account.</p>
response	<p>Partially accepted</p> <p>New text introduced: ‘processes to ensure that only runways and instrument procedures suitable for the intended operations are used; and’</p>

GM1 ORO.GEN.130(b) Changes related to an AOC holder

p. 56-58

comment	<p>599 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (p)</p> <p>The proposed disposal introduces a new requirement which should be approved by the competent authority: the method used by the operator to establish aerodrome operating minima. This demonstration is currently not oversight and no approval is required. Although the calculation of operating minima is an essential task for operator, the need of approval would require additional resources in time, personnel, etc. in order to complete the demonstration file for competent authorities.</p> <p>Plus, since proposed disposal is introduced in Part-ORO subpart-GEN, it would impact all operators. This is against the NPA main objective which is to introduce new possibilities on a voluntary basis without impacting all operators. Therefore, FNAM suggests to remove this requirement.</p>
response	<p>Not accepted</p> <p>The requirement for the competent authority to approve the method used to determine aerodrome operating minima is an ICAO standard (Annex 6 Part I 4.2.8.1). The measure is included so that Member States can meet their obligations under the Chicago Convention.</p>

comment	<p>600 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – Appendix I</p> <p>This Table presents the declaration to be completed by operators for requesting approvals from competent authorities. Since it is a new concept, the line ‘name of operations with operational credits’ is added. A short list of example of operations with operational credit is also provided. This list needs to be harmonized with the list describing also operations with operational credits provided in Part-ARO Annex II. Indeed, Part-ARO Annex II provides more examples than in PART-ORO. In order to ensure the same understanding for operators and competent authorities, FNAM suggests to harmonize the two lists of example for operations with operational credits.</p>
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response	<p>Partially accepted.</p> <p>Some examples have been introduced in the instructions on how to fill in the fields of Appendix II to Part-ARO.</p>
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Annex IV Commercial air transport operations (Part-CAT)

p. 59

comment	<p>168                      comment by: <i>UK CAA</i></p> <p><b>Page No:</b> 59 - 187</p> <p>Paragraph No: Various</p> <p><b>Comment:</b> Several references are made to 'RVR/VIS' and 'RVR or VIS' throughout the current all-weather operations and the proposed changes in NPA 2018-06.</p> <p>RVR and visibility are not interchangeable; they are measured using different techniques.</p> <p>It is respectfully suggested that all references to 'RVR/VIS' and 'RVR or VIS' are reviewed.</p> <p>Justification: Accuracy</p>
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response	<p>Accepted</p> <p>The regulation has been revised with the intent of eliminating ambiguity in relation to the use of RVR, CMV and VIS. RVR is specified for aerodrome operating minima for straight-in approaches. VIS is applicable for circling approach operations. CMV may be used in certain circumstances to substitute for RVR or VIS and these circumstances are defined in AMC9 CAT.OP.MPA.110. 'RVR/CMV/VIS' is no longer used.</p>
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comment	<p>169                      comment by: <i>UK CAA</i></p> <p><b>Page No:</b> 59 - 187</p> <p>Paragraph No: Various</p> <p><b>Comment:</b> 'Visibility' is an internationally accepted meteorological term. Therefore, it would be preferred if the abbreviation 'VIS' is avoided; (with the exception of tables, where abbreviations may be appropriate as a space-saving measure). It is recommended that all references to 'VIS' are changed to 'visibility', with the exception of tables.</p> <p>This would keep the term aligned with worldwide aviation-related literature, including other EASA and ICAO documents.</p> <p><b>Justification:</b> International standards</p>
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response	<p>Not accepted</p> <p>Although VIS and other abbreviations are explained in the relevant GM to Annex I, the review group tried to reduce the use of abbreviations.</p>
comment	<p>254 comment by: <i>EUROCONTROL</i></p> <p>p.59 - Annex IV Part CAT.</p> <p>In this section the ellipsis [...] is not systematically used, effectively the Easy access rules contain more rules, some relevant.</p>
response	<p>Noted</p> <p>The NPA only contains the proposed changes. Where no change is proposed, the rule is not reproduced, even if relevant.</p>

CAT.OP.MPA.101 Altimeter check and settings

p. 59

comment	<p>256 comment by: <i>EUROCONTROL</i></p> <p>p. 59 - Annex IV CAT.OP.MPA.101</p> <p>This rule will be inserted between 100 "Use of ATS" and 105 "Use of Aerodromes". Is that the right location? Possibly better as CAT.OP.MPA.144 prior to the other altitude-relevant rules?</p>
response	<p>Not accepted</p> <p>EASA believes that this rule should be located before CAT.OP.MPA.110 'Aerodrome operating minima' because of the importance of having the right altimeter setting in order to apply the correct aerodrome operating minima.</p>
comment	<p>257 comment by: <i>EUROCONTROL</i></p> <p>p. 59 - Annex IV CAT.OP.MPA.101 (b)</p> <p>The words "shall be taken into account" are (deliberately?) vague. Does the operator have to replace his procedure by the local one? Does he have to perform a safety assessment comparing the two and take the better performing one? The GM indicates a desire to align with ICAO PANS - which takes precedent, the PANS or the local procedure?</p>
response	<p>Noted</p>



If a state requires particular procedures for operation in the state, then operators need to adopt such procedures.

CAT.OP.MPA.107 Adequate aerodrome

p. 59

comment

258 comment by: *EUROCONTROL*

p. 59 - Annex IV  
CAT.OP.MPA.107 : IAP not in the list.

Add IAP.

response

Not accepted

The proposed amendment is not within the scope of RMT.0379 and there would be no obvious safety or operational benefit from amending the rule as proposed.

CAT.OP.MPA.110 Aerodrome operating minima

p. 59-61

comment

303 comment by: *LHSystems*

Lufthansa Systems CK  
Chapter b) (8) will this cover any characteristics deviating from standards published in ICAO Annex/Document? Or is there more behind it?

response

Accepted

Point (b)(8) has been deleted.

comment

341 comment by: *J.Woehrlin/DLH*

CAT.OP.MPA.110 Aerodrome operating minima

NPA text

(b) The method used to establish aerodrome operating minima shall take the following elements into account:

(11) the aerodrome characteristics and the available air navigation services (ANS);

Requested change

LH requests EASA to provide Guidance Material to (11) to provide either an exact definition of which aerodrome characteristics should be taken into and in what way such characteristics should be taken into account when specifying the aerodrome operating minima.

Justification



response	<p>The aerodrome characteristics (11); the IAP (10) and the environment (4, 5, 6, 7) are already taken into account when establishing aerodrome operating minima. This includes all standard and non-standard characteristics of the aerodrome, the IAP and the environment. A specific listing of (8) is superfluous.</p> <p>Accepted</p> <p>Point (b)(8) has been deleted.</p>
comment	<p>342 comment by: J.Woehrlin/DLH</p> <p>CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p> <p>(a) The operator shall establish aerodrome operating minima for each departure, destination or alternate aerodrome planned to be used in order to ensure separation of the aircraft from terrain and obstacles and to mitigate the risk of loss of visual references during the visual flight segment of instrument operations.</p> <p>Requested change</p> <p>Remove safety objective from IR.</p> <p>Justification</p> <p>LHG supports safety objectives. But safety objectives shall be placed in GM not in IR.</p>
response	<p>Not accepted</p> <p>According to the principles of performance based-regulation, the safety objective should be in the IR.</p>
comment	<p>344 comment by: J.Woehrlin/DLH</p> <p>CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p> <p>(b) The method used to establish aerodrome operating minima shall take the following elements into account:</p> <p>(8) any non-standard characteristics of the aerodrome, the IAP or the environment;</p> <p>Requested change</p> <p>LH requests to delete (8).</p> <p>Justification</p> <p>The aerodrome characteristics (11); the IAP (10) and the environment (4, 5, 6, 7) are already taken into account when establishing aerodrome operating minima. This includes all standard and non-standard characteristics of the aerodrome, the IAP and the environment. A specific listing of (8) is superfluous.</p>

response	<p>Accepted</p> <p>Point (b)(8) has been deleted.</p>
comment	<p>430                      comment by: <i>DGAC France</i></p> <p>Page 61 CAT.OP.MPA.110 Aerodrome operating minima (d) The method used by the operator to establish aerodrome operating minima and any change to that method shall be approved by the competent authority.</p> <p>Comment: Minima determination method have to be approved (it was not the case in the previous AIR OPS). As most of the operators are using Jeppesen, Lido, CMC or Navaero, does it make sense to approve each operator? DGAC suggests that these chart providers should be approved in a way similar to providers of data services (PART-DAT)</p>
response	<p>Not accepted</p> <p>The requirement for approval of the method used for determination of aerodrome operating minima has been incorporated to align with Annex 6. Charting providers (LIDO, Jeppesen, etc.) do not hold any approval and the operator remains responsible for the determination of aerodrome operating minima even if this activity is sub-contracted.</p>
comment	<p>465                      comment by: <i>Swiss International Air Lines Ltd.</i></p> <p>NPA text (a) The operator shall establish aerodrome operating minima for each departure, destination or alternate aerodrome planned to be used in order to ensure separation of the aircraft from terrain and obstacles and to mitigate the risk of loss of visual references during the visual flight segment of instrument operations.</p> <p>Requested change SWISS requests EASA to remove the safety objective (“in order to ensure separation of the aircraft from terrain and obstacles and to mitigate the risk of loss of visual references during the visual flight segment of instrument operations.”) from the IR and place it into Guidance Material.</p> <p>Justification SWISS supports safety objectives, but they should be addressed in Guidance Material rather than on IR level.</p>
response	<p>Not Accepted</p> <p>In accordance with the principles of performance-based regulation, the EASA policy is to include the safety objective in the IR. The means to achieve the objective is in</p>



AMC. Where an operator applies an AltMoC, then the safety objective of the IR must be met.

comment

466 comment by: Swiss International Air Lines Ltd.

NPA text  
(b) The method used to establish aerodrome operating minima shall take the following elements into account:  
(8) any non-standard characteristics of the aerodrome, the IAP or the environment;

Requested change  
SWISS requests EASA to delete (8).

Justification  
The aerodrome characteristics (11); the IAP (10) and the environment (4, 5, 6, 7) are already taken into account when establishing aerodrome operating minima. This includes all standard and non-standard characteristics of the aerodrome, the IAP and the environment. A specific listing of (8) is superfluous.

response  
Accepted  
Point (b)(8) has been deleted.

comment

467 comment by: Swiss International Air Lines Ltd.

NPA text  
(b) The method used to establish aerodrome operating minima shall take the following elements into account:  
(11) the aerodrome characteristics and the available air navigation services (ANS);

Requested change  
SWISS requests EASA to provide Guidance Material to (11).

Justification  
It is unclear which aerodrome characteristics shall be taken into account. It is also unclear in what way these aerodrome characteristics shall be taken into account when establishing the aerodrome operating minima.

response  
Partially accepted  
The regulatory text has been improved and further guidance has been developed. The idea of having GM for only one point is rejected and instead a comprehensive explanation is provided to several points.

comment

491 comment by: Austrian Airlines

NPA text  
(a) The operator shall establish aerodrome operating minima for each departure, destination or alternate aerodrome planned to be used in order to ensure

	<p>separation of the aircraft from terrain and obstacles and to mitigate the risk of loss of visual references during the visual flight segment of instrument operations.</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to remove the safety objective (“in order to ensure separation of the aircraft from terrain and obstacles and to mitigate the risk of loss of visual references during the visual flight segment of instrument operations.”) from the IR and place it into Guidance Material.</p> <p>Justification AUSTRIAN AIRLINES supports safety objectives, but they should be addressed in Guidance Material rather than on IR level.</p>
response	<p>Not Accepted</p> <p>In accordance with the principles of performance-based regulation, the EASA policy is to include the safety objective in the IR. The means to achieve the objective is in AMC. Where an operator applies an AltMoC, then the safety objective of the IR must be met.</p>
comment	<p>492                      comment by: Austrian Airlines</p> <p>CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (b) The method used to establish aerodrome operating minima shall take the following elements into account: (8) any non-standard characteristics of the aerodrome, the IAP or the environment;</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to delete (8).</p> <p>Justification The aerodrome characteristics (11); the IAP (10) and the environment (4, 5, 6, 7) are already taken into account when establishing aerodrome operating minima. This includes all standard and non-standard characteristics of the aerodrome, the IAP and the environment. A specific listing of (8) is superfluous.</p>
response	<p>Accepted</p> <p>Point (b)(8) has been deleted.</p>
comment	<p>493                      comment by: Austrian Airlines</p> <p>CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (b) The method used to establish aerodrome operating minima shall take the following elements into account: (11) the aerodrome characteristics and the available air navigation services (ANS);</p>

	<p>Requested change AUSTRIAN AIRLINES requests EASA to provide Guidance Material to (11).</p> <p>Justification It is unclear which aerodrome characteristics shall be taken into account. It is also unclear in what way these aerodrome characteristics shall be taken into account when establishing the aerodrome operating minima.</p>
response	<p>Partially accepted</p> <p>The regulatory text has been improved and further guidance has been developed. The idea of having GM for only one point is rejected and instead a comprehensive explanation is provided to several points.</p>
comment	<p>601 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL Proposed disposals modify the calculation of operating minima. First, the list of items to check in order to formulate a correct demonstration for the calculation of operating minima is modified. Indeed, some requirements are added to the current required items. It is the case of requirement (b) (14) which requires 'the relevant operational experience of the operator'. This proposed disposal is currently required in AirOps but only for SPA operations. FNAM wonders what is the justification of this change which will impact all CAT operators, even the ones non-voluntary to perform the new proposed operations. Additionally, requirement (b) (11) is completed by requiring the 'available air navigation services (ANS)' of the aerodrome. Since the current requirement is already to provide 'the aerodrome characteristics', the available air navigation services would be therefore already provided. To avoid any additional and unnecessary complexity to current requirements, FNAM suggests to remove the new requirement to provide the 'available air navigation services (ANS)' of the aerodrome. Then, the proposed disposal introduces a new requirement in (d) to be approved by the competent authority: the method used by the operator to establish aerodrome operating minima. This demonstration is currently not oversight and no approval is required. Although the calculation of operating minima is an essential task for operator, this need of approval would require additional resources in time, personnel, etc. in order to complete the demonstration file for competent authorities. Plus, other additional requirements are requested in this proposal. It would impact operators as they would have to create new procedures. Indeed, additional demonstrations would be required for: margins to obstacles, each aircraft (characteristics, equipment, etc.), conditions on specific approbations, etc. In order to reduce any additional administrative burden for all operators (SME and Airlines), FNAM proposes that methods and requirements could be demonstrate and approved thanks to the current and approved demonstrations and quality system of operators. Finally, considering all previous comments, since these proposed disposals are introduced in Part-CAT subpart-MPA, it would impact all CAT operators. This is</p>



response	<p>against the main objective of this NPA which is to introduce new possibilities only on a voluntary basis without impacting all operators, <i>ie</i> at iso-standard.</p> <p>Partially accepted</p> <p>Points (b)(8) and (b)(14) have been deleted.</p> <p>The requirement for approval of the method of determination has been incorporated to align with ICAO Annex 6, but this does not create any additional burden for operators. There is no additional requirement for demonstrations or specific approbations.</p>
comment	<p>760                      comment by: <i>Germanwings</i></p> <p>CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p> <p>(b) The method used to establish aerodrome operating minima shall take the following elements into account:</p> <p>(8) any non-standard characteristics of the aerodrome, the IAP or the environment;</p> <p>Requested change</p> <p>BDL requests to delete (8).</p> <p>Justification</p> <p>The aerodrome characteristics (11); the IAP (10) and the environment (4, 5, 6, 7) are already taken into account when establishing aerodrome operating minima. This includes all standard and non-standard characteristics of the aerodrome, the IAP and the environment. A specific listing of (8) is superfluous.</p>
response	<p>Accepted</p> <p>Point (b)(8) has been deleted.</p>
comment	<p>761                      comment by: <i>Germanwings</i></p> <p>CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p> <p>(a) The operator shall establish aerodrome operating minima for each departure, destination or alternate aerodrome planned to be used in order to ensure separation of the aircraft from terrain and obstacles and to mitigate the risk of loss of visual references during the visual flight segment of instrument operations.</p> <p>Requested change</p> <p>Remove safety objective from IR.</p> <p>Justification</p> <p>BDL supports safety objectives. But safety objectives shall be placed in GM not in IR.</p>

response	<p>Not accepted</p> <p>In accordance with the principles of performance-based regulation, the EASA policy is to include the safety objective in the IR. The means to achieve the objective is in AMC. Where an operator applies an AltMoC, then the safety objective of the IR must be met.</p>
comment	<p>762                      comment by: <i>Germanwings</i></p> <p>NPA text Take-off minima should be expressed as visibility (VIS) or runway visual range (RVR) limits, taking into account all relevant factors for each <del>aerodrome</del>-runway planned to be used and aircraft characteristics and equipment. Where there is a specific need to see and avoid obstacles on departure and/or for a forced landing, additional conditions, e.g. <del>ceiling</del>-cloud conditions, should be specified.</p> <p>Requested change Delete or define example 'cloud conditions'.</p> <p>Justification Not clear</p>
response	<p>Accepted.</p> <p>The term 'cloud conditions' in AMC1 CAT.OP.MPA.110 point (a)(1) and AMC3 NCC.OP.110 point (a)(1) will revert to 'ceiling', and the ICAO definition of 'ceiling' (ICAO Doc 9365) will be included in Annex 1 – Definitions.</p>
comment	<p>763                      comment by: <i>Germanwings</i></p> <p>CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (b) The method used to establish aerodrome operating minima shall take the following elements into account: (11) the aerodrome characteristics and the available air navigation services (ANS);</p> <p>Requested change BDL requests EASA to provide Guidance Material to (11) to provide either an exact definition of which aerodrome characteristics should be taken into and in what way such characteristics should be taken into account when specifying the aerodrome operating minima.</p> <p>Justification The aerodrome characteristics (11); the IAP (10) and the environment (4, 5, 6, 7) are already taken into account when establishing aerodrome operating minima. This includes all standard and non-standard characteristics of the aerodrome, the IAP and the environment. A specific listing of (8) is superfluous.</p>

response	Accepted Point (b)(8) has been deleted.
comment	764      comment by: <i>Germanwings</i> AMC1 CAT.OP.MPA.110 Aerodrome operating minima  NPA text (2) For night operations, <del>ground</del> the prescribed runway lights should be available to illuminate in operation to mark the runway and any obstacles.  Requested change Replace 'any obstacles' with 'any obstacles lighted'.  Justification Runway lights do not illuminate obstacles.
response	Partially accepted.  The review group has amended the text to ensure the necessary clarity requested in this comment but the proposed solution of this comment was not followed.
comment	765      comment by: <i>Germanwings</i> AMC1 CAT.OP.MPA.110 Aerodrome operating minima  NPA text (4) When the reported meteorological visibility (VIS) is below that required for take-off and the RVR is not reported, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum. (5) When no reported meteorological visibility VIS or RVR is available, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum.  Requested change Move (a)(4) and (a)(5) to (c), delete previous (c)(4).  Justification Content seems to be doubled.
response	Partially accepted  (a)(4), (a)(5) and (c)(4) have been moved to AMC1 CAT.OP.MPA.265 because these are all provisions for the commander executing the take-off, not the operator calculating aerodrome operating minima.
comment	873      comment by: <i>Lufthansa Cargo</i>



response	<p>NPA text (a) The operator shall establish aerodrome operating minima for each departure, destination or alternate aerodrome planned to be used in order to ensure separation of the aircraft from terrain and obstacles and to mitigate the risk of loss of visual references during the visual flight segment of instrument operations.</p> <p>Requested change Lufthansa Cargo requests EASA to remove the safety objective (“in order to ensure separation of the aircraft from terrain and obstacles and to mitigate the risk of loss of visual references during the visual flight segment of instrument operations.”) from the IR and place it into Guidance Material.</p> <p>Justification Lufthansa Cargo supports safety objectives, but they should be addressed in Guidance Material rather than on IR level.</p> <p>Not accepted</p> <p>In accordance with the principles of performance-based regulation, the EASA policy is to include the safety objective in the IR. The means to achieve the objective is in AMC. Where an operator applies an AltMoC, then the safety objective of the IR must be met.</p>
comment	<p>874                      comment by: Lufthansa Cargo</p> <p>CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (b) The method used to establish aerodrome operating minima shall take the following elements into account: (8) any non-standard characteristics of the aerodrome, the IAP or the environment;</p> <p>Requested change Lufthansa Cargo requests EASA to delete (8).</p> <p>Justification The aerodrome characteristics (11); the IAP (10) and the environment (4, 5, 6, 7) are already taken into account when establishing aerodrome operating minima. This includes all standard and non-standard characteristics of the aerodrome, the IAP and the environment. A specific listing of (8) is superfluous.</p>
response	<p>Accepted</p> <p>Point (b)(8) has been deleted.</p>
comment	<p>875                      comment by: Lufthansa Cargo</p> <p>NPA text (b) The method used to establish aerodrome operating minima shall take the following elements into account:</p>

	<p>(11) the aerodrome characteristics and the available air navigation services (ANS);</p> <p>Requested change Lufthansa Cargo requests EASA to provide Guidance Material to (11).</p> <p>Justification It is unclear which aerodrome characteristics shall be taken into account. It is also unclear in what way these aerodrome characteristics shall be taken into account when establishing the aerodrome operating minima.</p>
response	<p>Partially accepted</p> <p>The regulatory text has been improved and further guidance has been developed. The idea of having GM for only one point is rejected and instead a comprehensive explanation is provided to several points.</p>

AMC1 CAT.OP.MPA.110 Aerodrome operating minima

p. 61-63

comment	<p>132 <b>comment by:</b> Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</p> <p><b>Proposal:</b> (b)(2) For night operations, the prescribed runway lights should be in operation <del>to mark the runway and any obstacles.</del></p> <p><b>Rationale:</b> Obstacle lights are not runway lights and not prescribed in the OPS rules but regulated through ADR.</p>
response	<p>Accepted</p> <p>(b)(2) has been amended as proposed.</p>
comment	<p>151 ❖ <b>comment by:</b> UK CAA</p> <p><b>Page No:</b> 43 / 61 / 157</p> <p><b>Paragraph No:</b> Annex I, Definitions: ‘aerodrome operating minima’ paragraphs (a) and (b) / AMC1 CAT.OP.MPA.110 paragraph (a)(1) / AMC3 NCC.OP.110 paragraph (a)(1)</p> <p><b>Comment:</b> The term ‘cloud conditions’ is frequently used but is not currently defined by ICAO or EASA. It would be helpful to know exactly what information should be specified; (for example: cloud type / height or ceiling / coverage).</p> <p><b>Justification:</b> A definition of ‘cloud conditions’ would enable consistent interpretation of the term.</p>
response	<p>Partially accepted.</p> <p>The term ‘cloud conditions’ in AMC1 CAT.OP.MPA.110 point (a)(1) and AMC3 NCC.OP.110 point (a)(1) will revert to ‘ceiling’ and the ICAO definition of ‘ceiling’</p>



(ICAO Doc 9365) will be included in Annex 1 – Definitions. The definition of ‘aerodrome operating minima’ will be aligned with the ICAO definition (Annex 6 Part I) and will retain the term ‘cloud conditions’.

comment

170

comment by: UK CAA

Page No: 61

**Paragraph No:** AMC1 CAT.OP.MPA.110 paragraph (a)(3)**Comment:** The current AMC1 CAT.OP.MPA.110 requires the weather conditions at the aerodrome of departure to be ‘equal to or better than applicable minima for landing at that aerodrome.’

A ‘weather-permissible aerodrome’ can mean an adequate aerodrome where, for the anticipated time of use, the weather conditions will be at or above the required aerodrome operating minima based solely on the weather forecast; (i.e. ‘any combination’ of meteorological reports or forecasts).

We believe, in a short-term situation (such as a return to the departure aerodrome), actual weather conditions should be used - as weather forecasts are not accurate enough for this purpose.

There could also be an anomaly or error with the forecast.

**Justification:** Forecast accuracy is not sufficient for this proposal.

Proposed Text:

(3) The commander should not commence take-off unless the ~~weather~~ **meteorological** conditions at the aerodrome of departure are equal to or better than ~~the~~ applicable minima for landing at that aerodrome, unless a weather-permissible take-off alternate aerodrome is available;

(i) the departure aerodrome is a weather-permissible aerodrome; or  
(ii) a weather-permissible take-off alternate aerodrome is available.

response

Partially accepted

The principle of not using a forecast in this situation is accepted. The provision has been moved to AMC1 CAT.OP.MPA.265 and amended; further to the provision, the actual weather at the departure airport should be considered.

comment

304

comment by: LHSystems

Lufthansa Systems CK

Chapter (a) General (1): what can we expect to be published as "cloud condition"? Ceiling was a clear as definition, now it looks to be quite vague.

response

Accepted



The term 'cloud conditions' in AMC1 CAT.OP.MPA.110 point (a)(1) and AMC3 NCC.OP.110 point (a)(1) will revert to 'ceiling' and the ICAO definition of 'ceiling' (ICAO Doc 9365) will be included in Annex 1 – Definitions.

comment

328

comment by: *KLM*

AMC1.CAT.OP.MPA 110 (pge.61)

(a) (2) The commander should not commence take-off when RVR is less than 550m unless low visibility (LVPs) are established

Comment: Limitations within EASA was LVPs at <= 400m. LVP for approaches to be established at CAT limits (350M).

No need to increase the requirement to 550m (ref. AMC4 SPA.LVO.110 and GM4 SPA.LVO.110 and AMC1 SPA.LVO.100(b))

To raise this requirement to 550m, this must be valid for the whole airport and not only for take-off. And has nothing to do with limitations of having an approval for LVTO or not.

The figure of 400m RVR has the advantage of being easily identified with the top limit of CAT III but has the disadvantage in prompting the quite unwarranted belief that LVP and equipments are only necessary at airports capable of sustaining CAT III landings. At airports not equipped for landing in such conditions aircraft may be able to take off in is less than 400m RVR,

response

Partially accepted

There is a requirement in the Aerodrome Regulation to ensure LVPs below an RVR of 550 m. AMC that includes alternative provisions to the provisions to have LVPs has been developed in order clarify the responsibilities of the flight crew and the aerodrome.

comment

343

comment by: *J.Woehrlin/DLH*

AMC1 CAT.OP.MPA.110 Aerodrome operating minima

NPA text

Take-off minima should be expressed as visibility (VIS) or runway visual range (RVR) limits, taking into account all relevant factors for each aerodrome runway planned to be used and aircraft characteristics and equipment. Where there is a specific need to see and avoid obstacles on departure and/or for a forced landing, additional conditions, e.g. ceiling **cloud conditions**, should be specified.

Requested change



response	<p>Delete or define example 'cloud conditions'.</p> <p>Justification</p> <p>Not clear</p> <p>Accepted</p> <p>The term 'cloud conditions' in AMC1 CAT.OP.MPA.110 point (a)(1) and AMC3 NCC.OP.110 point (a)(1) will revert to 'ceiling' and the ICAO definition of 'ceiling' (ICAO Doc 9365) will be included in Annex 1 – Definitions.</p>
comment	<p>345 comment by: J.Woehrlin/DLH</p> <p>AMC1 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (2) For night operations, <del>ground</del> the prescribed runway lights should be available to illuminate in operation to mark the runway and <b>any obstacles</b>.</p> <p>Requested change Replace 'any obstacles' with 'any obstacles lighted'.</p> <p>Justification Runway lights do not illuminate obstacles.</p>
response	<p>Partially accepted</p> <p>The review group has amended the text to ensure the necessary clarity requested in this comment, but the proposed solution of this comment was not followed.</p>
comment	<p>346 comment by: J.Woehrlin/DLH</p> <p>AMC1 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (4) When the reported meteorological visibility (VIS) is below that required for take-off and the RVR is not reported, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum. (5) When no reported meteorological visibility VIS or RVR is available, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum.</p> <p>Requested change Move (a)(4) and (a)(5) to (c), Delete previous (c)(4)</p>

response	<p>Justification content seems to be doubled</p> <p>Partially accepted</p> <p>(a)(4), (a)(5) and (c)(4) have been moved to AMC1 CAT.OP.MPA.265 because these are all provisions for the commander executing the take-off, not the operator calculating aerodrome operating minima.</p>
comment	<p>349                      comment by: J.Woehrlin/DLH</p> <p>AMC1 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (a) General (2) The commander should not commence take-off when the RVR is less than 550 m unless low-visibility procedures (LVPs) are established.</p> <p>Requested change Replace 'established' with 'in effect'.</p> <p>Justification In the explanation to the NPA (Chapter 2 – Proposed amendments and rationale in detail) the following is stated: 'A requirement is added that the commander should not commence take-off in an RVR of less than 550 m unless LVPs are in effect.'</p>
response	<p>Accepted</p> <p>This provision has been moved to AMC1 CAT.OP.MPA.265 and the wording has been amended as proposed.</p>
comment	<p>434                      comment by: DGAC France</p> <p>Page 61 - AMC 1 CAT.OP.MPA.110 Page 111 - AMC 3 SPA.LVO.100(c) Page 121 - GM1 SPA.LVO.105(a) Page 121 - AMC 1 SPA.LVO.105(c) Page 132 - AMC2 SPA.LVO.110 Page 133 - AMC4 SPA.LVO.110 Page 136 - GM4 SPA.LVO.110</p> <p>Comment: All those chapters require or make reference to LVP and some of them are either redundant or inconsistent. Among inconsistencies: - LVP are required for TO in CAT for RVR &lt; 550m, but are required only for LVTO with RVR &lt; 125m when ILS is needed. - LVP are required for CAT2 and CAT 3 but there is no requirement for SA CAT 1 nor SA CAT 2 whereas RVR could be less than 550m for those operations which are</p>



	<p>currently identified as ops with ops credit (see also the related general comment (n°385) and the specific comment (n°415) on AMC 1 SPA.LVO.105(c) page 121)</p> <p>Proposal: Clean the chapters so that the provisions, to check that LVPs are established and activated, are in a single place.</p>
response	<p>Partially accepted</p> <p>Further to AMC1 CAT.OP.MPA, LVPs should be in effect for all LVTO. As the definition of LVTO refers to RVR below 550 m, LVPs are required for all operations with an RVR of less than 550 m. It is necessary for this to appear in Part-CAT because it is applicable to operations that do not require a specific approval (e.g. LVTO in RVR &gt; 550 m).</p> <p>Further to AMC3 SPA.LVO.100(c), EFVS operations should not be conducted to runways where the RVR is less than 550 m unless LVPs are in effect. This is a safety measure related to the risk of ground collision at an aerodrome. There was a duplication (points (c) and (d)). The AMC has been amended to delete this duplication.</p> <p>GM1 SPA.LVO.105(a) describes some systems that are currently available to facilitate LVTO in RVR of less than 125 m. It includes the information that the ILS signal must be protected where these systems rely on ILS as per by AMC2 SPA.LVO.110. LVTO in RVR down to 125 m does not require ILS guidance and thus protection of the ILS signal is not mandated for LVTO down to 125 m.</p> <p>Further to AMC1 SPA.LVO.105(c), LVPs should be in place for all LVOs.</p> <p>Further to AMC2 SPA.LVO.110, protection of the ILS-sensitive area if an ILS is to be used for lateral guidance during LVTO with RVR less than 125 m. For consistency with AMC4, an additional point (a) has been added to mandate LVPs for all LVTO. The reference to protection of the runway has been deleted as it is not specific to operations with RVR of less than 125 m.</p> <p>Further to AMC4 SPA.LVO.110, LVPs should be established at any aerodrome used for LVO approach operations. The provision for the commander to verify LVPs in effect has been deleted as this is an operating procedure and already appears in AMC1 SPA.LVO.105(c).</p> <p>GM4 SPA.LVO.110 provides information about the use of CAT III landing systems. This has been amended to remove the reference to LVPs and clarify that protection of the ILS signal is required to verify the performance of an ILS landing system.</p>
comment	<p>468      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text (a)(1) [...] Where there is a specific need to see and avoid obstacles on departure and/or for a forced landing, additional conditions, e.g. ceiling cloud conditions, should be specified.</p>

response	<p>Requested change SWISS requests EASA to use a clearer example than ‘cloud conditions’</p> <p>Justification ‘cloud condition’ is ambiguous.</p> <p>Accepted.</p> <p>The term ‘cloud conditions’ in AMC1 CAT.OP.MPA.110 point (a)(1) and AMC3 NCC.OP.110 point (a)(1) will revert to ‘ceiling’ and the ICAO definition of ‘ceiling’ (ICAO Doc 9365) will be included in Annex 1 – Definitions.</p>
comment	<p>469      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text (a) General (2) The commander should not commence take-off when the RVR is less than 550 m unless low-visibility procedures (LVPs) are established.</p> <p>Requested change SWISS requests EASA to replace ‘established’ with ‘in effect’.</p> <p>Justification In the explanation to the NPA (Chapter 2 – Proposed amendments and rationale in detail) the following is stated: ‘A requirement is added that the commander should not commence take-off in an RVR of less than 550 m unless LVPs are in effect.’</p>
response	<p>Accepted</p> <p>This provision has been moved to AMC1 CAT.OP.MPA.265 and the wording has been amended as proposed.</p>
comment	<p>470      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text (a)(4) When the reported <del>meteorological visibility (VIS)</del> is below that required for take-off and the RVR is not reported, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum. (a)(5) When no reported <del>meteorological visibility</del> VIS or RVR is available, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum. (c)(4) When RVR or VIS <del>meteorological visibility</del> is not available, the commander should not commence take-off unless he/ or she can determine that the actual conditions satisfy the applicable take-off minima.</p> <p>Requested change SWISS requests EASA to move (a)(4) and (a)(5) to (c) and to delete previous (c)(4).</p> <p>Justification</p>



response	<p>The content of (a)(4) has the same meaning as (c)(4). The content of (a)(4) and (a)(5) should be addressed under 'Required RVR or VIS' rather than under 'General'.</p> <p>Partially accepted</p> <p>(a)(4), (a)(5) and (c)(4) have been moved to AMC1 CAT.OP.MPA.265 because these are all provisions for the commander executing the take-off, not the operator calculating aerodrome operating minima.</p>
comment	<p>471 comment by: Swiss International Air Lines Ltd.</p> <p>NPA text (b)(2) For night operations, <del>ground</del> the prescribed runway lights should be <del>available to illuminate</del> in operation to mark the runway and any obstacles.</p> <p>Requested change SWISS requests EASA to replace 'and any obstacles' with 'any obstacles should be lighted'.</p> <p>Justification Runway lights cannot be used to illuminate obstacles.</p>
response	<p>Partially accepted.</p> <p>The review group has amended the text to ensure the necessary clarity requested in this comment, but the proposed solution of this comment was not followed.</p>
comment	<p>495 comment by: Austrian Airlines</p> <p>AMC1 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (a)(1) [...] Where there is a specific need to see and avoid obstacles on departure and/or for a forced landing, additional conditions, e.g. <del>ceiling</del> cloud conditions, should be specified.</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to use a clearer example than 'cloud conditions'</p> <p>Justification 'cloud condition' is ambiguous.</p>
response	<p>Accepted.</p> <p>The term 'cloud conditions' in AMC1 CAT.OP.MPA.110 point (a)(1) and AMC3 NCC.OP.110 point (a)(1) and others will revert to 'ceiling' and the ICAO definition of 'ceiling' (ICAO Doc 9365) will be included in Annex 1 – Definitions.</p>
comment	<p>496 comment by: Austrian Airlines</p>

	<p>AMC1 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (a) General (2) The commander should not commence take-off when the RVR is less than 550 m unless low-visibility procedures (LVPs) are established.</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to replace 'established' with 'in effect'.</p> <p>Justification In the explanation to the NPA (Chapter 2 – Proposed amendments and rationale in detail) the following is stated: 'A requirement is added that the commander should not commence take-off in an RVR of less than 550 m unless LVPs are in effect.'</p>
response	<p>Accepted</p> <p>This provision has been moved to AMC1 CAT.OP.MPA.265 and the wording has been amended as proposed.</p>
comment	<p>502                      comment by: Austrian Airlines</p> <p>AMC1 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (a)(4) When the reported <del>meteorological visibility (VIS)</del> is below that required for take-off and the RVR is not reported, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum. (a)(5) When no reported <del>meteorological visibility</del> VIS or RVR is available, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum. (c)(4) When RVR or VIS <del>meteorological visibility</del> is not available, the commander should not commence take-off unless he/ or she can determine that the actual conditions satisfy the applicable take-off minima.</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to move (a)(4) and (a)(5) to (c) and to delete previous (c)(4).</p> <p>Justification The content of (a)(4) has the same meaning as (c)(4). The content of (a)(4) and (a)(5) should be addressed under 'Required RVR or VIS' rather than under 'General'.</p>
response	<p>Partially accepted</p> <p>(a)(4), (a)(5) and (c)(4) have been moved to AMC1 CAT.OP.MPA.265 because these are all provisions for the commander executing the take-off, not the operator calculating aerodrome operating minima.</p>



comment	<p>602                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (2)  The proposed disposal in (2) introduces precision on take-off low visibility operations.  First, this disposal in (2) allows to take-off when the RVR is less than 550m depending on LVP establishment. Since LVP concept is removed from Annex I and is replaced by LVO, and here for take-off, by LVTO, FNAM suggests to keep LVP definition in Annex I or to harmonize LVP status in the whole proposal.  Then, the current regulation requires to use LVP for take-off with an RVR lower than 400m. Therefore, the proposed measure is more restrictive since no take-off are allowed with an RVR less than 550m unless LVP are established.  The proposed disposal would impose LVTO approvals to allow the take-off for RVR over 400m but lower than 550m. All operators would be impacted by this change. Since one of the NPA main objective is to introduce new possibilities only on a voluntary basis without impacting all operators, FNAM suggests to remove this new RVR limitation and keep the current LVTO definition.  Additionally, the proposed disposal (2) is also contradictory with disposals (3), (4) and (5). Indeed, proposal (2) forbids any take-off if the RVR is less than 550m unless LVP are established although:</p> <ul style="list-style-type: none"> <li>• Proposal (3) authorizes take-off if a weather permissible take-off alternate aerodrome is available; and</li> <li>• Proposals (4) and (5) authorize take-off if the commander can determine that the visibility along the take-off runway is equal or better than the required minimum.</li> </ul> <p>Therefore, disposal (2) introduces complexity and non-consistency to current applicable requirements. This would lead to divergent interpretation and potential wrong implementation. flight safety and level-playing-field objectives may be impacted.  Consequently, considering previous comments, FNAM suggests to remove the additional requirement (2).</p>
response	<p>Not accepted</p> <p>As indicated in the comment, LVPs at the airport are necessary.</p> <p>The review group has checked the consistency of the rules detailed in proposals 3, 4 and 5 of this comment.</p>
comment	<p>766                      comment by: <i>Germanwings</i></p> <p>AMC1 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text  (a) General  (2) The commander should not commence take-off when the RVR is less than 550 m unless low-visibility procedures (LVPs) are established.</p> <p>Requested change  Replace 'established' with 'in effect'.</p>

response	<p>Justification In the explanation to the NPA (Chapter 2 – Proposed amendments and rationale in detail) the following is stated: ‘A requirement is added that the commander should not commence take-off in an RVR of less than 550 m unless LVPs are in effect.’</p> <p>Accepted</p> <p>This provision has been moved to AMC1 CAT.OP.MPA.265 and the wording has been amended as proposed.</p>
comment	<p>876                      comment by: Lufthansa Cargo</p> <p>NPA text (a)(1) [...] Where there is a specific need to see and avoid obstacles on departure and/or for a forced landing, additional conditions, e.g. <del>ceiling</del> cloud conditions, should be specified.</p> <p>Requested change Lufthansa Cargo requests EASA to use a clearer example than ‘cloud conditions’</p> <p>Justification ‘cloud condition’ is ambiguous.</p>
response	<p>Accepted</p> <p>The term ‘cloud conditions’ in AMC1 CAT.OP.MPA.110 point (a)(1) and AMC3 NCC.OP.110 point (a)(1) will revert to ‘ceiling’ and the ICAO definition of ‘ceiling’ (ICAO Doc 9365) will be included in Annex 1 – Definitions.</p>
comment	<p>877                      comment by: Lufthansa Cargo</p> <p>NPA text (a) General (2) The commander should not commence take-off when the RVR is less than 550 m unless low-visibility procedures (LVPs) are established.</p> <p>Requested change Lufthansa Cargo requests EASA to replace ‘established’ with ‘in effect’.</p> <p>Justification In the explanation to the NPA (Chapter 2 – Proposed amendments and rationale in detail) the following is stated: ‘A requirement is added that the commander should not commence take-off in an RVR of less than 550 m unless LVPs are in effect.’</p>
response	<p>Accepted</p> <p>This provision has been moved to AMC1 CAT.OP.MPA.265 and the wording has been amended as proposed.</p>

comment	<p>878 comment by: Lufthansa Cargo</p> <p>NPA text  (a)(4) When the reported meteorological visibility (VIS) is below that required for take-off and the RVR is not reported, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum.  (a)(5) When no reported meteorological visibility VIS or RVR is available, a take-off should only be commenced if the commander can determine that the visibility along the take-off runway is equal to or better than the required minimum.  (c)(4) When RVR or VIS meteorological visibility is not available, the commander should not commence take-off unless he/ or she can determine that the actual conditions satisfy the applicable take-off minima.</p> <p>Requested change  Lufthansa Cargo requests EASA to move (a)(4) and (a)(5) to (c) and to delete previous (c)(4).</p> <p>Justification  The content of (a)(4) has the same meaning as (c)(4). The content of (a)(4) and (a)(5) should be addressed under 'Required RVR or VIS' rather than under 'General'.</p>
response	<p>Partially accepted</p> <p>(a)(4), (a)(5) and (c)(4) have been moved to AMC1 CAT.OP.MPA.265 because these are all provisions for the commander executing the take-off, not the operator calculating aerodrome operating minima.</p>
comment	<p>879 comment by: Lufthansa Cargo</p> <p>NPA text  (b)(2) For night operations, ground the prescribed runway lights should be available to illuminate in operation to mark the runway and any obstacles.</p> <p>Requested change  Lufthansa Cargo requests EASA to replace 'and any obstacles' with 'any obstacles should be lighted'.</p> <p>Justification  Runway lights cannot be used to illuminate obstacles.</p>
response	<p>Partially accepted</p> <p>The review group has amended the text to ensure the necessary clarity requested in this comment, but the proposed solution of this comment was not followed.</p>

comment	259 comment by: EUROCONTROL
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	<p>p.63 - Table 2.A With LVTO approval removed as outside SPA.</p> <p>Maybe worth adding in the title "without an approval for LVTO" in a similar way as in table 1.A.</p>
response	<p>Accepted</p> <p>The comment refers to AMC1 CAT.OP.MPA.110. Table 2 has been updated as proposed.</p>
comment	<p>603                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>The current CAT I for helicopter operations is defined with and RVR not less than 500m. However, the proposed RVR limitation for Type B CAT I for all type of aircraft is proposed not less than 550m. Since the proposed disposal applies for all helicopter operations, this modification would impact them.</p> <p>Since one of the main objective of this NPA is to introduce new possibilities on a voluntary basis without impacting all operators, FNAM suggests to precise helicopter specific definition with an RVR not less than 500m.</p>
response	<p>Not accepted</p>

AMC3 CAT.OP.MPA.110 Aerodrome operating minima
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p. 63-65
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comment	<p>9                      comment by: Civil Aviation Authority Czech Republic</p> <p>page 64, Table 3.A, and page 160, Table 2.A</p> <p>The value "350 ft" for the lowest DH/MDH, there are currently no supporting meteorological measurements (ref. ICAO Annex 3, Appendix 3, Par. 4.5.4.1 , 4.5.4.2). The closest values of cloud base reported are 300 and 400 ft (but not 350 ft)</p>
response	<p>Noted</p> <p>The measurement of cloud base is not relevant to the determination of DH/MDH.</p>
comment	<p>60                      comment by: British Airways Flight Operations</p> <p>The Table should include an MDH / DH for GNSS/SBAS (LP); which would, presumably, be 250 ft</p>
response	<p>Accepted</p>



comment	<p>171 comment by: <i>UK CAA</i></p> <p>Page No: 65</p> <p><b>Paragraph No:</b> AMC3 CAT.OP.MPA.110 paragraph (c)</p> <p>Comment:</p> <p>(1) MDH appears to have been excluded;  (2) Adapting the text will allow for aircraft with temperature compensation capabilities.</p> <p><b>Justification:</b> Accuracy, adaptability</p> <p>Proposed Text:</p> <p>Where a barometric DA/H <b>or MDA/H</b> is used, this should be adjusted where the ambient temperature is significantly below international standard atmosphere (ISA). GM8 CAT.OP.MPA.110 'Low temperature correction' provides a <b>cold temperature correction</b> table <del>with temperature corrections to be applied.</del> <b>for adjustment of minimum promulgated heights/altitudes.</b></p>
response	<p>Accepted</p> <p>AMC3 CAT.OP.MPA.110 point (c) has been amended as proposed. In addition, GM8 CAT.OP.MPA.110 has been amended to include more information about temperature correction from PANS-OPS Vol I, Part III, section 1 Chapter 4 (the source of the table).</p>
comment	<p>213 comment by: <i>AIR FRANCE</i></p> <p>We fully support (c)</p> <p>(c) Where a barometric DA/H is used, this should be adjusted where the ambient temperature is significantly below international standard atmosphere (ISA). GM8 CAT.OP.MPA.110 'Low temperature correction' provides a table with temperature corrections to be applied.</p> <p>But... as a consequence the NPA should correct a mistake in AMC2 CAT.OP.MPA.126 Performance-based navigation (d) (2)</p> <p>...</p> <p>Temperature compensation</p> <p>(i) For RNP APCH operations to LNAV/VNAV minima using Baro VNAV:</p> <p>(A) the flight crew should not commence the approach when the aerodrome temperature is outside the promulgated aerodrome temperature limits for the procedure unless the area navigation system is equipped with approved temperature compensation for the final approach;</p> <p>(B) <b>when the temperature is within promulgated limits, the flight crew should not make compensation to the altitude at the FAF and DA/H;</b></p> <p>(C) since only the final approach segment is protected by the promulgated aerodrome temperature limits, the flight crew should consider the effect of temperature on terrain and obstacle clearance in other phases of flight.</p>

	<p>This is in contradiction with (c), the physical evidence and with PANS OPS VOL I Chapter 1 APV/BARO-VNAV APPROACH PROCEDURES</p> <p>...</p> <p>1.4 OPERATIONAL CONSTRAINTS</p> <p>1.4.1 Pilots are responsible for any necessary cold temperature corrections to all published minimum altitudes/heights. This includes:</p> <p>a) the altitudes/heights for the initial and intermediate segment(s);</p> <p>b) the DA/H; and</p> <p>c) subsequent missed approach altitudes/heights.</p> <p>Note. — The final approach path vertical path angle (VPA) is safeguarded against the effects of low temperature by the design of the procedure.</p> <p>Therefore we would like the NPA AWO to correct AMC2 CAT.OP.MPA.126.</p>
response	<p>Accepted</p> <p>By introducing in AMC3 CAT.OP.MPA.110 the need to correct the DA/H when the ambient temperature is significantly below ISA, an inconsistency was created with CAT.OP.MPA.126 which does not require any correction at DA in case of low temperature when this one is higher than the promulgated one (APV BaroVNAV).</p> <p>As CAT.OP.MPA.126 is not consistent with ICAO PANS OPS which requires DA/H to be corrected when the ambient temperature is significantly below ISA when flying an LNAV/VNAV. AMC2 CAT.OP.MPA.126 (d)(2) has been modified as follows:</p> <p>Suppress DA/H in the following sentence:</p> <p>(B) when the temperature is within promulgated limits, the flight crew should not make compensation to the altitude at the FAF and DA/H;</p> <p>NCC.OP.116, NCO.OP.116 and SPO.OP.116 have been also corrected in the same manner.</p>
comment	<p>260 comment by: EUROCONTROL</p> <p>p. 64 : Table 3.A</p> <p>Note.</p> <p>Comment applies to entire NPA: This text is still confusing, as it is not the AL, but the procedure design criteria used that determines the lowest DH. Propose to distinguish between SBAS APV (APV design criteria in PANS-OPS used) and SBAS CAT I (SBAS CAT I criteria in PANS-OPS used).</p> <p>The SBAS CAT I nomenclature is already used in GM3 CAT.OP.MPA.110.</p>
response	<p>Partially accepted</p> <p>A consistency check has been performed and some amendments were necessary. The final text is not following exactly the proposal provided in this comment.</p>

comment	<p>347            comment by: J.Woehrlin/DLH</p> <p>AMC3 CAT.OP.MPA.110 table 4.A</p> <p>Requested change</p> <p>Include criteria type for definition of 'runway type'.</p> <p>Justification</p> <p>The definition of 'runway type' is not clear. Could not find corresponding definition.</p>
response	<p>Not accepted.</p>
comment	<p>391            comment by: DGAC France</p> <p>Page 64 AMC3 CAT.OP.MPA.110 Aerodrome operating minima DETERMINATION OF DH/MDH FOR INSTRUMENT APPROACH OPERATIONS Table 3.a: * For localiser performance with vertical guidance (LPV), a DH of 200 ft may be used only if the published FAS datablock sets a vertical alert limit not exceeding 35 m. Otherwise, the DH should not be lower than 250 ft.</p> <p><u>Comment</u> : If the vertical alert limit (VAL) published in the FAS exceeds 35m, the OCH of the procedure will hardly reach a value less than 250ft. Anyway if the VAL allows the OCH to be a little bit less than 250ft there would be no safety reason to limit the DH to 250ft. Most of the time the certification of the runway (precision against non precision) will be the limited factor on the DH. As a consequence there is no need to specify this note which may introduce useless complexity. Same comment for Part-NCC (see specific comment page 160).</p>
response	<p>Not accepted.</p> <p>The note has been redrafted, but it is maintained.</p>
comment	<p>392            comment by: DGAC France</p> <p>Page 65 : AMC3 CAT.OP.MPA.110 Aerodrome operating minima DETERMINATION OF DH/MDH FOR INSTRUMENT APPROACH OPERATIONS c) Where a barometric DA/H is used, this should be adjusted where the ambient temperature is significantly below international standard atmosphere (ISA). GM8 CAT.OP.MPA.110 'Low temperature correction' provides a table with temperature corrections to be applied.</p>

	<p>Comment :</p> <p>AMC 2 CAT.OP.MPA.126 d)(2)(i)b) should be modified to make the temperature correction be applied on the DH of LNAV/VNAV for cold temperature even if this cold T° is within the published min T° (to be compliant with ICAO and consistent with this new c)).</p>
response	<p>Accepted</p> <p>By introducing in AMC3 CAT.OP.MPA.110 the need to correct the DA/H when the ambient temperature is significantly below ISA, an inconsistency was created with CAT.OP.MPA.126 which does not require any correction at DA in case of low temperature when this one is higher than the promulgated one (APV BaroVNAV).</p> <p>As CAT.OP.MPA.126 is not consistent with ICAO PANS OPS which requires DA/H to be corrected when the ambient temperature is significantly below ISA when flying an LNAV/VNAV. AMC2 CAT.OP.MPA.126 (d)(2) has been modified as follows:</p> <p>Suppress DA/H in the following sentence:</p> <p>(B) when the temperature is within promulgated limits, the flight crew should not make compensation to the altitude at the FAF and DA/H;</p> <p>NCC.OP.116, NCO.OP.116 and SPO.OP.116 have been also corrected in the same manner.</p>
comment	<p>440 comment by: <i>ESSP SAS</i></p> <p>EU regulation has recently opened the door to enhance safety of small VFR AD with a low-cost implementation process for instrument flight operations. In fact, EASA efforts are initially intended to enhance the safety of General Aviation operations with the focus set on the introduction of IFR with PBN operations and adoption of new ICAO RWY classification. However, new ICAO definition of “Non-instrument runway” was not finally adopted by EASA in RE (EU) No 139/2014.</p> <p>Provisions incorporated in the NPA 2018-06 (C), related to “non-instrument runway” in CAT.OP.MPA.110 and NCC.OP.110, has opened the door, in Air OPS EASA regulation, to implement instrument approach procedures in non-instrument runways; if values of MDH and VIS for circling approaches are considered, following Table 10 for CAT-Part and Table 1 for NCC-Part. Indeed, according to AMC3 CAT.OP.MPA.110 and AMC4 NCC.OP.110, the lowest MDH/DH in a non-instrument runway must be the circling minima depending on the aircraft category. Taking into account that, the new definition proposed for “circling”, in NPA 2018-06 (C), considered as a Type A instrument approach operation.</p> <p>As summary, new provisions of NPA 2018-06 (C) have opened and permitted the operation of instrument flight procedures in non-instrument runways; however these modifications are not consistent with the current definition of “non-instrument runway” detailed in Commission Regulation (EU) No 139/2014.</p> <p>CONCLUSION</p>

	<p>Taking into account that this regulation would not be aligned with the EASA definition of “non-instrument runways”, it is expected that when the modifications detailed in NPA 2018-06 will entry into force, the new ICAO definition should be included in EASA regulation for being consistent in this sense.</p> <p>This modification will finally align EASA scope and EU regulations with ICAO provision, in order to enable the implementation of instrument approach procedures in non-instrument runways; adding consistence with new ICAO definition.</p>
response	<p>Not accepted</p> <p>The proposed minima for instrument approaches to non-instrument runways are consistent with the definition of a non-instrument runway in Annex I to Commission Regulation (EU) No 139/2014.</p>
comment	<p>472      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text Table 4.A: Runway type minima</p> <p>Requested change SWISS requests EASA to insert a definition of the mentioned Runway types (PA runway category I, NPA runway, Non-instrument runway, Non-instrument FATO/runway for helicopters).</p> <p>Justification Definitions of the mentioned runway types is missing.</p>
response	<p>Not accepted</p> <p>The definitions of runway types appear in Annex I to Commission Regulation (EU) No 139/2014.</p>
comment	<p>505      comment by: Austrian Airlines</p> <p>AMC4 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text Table 7.A: The visual and non-visual aids and/or on-board equipment vs minimum RVR — multi-pilot operations</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to delete ‘multi-pilot operations’.</p> <p>Justification Content of table includes also ‘single-pilot operations’.</p>
response	<p>Accepted</p>

	The title of Table 7.A has been amended as proposed.
comment	<p>604 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>The paragraph AMC2 CAT.OP.MPA.126 (d)(2)(B) requiring that “when the temperature is within the promulgated limits, the flight crew should not make compensation to the altitude at the FAF and DA/H” stands in contradiction with the AMC3 CAT.OP.MPA.110 (c). Indeed, the paragraph (c) of the AMC3 CAT.OP.MPA.110 requires to make adjustments where the ambient temperature is significantly below ISA, if a barometric DA/H is used.</p>
response	<p>Accepted</p> <p>By introducing in AMC3 CAT.OP.MPA.110 the need to correct the DA/H when the ambient temperature is significantly below ISA, an inconsistency was created with CAT.OP.MPA.126 which does not require any correction at DA in case of low temperature when this one is higher than the promulgated one (APV BaroVNAV).</p> <p>As CAT.OP.MPA.126 is not consistent with ICAO PANS OPS which requires DA/H to be corrected when the ambient temperature is significantly below ISA when flying an LNAV/VNAV. AMC2 CAT.OP.MPA.126 (d)(2) has been modified as follows:</p> <p>Suppress DA/H in the following sentence:</p> <p>(B) when the temperature is within promulgated limits, the flight crew should not make compensation to the altitude at the FAF and DA/H;</p> <p>NCC.OP.116, NCO.OP.116 and SPO.OP.116 have been also corrected in the same manner.</p>
comment	<p>767 comment by: <i>Germanwings</i></p> <p>AMC3 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p> <p>Table 4.A</p> <p>Requested change</p> <p>Include criteria type for definition of ‘runway type’.</p> <p>Justification</p> <p>The definition of ‘runway type’ is not clear. Could not find corresponding definition.</p>
response	Not accepted.

comment	<p>880 comment by: Lufthansa Cargo</p> <p>NPA text Table 4.A: Runway type minima</p> <p>Requested change Lufthansa Cargo requests EASA to insert a definition of the mentioned Runway types (PA runway category I, NPA runway, Non-instrument runway, Non-instrument FATO/runway for helicopters).</p> <p>Justification Definitions of the mentioned runway types is missing.</p>
response	<p>Not accepted</p> <p>The definitions of runway types appear in Annex I to Commission Regulation (EU) No 139/2014.</p>

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p. 65-69
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comment	<p>8 ❖ comment by: Civil Aviation Authority Czech Republic</p> <p>page 13, line 21, and page 68,last line: Par (f)(2) for Category C and D aeroplanes, 2 400 m.</p> <p>The value of RVR 2400 m is normally not supported by meteorological measurements (ref. ICAO Annex 3, Appendix 3, Par. 4.3.6.2)</p>
response	<p>Partially accepted</p> <p>For non-related to this comment reasons, the mentioned paragraph has been deleted.</p> <p>The review group has checked ICAO Doc 9365 AWO manual.</p>
comment	<p>12 comment by: Civil Aviation Authority Czech Republic</p> <p>page 102, Table 1, and page 67, Table 6.A, and page 166, Table 5.A</p> <p>The values of RVR in the 1st column higher than 200 m (2100, 2200, 2300, 2 400 m) are usually not supported by meteorological measurements (ref. ICAO Annex 3, Appendix 3, Par. 4.3.6.2).</p> <p>Please, note, that the standard "SPECI Criteria" values of RVR are: 50, 175, 300, 550, 800 m (ref. ICAO Annex 3, Appendix 3, Par. 2.3.2 (c) ) shall be preferred for operational needs. Introduction of the other limit values of RVR should be avoided as much as possible.</p>
response	<p>Partially accepted.</p>



The review group has checked ICAO Doc 9365 AWO manual to ensure consistency, which was the primary objective; therefore, the proposed solution of this comment was not followed.

comment

38 comment by: Wideroe Flyveselskap AS

Annex 4 CAT:

AMC4 CAT.OP.MPA.110: P66

Question: What is the definition of straight-in (identical to PANS-OPS?)

Question: Is the cut-off of 1500 m for Cat A and B always used irrespective of magnitude of MDH/DH in Table 6.A?

Comment: We would propose to retain the current regulation AMC5 CAT.OP.MPA.110 (a) (6) to consider BALS if cross-bar is available.

response

Not accepted

The BALS comment can be addressed by an AltMoC in accordance with ORO.GEN.120. We invite the commentor to discuss with its competent authority.

comment

61 comment by: British Airways Flight Operations

Capping the maximum RVR / CMV at 2400m is sensible and desirable

response

Noted

comment

103 comment by: Dassault-Aviation

Text:

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"(g) The visual aids should comprise standard runway day markings, runway edge lights, threshold lights and runway end lights and approach lights as defined in Table 8.A.

(h) For night operations or for any operation where credit for visual aids is required, the lights should be on and serviceable except as provided for in Table 12."

Comment:

(g) and (h) are duplication of (d) and (e)

Proposed change:

Delete (g) and (h)

response

Accepted

(g) and (h) have been deleted as proposed.



comment	<p>172 comment by: UK CAA</p> <p><b>Page No:</b> 66 / 165</p> <p><b>Paragraph No:</b> AMC4 CAT.OP.MPA.110, paragraphs (a) and (b) / AMC5 NCC.OP.110 paragraphs (a) and (b)</p> <p><b>Comment:</b> The abbreviation 'VIS' has been inserted where we believe it should read 'CMV'.</p> <p><b>Justification:</b> VIS and CMV are different parameters; they should not be used interchangeably.</p> <p>Proposed Text: 'DETERMINATION OF RVR OR <del>VIS</del> <b>CMV</b> FOR INSTRUMENT APPROACH OPERATIONS — AEROPLANES</p> <p>(a) The RVR/CMV for straight-in instrument approach operations should be not less than the greater of the following: (1) The minimum RVR or <del>VIS</del> <b>CMV</b> for type of runway used according to Table 5.A; or (2) The minimum RVR or <del>VIS</del> <b>CMV</b> determined according to the MDH or DH and class of lighting facility according to Table 6.A; or (3) The minimum RVR or <del>VIS</del> <b>CMV</b> according to the visual and non-visual aids and on-board equipment used according to Table 7.A.</p> <p>(b) For Category A and B aeroplanes, if the RVR or <del>VIS</del> <b>CMV</b> determined in accordance with point (a) is greater than 1 500 m, then 1 500 m should be used.'</p>
response	<p>Partially accepted</p> <p>The comment is correct, CMV and VIS are not equivalent. AMC9 CAT.OP.MPA has been amended to clarify the circumstances in which CMV may be used in place of VIS or RVR. AMC4 CAT.OP.MPA.110 describes the determination of RVR or VIS for instrument approach operations. For straight-in approach operations, this will be RVR; for circling approaches, VIS. CMV has been removed because it is made redundant by the revision of AMC9.</p>
comment	<p>173 comment by: UK CAA</p> <p><b>Page No:</b> 66 / 165</p> <p><b>Paragraph No:</b> AMC4 CAT.OP.MPA.110, Table 5.A / AMC5 NCC.OP.110, Table 4.A</p> <p><b>Comment:</b> We believe the abbreviation 'CMV' should be used instead of 'VIS'</p> <p><b>Justification:</b> RVR, VIS and CMV are different parameters; they should not be used interchangeably.</p> <p>Proposed Text:</p>

	<p>Table 5.A: The type of runway vs. minimum RVR or <del>VIS</del> <b>CMV</b></p> <table border="1"> <tr> <td>Type of runway:</td> <td>Minimum RVR or <del>VIS</del> <b>CMV</b> (m)</td> </tr> </table> <p>The same amendments should also be applied to Table 4.A on page 165</p>	Type of runway:	Minimum RVR or <del>VIS</del> <b>CMV</b> (m)
Type of runway:	Minimum RVR or <del>VIS</del> <b>CMV</b> (m)		
response	<p>Not accepted</p> <p>For straight-in approach operations, RVR is applicable. For circling operations, VIS is applicable. References to CMV are not required here because AMC9 CAT.OP.MPA.110 has been updated to describe the circumstances in which CMV may be substituted for RVR or VIS.</p>		
comment	<p>329 comment by: <i>KLM</i></p> <p>AMC4 CAT.OP.MPA.110 table 6a: RVR/CMV vs DH/MDH (pge.67)  Comment: table adjustment acceptable and in line of the lowest applicable RVR value and the value longer than a typical runway.</p>		
response	<p>Noted</p>		
comment	<p>348 comment by: <i>J.Woehrlin/DLH</i></p> <p>AMC4 CAT.OP.MPA.110 Aerodrome operating minima  Table 7.A</p> <p>NPA text  Table 7.A: The Table 7.A: The visual and non-visual aids and/or on-board equipment vs minimum RVR — multi-pilot operations vs minimum RVR — multi-pilot operations</p> <p>Requested change  Revise title. Delete ‘multi-pilot operations’. Ensure same nomenclature in title and in table (e.g. ‘minimum RVR’ vs. ‘lowest RVR’; facilities vs. ‘visual and non-visual aids and/or on-board equipment’).  Check impact on wording of (a)(3).</p> <p>Justification  Not clear.</p>		
response	<p>Accepted</p> <p>The title of Table 7.A has been amended as proposed.</p>		
comment	<p>350 comment by: <i>J.Woehrlin/DLH</i></p> <p>AMC4 CAT.OP.MPA.110 Aerodrome operating minima</p>		



response	<p>NPA text</p> <p>(d) The visual aids should comprise standard runway day markings, runway edge lights, threshold lights, runway end lights and approach lights as defined in Table 8.A.</p> <p>(e) For night operations or for any operation where credit for visual aids is required, the lights should be on and serviceable except as provided for in Table 12.</p> <p>(g) The visual aids should comprise standard runway day markings, runway edge lights, threshold lights and runway end lights and approach lights as defined in Table 8.A.</p> <p>(h) For night operations or for any operation where credit for visual aids is required, the lights should be on and serviceable except as provided for in Table 12.</p> <p>Requested change</p> <p>Delete (g) and (h).</p> <p>Justification</p> <p>(g) and (h) are duplicates of (d) and (e).</p> <p>Accepted</p> <p>Points (g) and (h) have been deleted as proposed. Point (i) has been renumbered.</p>
comment	<p>351                      comment by: J.Woehrlin/DLH</p> <p>AMC4 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p> <p>Table 7.A: The visual and non-visual aids and/or on-board equipment vs minimum RVR — multi-pilot operations</p> <p>Table 8.A: Approach lighting systems</p> <p>Requested change</p> <p>As GM 1 CAT.OP.MPA.110(b)(5) defines as follows “includes but is not limited to lights” the relation between table 7 and table 8 need to be defined</p> <p>Justification</p> <p>Title not consistent with table content.</p>
response	<p>Not accepted</p> <p>Table 7.A lists the lowest RVR according to the visual and non-visual aids and on-board equipment, whereas Table 8.A describes different types of approach lighting systems.</p>
comment	<p>473                      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text</p>



response	<p>Table 7.A: The visual and non-visual aids and/or on-board equipment vs minimum RVR — multi-pilot operations</p> <p>Requested change SWISS requests EASA to delete ‘multi-pilot operations’.</p> <p>Justification Content of table includes also ‘single-pilot operations’.</p> <p>Accepted</p> <p>The title of Table 7.A has been amended as proposed.</p>
comment	<p>474      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text (d) The visual aids [...] as defined in Table 8.A. (e) For night operations [...] as provided for in Table 12. (g) The visual aids [...] as defined in Table 8.A. (h) For night operations [...] as provided for in Table 12.</p> <p>Requested change SWISS requests EASA to delete (g) and (h).</p> <p>Justification (g) and (h) are duplicates of (d) and (e).</p>
response	<p>Accepted</p> <p>Points (g) and (h) have been deleted as proposed. Point (i) has been renumbered.</p>
comment	<p>506      comment by: Austrian Airlines</p> <p>AMC4 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (d) The visual aids [...] as defined in Table 8.A. (e) For night operations [...] as provided for in Table 12. (g) The visual aids [...] as defined in Table 8.A. (h) For night operations [...] as provided for in Table 12.</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to delete (g) and (h).</p> <p>Justification (g) and (h) are duplicates of (d) and (e).</p>
response	<p>Accepted</p> <p>Points (g) and (h) have been deleted as proposed. Point (i) has been renumbered.</p>

comment	<p>605 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – CMV/RVR consistency Proposed measures introduce the determination of RVR or VIS for instrument approach operations. According to AMC9 CAT.OP.MPA.110, for some conditions, the RVR could be replaced by the Converted Meteorological Visibility (CMV). For consistency reason with Table 6.A and to ensure the possibility to apply CMV instead of RVR, FNAM suggests to add CMV possibility in (a), (b), (c), Table 5.A and Table 7.A.</p>
response	<p>Not accepted</p> <p>The provisions related to the use of CMV have been amended and clarified but CMV cannot be used to determine aerodrome operating minima, only to satisfy aerodrome operating minima. CMV is not relevant to Tables 5.A and 7.A which are used for the determination of aerodrome operating minima.</p>
comment	<p>606 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – Table 7.A The proposed table transposes current (a)(i) and (ii) requirements. FNAM thanks for this new editorial which is clearer and simpler to understand. However, some requirements have been changed during this transposition. First, 3D operations with RTZL or without RTZL but using HULDS or equivalent system have no limitation for the lowest RVR for multi-pilot operations and 600m for single-pilot operations for the second case. FNAM wonders from which current requirements these proposals come from. Indeed, there are no such requirements for 3D operations in current regulation. Then, proposed 2D operations disposals on the lowest RVR depend on the final approach track offset angle. In the current regulation, the lowest RVR will variate if the final approach track offset is not more than 15° for category A and B aeroplanes and not more than 5° for category C and D aeroplanes. According to current requirement, 15° and 5° could be reached but is the absolute limit. Thus, FNAM suggests to modify the limit for the final approach track offset angle transposition in Table 7.A with: <math>\leq 15^\circ</math> and <math>\leq 5^\circ</math> rather than <math>&lt; 15^\circ</math> and <math>&lt; 5^\circ</math>; and <math>&gt; 15^\circ</math> and <math>&gt; 5^\circ</math> rather than <math>\geq 15^\circ</math> and <math>\geq 5^\circ</math>.</p>
response	<p>1. Not accepted</p> <p>The 600-m limitation for single-pilot operations comes from the current AMC5 CAT.OP.MPA.110(a)(8)(ii).</p> <p>2. Accepted</p> <p>The mathematical symbols will be corrected in Table 7.A (AMC4 CAT.OP.MPA.110) and Table 6.A (AMC5 NCC.OP.110).</p>
comment	<p>607 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (f), (g) and (h) Proposed disposals in (f) seem to present redundancy with other requirements.</p>

	<p>First, (f)(1) measure requires that ‘the RVR/CMV for Type A and Type B CAT I instrument approach operations should not be greater than the lesser of the value calculated in point (a) or for Category A and B aeroplanes, 1500m’. However, in the same AMC, (b) measure requires that ‘For Category A and B aeroplanes, if the RVR or VIS determined in accordance with point (a) is greater than 1500, then 1500m should be used’. Thus, (f)(1) is repeated the exact same requirement than (b) and introduce additional and unnecessary complexity to this AMC.</p> <p>Then, in the same way, (f)(2) proposal requires that ‘the RVR/CMV for Type A and Type B CAT I instrument approach operations should be not greater than the lesser of the value calculated in point (a) or for Category C and D aeroplanes, 2400m’. However, one of the NPA proposed change is to limit all maximum lowest RVR at 2400m. For example, all highest values of RVR in the proposed Table 6.A are 2400m. Thus, (f)(2) is repeated the exact same requirement than Table 6.A and introduce additional and unnecessary complexity to this AMC.</p> <p>In the same way, (g) disposals repeat verbatim (d) disposals and (h) disposals repeats verbatim (e) disposals.</p> <p>Since (f), (g) and (h) disposals seem to repeat existing requirements, FNAM suggests to remove these proposed requirements.</p>
response	<p>Accepted</p> <p>AMC4 CAT.OP.MPA.110 has been amended as proposed.</p>
comment	<p>768                      comment by: <i>Germanwings</i></p> <p>AMC4 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text Table 7.A: The visual and non-visual aids and/or on-board equipment vs minimum RVR — multi-pilot operations vs minimum RVR — multi-pilot operations</p> <p>Requested change Revise title. Delete ‘multi-pilot operations’. Ensure same nomenclature in title and in table (e.g. ‘minimum RVR’ vs. ‘lowest RVR’; facilities vs. ‘visual and non-visual aids and/or on-board equipment’). Check impact on wording of (a)(3).</p> <p>Justification Not clear.</p>
response	<p>Accepted</p> <p>The title of Table 7.A has been amended as proposed.</p>
comment	<p>769                      comment by: <i>Germanwings</i></p> <p>AMC4 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p>

	<p>(d) The visual aids should comprise standard runway day markings, runway edge lights, threshold lights, runway end lights and approach lights as defined in Table 8.A.</p> <p>(e) For night operations or for any operation where credit for visual aids is required, the lights should be on and serviceable except as provided for in Table 12.</p> <p>(g) The visual aids should comprise standard runway day markings, runway edge lights, threshold lights and runway end lights and approach lights as defined in Table 8.A.</p> <p>(h) For night operations or for any operation where credit for visual aids is required, the lights should be on and serviceable except as provided for in Table 12.</p> <p><u>Requested change</u> Delete (g) and (h).</p> <p>Justification (g) and (h) are duplicates of (d) and (e).</p>
response	<p>Accepted</p> <p>Points (g) and (h) have been deleted as proposed. Point (i) has been renumbered.</p>
comment	<p>770                      comment by: <i>Germanwings</i></p> <p>AMC4 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text Table 7.A: The visual and non-visual aids and/or on-board equipment vs minimum RVR — multi-pilot operations Table 8.A: Approach lighting systems</p> <p>Requested change As GM 1 CAT.OP.MPA.110(b)(5) defines as follows “includes but is not limited to lights” the relation between table 7 and table 8 need to be defined.</p> <p>Justification Title not consistent with table content.</p>
response	<p>Not accepted</p> <p>Table 7.A lists the lowest RVR according to the visual and non-visual aids and on-board equipment, whereas Table 8.A describes different types of approach lighting systems.</p>
comment	<p>881                      comment by: <i>Lufthansa Cargo</i></p> <p>NPA text Table 7.A: The visual and non-visual aids and/or on-board equipment vs minimum RVR — multi-pilot operations</p> <p>Requested change Lufthansa Cargo requests EASA to delete ‘multi-pilot operations’.</p>



response	Justification Content of table includes also 'single-pilot operations'.
	Accepted  The title of Table 7.A has been amended as proposed.
comment	882            comment by: Lufthansa Cargo  NPA text (d) The visual aids [...] as defined in Table 8.A. (e) For night operations [...] as provided for in Table 12. (g) The visual aids [...] as defined in Table 8.A. (h) For night operations [...] as provided for in Table 12.  Requested change Lufthansa Cargo requests EASA to delete (g) and (h).  Justification (g) and (h) are duplicates of (d) and (e).
response	Accepted  Points (g) and (h) have been deleted as proposed. Point (i) has been renumbered.

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comment	608            comment by: <i>FNAM</i>  ISSUE AND PROPOSAL The current LVP for helicopter operations is defined with and RVR lower than 500m. However, the proposed RVR limit for LVO operations for all type of aircraft is proposed lower than 550. Since the proposed disposal applies for all helicopter operations, this modification would impact them. Since one of the NPA main objective is to introduce new possibilities on a voluntary basis without impacting all operators and in order to be consistent with current helicopter requirements, FNAM suggests to precise helicopter specific definition with an RVR lower than 500m instead of 550m in the whole regulation.
response	Not accepted  Consistency with the Aerodrome Regulation.

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comment	352            comment by: J.Woehrlin/DLH  AMC6 CAT.OP.MPA.110 Aerodrome operating minima
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	<p>NPA text (b) Conduct of flight – general (4) operators should provide tabular guidance of the relationship between height above threshold and the in-flight visibility required to obtain an sustain visual contact during the circling manoeuvre.</p> <p>Requested change Change of the term ‘in-flight visibility’.</p> <p>Justification The purpose of a table containing the relationship between height above threshold and the in-flight visibility is unclear. The in-flight visibility cannot be measured.</p>
response	<p>Not accepted</p> <p>There is no proposal to change this requirement which is in the existing regulation. No evidence has been presented of a safety or operational benefit from changing the requirement.</p>
comment	<p>353                      comment by: J.Woehrlin/DLH</p> <p>AMC6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (c)(2)(iii) is able to determine the aeroplane’s position in relation to the runway of intended landing with the aid of the appropriate external visual references.</p> <p>Requested change “appropriate visual reference” need to be defines.</p> <p>Justification unclear</p>
response	<p>Not accepted</p> <p>The appropriate visual references are those that will enable the pilot to determine the aeroplane’s position in relation to the runway of intended landing.</p>
comment	<p>354                      comment by: J.Woehrlin/DLH</p> <p>AMC6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text c) 3) When reaching the published instrument MAPt and the conditions stipulated in (c)(2) are unable to be established by the pilot, a missed approach should be carried out in accordance with that instrument approach procedure IAP.</p> <p>Requested change</p>

	<p>“conditions stipulated in (c)(2) cannot be complied with...”</p> <p>Justification Conditions cannot be established by the pilot, the pilot need to comply with.</p>
response	<p>Accepted</p> <p>(c)(3) has been amended as proposed but using the active voice (‘if the pilot cannot...’).</p>
comment	<p>475      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text (b) Conduct of flight – general (4) operators should provide tabular guidance of the relationship between height above threshold and the in-flight visibility required to obtain an sustain visual contact during the circling manoeuvre.</p> <p>Requested change SWISS requests EASA to delete (b)(4).</p> <p>Justification SWISS considers the usability of such a table in daily operations to be low since in-flight visibility is neither measured nor reported.</p>
response	<p>Not accepted</p> <p>There is no proposal to change this requirement which is in the existing regulation. No evidence has been presented of a safety or operational benefit from changing the requirement.</p>
comment	<p>507      comment by: Austrian Airlines</p> <p>AMC6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (b) Conduct of flight – general (4) operators should provide tabular guidance of the relationship between height above threshold and the in-flight visibility required to obtain an sustain visual contact during the circling manoeuvre.</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to delete (b)(4).</p> <p>Justification AUSTRIAN AIRLINES considers the usability of such a table in daily operations to be low since in-flight visibility is neither measured nor reported.</p>
response	<p>Not accepted</p>

There is no proposal to change this requirement which is in the existing regulation. No evidence has been presented of a safety or operational benefit from changing the requirement.

comment

771 comment by: *Germanwings*

AMC6 CAT.OP.MPA.110 Aerodrome operating minima

NPA text  
(b) Conduct of flight – general  
(4) operators should provide tabular guidance of the relationship between height above threshold and the in-flight visibility required to obtain an sustain visual contact during the circling manoeuvre.

Requested change  
Change of the term ‘in-flight visibility’.

Justification  
The purpose of a table containing the relationship between height above threshold and the in-flight visibility is unclear. The in-flight visibility cannot be measured.

response

Not Accepted

There is no proposal to change this requirement which is in the existing regulation. No evidence has been presented of a safety or operational benefit from changing the requirement.

comment

772 comment by: *Germanwings*

AMC6 CAT.OP.MPA.110 Aerodrome operating minima

NPA text  
(c)(2)(iii) is able to determine the aeroplane’s position in relation to the runway of intended landing with the aid of the appropriate external visual references.

Requested change  
“appropriate visual reference” need to be defines.

Justification  
Unclear.

response

Not accepted

The appropriate visual references are those that will enable the pilot to determine the aeroplane’s position in relation to the runway of intended landing.

comment

773 comment by: *Germanwings*

AMC6 CAT.OP.MPA.110 Aerodrome operating minima



response	<p>NPA text</p> <p>c) 3) When reaching the published instrument MAPt and the conditions stipulated in (c)(2) are unable to be established by the pilot, a missed approach should be carried out in accordance with that instrument approach procedure IAP.</p> <p>Requested change</p> <p>“conditions stipulated in (c)(2) cannot be complied with...”</p> <p>Justification</p> <p>Conditions cannot be established by the pilot, the pilot need to comply with.</p> <p>Accepted</p> <p>(c)(3) has been amended as proposed but using the active voice (‘if the pilot cannot...’).</p>
comment	<p>883 comment by: Lufthansa Cargo</p> <p>NPA text</p> <p>(b) Conduct of flight – general</p> <p>(4) operators should provide tabular guidance of the relationship between height above threshold and the in-flight visibility required to obtain an sustain visual contact during the circling manoeuvre.</p> <p>Requested change</p> <p>Lufthansa Cargo requests EASA to delete (b)(4).</p> <p>Justification</p> <p>Lufthansa Cargo considers the usability of such a table in daily operations to be low since in-flight visibility is neither measured nor reported.</p>
response	<p>Not accepted</p> <p>There is no proposal to change this requirement which is in the existing regulation. No evidence has been presented of a safety or operational benefit from changing the requirement.</p>
comment	<p>884 comment by: Lufthansa Cargo</p> <p>NPA text</p> <p>(b) Conduct of flight – general</p> <p>(4) operators should provide tabular guidance of the relationship between height above threshold and the in-flight visibility required to obtain an sustain visual contact during the circling manoeuvre.</p> <p>Requested change</p> <p>Lufthansa Cargo requests EASA to delete (b)(4).</p> <p>Justification</p>

	Lufthansa Cargo considers the usability of such a table in daily operations to be low since in-flight visibility is neither measured nor reported.
response	<p>Not accepted</p> <p>There is no proposal to change this requirement which is in the existing regulation. No evidence has been presented of a safety or operational benefit from changing the requirement.</p>

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comment	<p>174                      comment by: <i>UK CAA</i></p> <p>Page No: 71</p> <p><b>Paragraph No:</b> AMC8 CAT.OP.MPA.110</p> <p><b>Comment:</b> We suggest it would be helpful to have guidance in the event of a missed approach following a visual approach.</p> <p><b>Justification:</b> Clarity, approach preparation and forward planning</p> <p><b>Proposed Text:</b> Add an additional paragraph as shown:  (a) The operator should not use an RVR of less than 800 m for a visual approach operation.  (b) Visual go-arounds may be carried out in accordance with an appropriate published missed approach procedure, unless otherwise directed.</p>
response	<p>Not accepted</p> <p>It would not be appropriate to direct pilots to follow the missed approach procedure for an instrument approach following a visual approach operation, especially if the pilot of the aircraft making the visual approach has assumed responsibility for maintaining separation from other traffic.</p>
comment	<p>330                      comment by: <i>KLM</i></p> <p>AMC9 CAP.OP.MPA.110 Conversion of reported meteo visibility to RVR (pge.71)  Comment: This amendment requires additional publication not to use an RVR of less than 800m for a visual approach operation (AMC8 CAT.OP.MPA.110).  Additional remark “ not to be used if result &lt; 800m” remains.</p>
response	<p>Not accepted</p> <p>The current regulations do not prohibit the use of CMV to justify visual approach if the meteorological visibility is less than 800m , RVR is not reported and the CMV determined according to AMC10 CAT.OP.MPA.110 is more than 800 m. The proposed amendment does not change this.</p>



comment	609	comment by: <i>FNAM</i>
	<p>AGREEMENT</p> <p>The disposal proposes to modify conditions for the use of CMV when reported RVR is not available. The modification is more flexible for operators as it would be impossible to replace by the CMV when operating in LVO (<i>i.e.</i> with RVR less than 550m) although the current condition forbids it when RVR is less than 800m.</p>	
response	Noted	

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comment	3	comment by: <i>Met Office</i>
	<p>In Part C of the proposal there is a reference to using visibility forecasts to calculate an RVR (see Part C Page 71 Para <b>AMC9 CAT.OP.MPA.110</b>)</p> <p>The UK Met Office is aware that that this topic was discussed at the 10<sup>th</sup> meeting of the Aerodrome Meteorological Observation and Forecast Study Group (AMOFSG) in 2013 (SN11 presented by Meteo France refers).</p> <p>In this paper, the author raises some potential safety concerns through the use of the conversion factors provided in the table.</p> <p>Since 2001 the definition of visibility in Annex 3 changed from that used by WMO. The meteorological visibility in Annex 3 is:</p> <ul style="list-style-type: none"> <li>a) a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background; and</li> <li>b) lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background</li> </ul> <p>whereas the WMO's meteorological visibility is defined as the greatest distance at which a black object of suitable dimensions (located on the ground) can be seen and recognized when observed against the horizon sky during daylight or could be seen and recognized during the night if the general illumination were raised to the normal daylight level (WMO, 1992<i>a</i>; 2010):</p> <p>'Visibility, meteorological visibility (by day) and meteorological visibility at night To avoid confusion, visibility at night should not be defined in general as "the greatest distance at which lights of specified moderate intensity can be seen and identified" (see the Abridged Final Report of the Eleventh Session of the Commission for Instruments and Methods of Observation (WMO-No. 807)). If visibility should be reported based on the assessment of light sources, it is recommended that a visual range should be defined by specifying precisely the appropriate light intensity and its application, like runway visual range. Nevertheless, at its eleventh session CIMO agreed that further investigations were necessary in order to resolve the practical difficulties of the application of this definition.'</p>	



In Part C of the AWO consultation (page 71) the assumption is made that that meteorological visibility and VIS are the same. As the author notes, and as seen above, separate definitions have been in place since 2001. The conversion table considers the WMO definition of MOR which differs from the ICAO definition. The ICAO definition does not appear to be reflected in the conversion table which results in the potential overestimation of RVR in the table, and a consequential potential safety concern.

The AMOFSG paper goes on to offer alternative conversion factors based on 1000 cd defined by ICAO – in this case ‘a conversion factor of 1.3 was calculated to be used for day and night. The values prescribed in the table may therefore provide an overestimation of the RVR where RVR is not otherwise available. Where there is no awareness of the background light, attempting to convert visibility to RVR may be not a recommended action.

This was the final ICAO AMOFSG meeting before the group was disbanded. We understand that the matter was forwarded to the Flight Operations Panel (OPSP). In the most recent (4<sup>th</sup>) edition of ICAO Doc 9365 - *Manual of All-Weather Operations* the table E-1 appears to be a repeat of the table in P72, albeit with an ‘asterisked’ note suggested the matter is under review:

\* The relationship between reported visibility and RVR/CMV at night is under review by ICAO.

To summarise, the CMV conversion table is consistent with a visibility being a MOR. But, whilst identified as being under review this conversion table has not yet been updated to take into account the ICAO definition of visibility introduced in 2001.

UK Met Office  
4th September 2018

Partially accepted

After extensive discussions, the RMG decided to maintain the existing provisions in relation to the use of CMV for continuation of an approach. The comment is accurate in that the matter has been considered at ICAO, but no conclusion was reached, and ICAO standards are not affected. The view of the group was that while the conversion factors are not based on scientific or empirical data, they do provide a useful heuristic for the rare occasions where RVR is not available. The conversion factors have been in use for many years and, in the absence of any safety related data, no justification has been found to amend the factors.

The provisions for use of CMV have been clarified throughout the regulation. ‘RVR/CMV’ is no longer used as it was thought that this could lead to an impression that pilots could choose the most favourable out of RVR or CMV (which was not the intent). A provision has been added to AMC9 CAT.OP.MPA.110 to clarify that, for



	<p>flight planning purposes a 'conversion factor' of 1.0 has to be applied to convert forecast or reported visibility to CMV.</p>
comment	<p>92 comment by: <i>AIRBUS</i></p> <p>AMC9 CAT.OP.MPA.110 Aerodrome operating minima CONVERSION OF REPORTED METEOROLOGICAL VISIBILITY TO RVR</p> <p>In (c) - table 11, please delete the conversion factor in case of night condition for the RVR.</p> <p><u>Rationale:</u> The visibility definition is currently consistent with the ICAO definition and is no longer dependent of day/night conditions (which was the case for the former definition of meteorological optical range). Then the conversion factors on RVR in case of night condition is not more applicable. (ICAO visibility definition now considers the highest of the visibility by contrast and the visibility of a light source).</p>
response	<p>Not accepted</p> <p>After extensive discussions, the RMG decided to maintain the existing provisions in relation to the use of CMV for continuation of an approach. The comment is accurate in that the matter has been considered at ICAO, but no conclusion was reached, and ICAO standards are not affected. The view of the group was that while the conversion factors are not based on scientific or empirical data, they do provide a useful heuristic for the rare occasions where RVR is not available. The conversion factors have been in use for many years and, in the absence of any safety related data, no justification has been found to amend the factors.</p> <p>The provisions for use of CMV have been clarified throughout the regulation. 'RVR/CMV' is no longer used as it was thought that this could lead to an impression that pilots could choose the most favourable out of RVR or CMV (which was not the intent). A provision has been added to AMC9 CAT.OP.MPA.110 to clarify that, for flight planning purposes a 'conversion factor' of 1.0 has to be applied to convert forecast or reported visibility to CMV.</p>
comment	<p>175 comment by: <i>UK CAA</i></p> <p>Page No: 72</p> <p><b>Paragraph No:</b> AMC9 CAT.OP.MPA.110 paragraph (b)</p> <p><b>Comment:</b> We suggest removing the example for the following reasons: (1) 1,500 m is low for a maximum value of RVR; (2) Maximum value of RVR may be reported in a different manner; (e.g. R24/P1500).</p>



	<p>ICAO Annex 3, 4.3.6.2 states:                  4.3.6.2 Recommendation.— Fifty metres should be considered the lower limit and 2 000 metres the upper limit for runway visual range. Outside of these limits, local routine reports, local special reports, METAR and SPECI should merely indicate that the runway visual range is less than 50 m or more than 2 000 m.</p> <p>EASA regulation 2017/373 states:                  MET.TR.205 Reporting of meteorological elements                  3) In local routine and local special reports and in METAR:                  (i) when the RVR is above the maximum value that can be determined by the system in use, it shall be reported using the abbreviation ‘ABV’ in local routine and local special reports, and the abbreviation ‘P’ in METAR followed by the maximum value that can be determined by the system</p> <p>In the UK, most RVR systems only report 1,500 m as the maximum because in the past, most systems could not meet accuracy requirements above this value. However, with improvements in RVR technology, this is less likely to be the case today.</p> <p><b>Justification:</b> Inappropriate example</p> <p>Proposed Text:                  b) If the minimum RVR for an approach is more than the maximum value assessed by the aerodrome operator, e.g. ‘RVR more than 1 500 m’, then CMV should be used.</p>
<p>response</p>	<p>Partially accepted</p> <p>The example has been removed as proposed.</p>
<p>comment</p>	<p>176                      comment by: UK CAA</p> <p>Page No: 72</p> <p><b>Paragraph No:</b> AMC9 CAT.OP.MPA.110 paragraph (c)</p> <p><b>Comment:</b> We believe it is inappropriate to use forecast visibility to convert to CMV. Forecasts (TAFs) are designed for flight planning to assist with fuel calculations. They are not designed for short-term tactical use since the information is too coarse for this purpose. We recommend the term ‘forecast’ should be removed from the text.</p> <p><b>Justification:</b> TAFs are designed for flight planning aspects and not tactical use.</p> <p>Proposed Text:                  In order to determine CMV from <del>the</del> reported <del>or forecast</del> visibility, the conversion factors specified in Table 11 should be used.</p>
<p>response</p>	<p>Accepted</p>



AMC9 has been substantially amended and now contains point (c)(1) to clarify that ‘for flight planning purposes, a conversion factor of 1.0 should be used.’

comment

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comment by: UK CAA

**Page No:** 72 / 168**Paragraph No:** AMC9 CAT.OP.MPA.110, Table 11: Conversion of reported VIS to RVR/CMV / and AMC8 NCC.OP.110 Table 9

**Comment:** Please refer to ICAO paper: AMOFSG/10-SN No. 11 – AERODROME METEOROLOGICAL OBSERVATION AND FORECAST STUDY GROUP (AMOFSG), TENTH MEETING (Montréal, 17 to 19 June 2013) Agenda Item 5: Aerodrome observations: INCONSISTENCY BETWEEN VISIBILITY AND CMV, A CONVERTED METEOROLOGICAL VISIBILITY.

In this paper, it is discussed that the CMV table was established in 1995 before the ICAO definition of visibility was introduced in 2001.

It is believed the CMV table is consistent with a visibility being a meteorological optical range (MOR), but is not consistent with the current ICAO Annex 3 definition of visibility.

To quote the paper:

“The explanation of this inconsistency is probably the fact that the conversion table was established before 2001, the year when Annex 3 defined for the first time the term “visibility” (for aeronautical purposes). Before 2001, the only objective definition of visibility was that of the World Meteorological Organization (WMO), the MOR. And the CMV conversion table is consistent with a visibility being a MOR. But this conversion table was not updated to take into account the ICAO definition of visibility.”

In summary, the paper believes that: “This conversion could lead to safety problems.”

Also note in ICAO Doc 9365 - Manual of All-Weather Operations (Fourth edition, 2017), Table E-1. ‘Conversion of MET visibility to RVR/CMV’ includes a note as follows:

“The relationship between reported visibility and RVR/CMV at night is under review by ICAO.”

The UK CAA recommends that the values in Table 11 (and Table 9) are reviewed.

**Justification:** Accuracy, safety

response

Partially accepted

The values in Table 11 have been reviewed but, after extensive discussions, the RMG decided to maintain the existing provisions in relation to the use of CMV for



continuation of an approach. The comment is accurate in that the matter has been considered at ICAO, but no conclusion was reached, and ICAO standards are not affected. The view of the group was that while the conversion factors are not based on scientific or empirical data, they do provide a useful heuristic for the rare occasions where RVR is not available. The conversion factors have been in use for many years and, in the absence of any safety related data, no justification has been found to amend the factors.

comment	<p>261                      comment by: <i>EUROCONTROL</i></p> <p>p.71 AMC9 CAT.OP.MPA.110 (a) (2) Deletion of &lt;800RVR conversion exclusion.</p> <p>This change effectively changes the conversion limit from /800m RVR to 825VIS/550m RVR according to Table 11. This differs from the ICAO AWO Manual (Appendix E, from which table 11 is derived), which states: An operator must ensure that a meteorological visibility to RVR/CMV conversion is not used for take-off, for calculating any other required RVR minimum less than 800 m, or when reported RVR is available.</p>
response	<p>Accepted</p> <p>The AMC has been amended to prevent use of CMV if the value of CMV is less than 800 m.</p>
comment	<p>355                      comment by: J.Woehrlin/DLH</p> <p>AMC9 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text a) If the reported RVR is not available, a converted meteorological visibility (CMV) may be substituted for the RVR, except:</p> <p>Requested change Delete “reported”</p> <p>Justification Either RVR is “reported” or “not available”.</p>
response	<p>Partially accepted</p> <p>The review group has performed a revision of CMV, RVR, reported RVR and minimum RVR.</p>
comment	<p>356                      comment by: J.Woehrlin/DLH</p> <p>AMC9 CAT.OP.MPA.110 Aerodrome operating minima</p>



response	<p>NPA text (b) If the minimum RVR for an approach is more than the maximum value assessed by the aerodrome operator, e.g. 'RVR more than 1 500 m', then CMV should be used.</p> <p>Requested change</p> <p>Justification unclear</p> <p>Partially accepted</p> <p>The review group has performed a revision of CMV, RVR, reported RVR and minimum RVR. The example has been removed as proposed.</p>
comment	<p>357                      comment by: J.Woehrlin/DLH</p> <p>AMC9 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (c) In order to determine CMV from reported or forecast visibility, the conversion factors specified in Table 11 should be used. Table 11: Conversion of reported VIS to RVR/CMV <math>RVR/CMV = \text{reported VIS} \times</math></p> <p>Requested change Delete 'RVR'.</p> <p>Justification The conversion factor is used to determine CMV (not RVR) from reported or forecast visibility. Subsequently CMV substitutes for RVR. However, the multiplication of the reported or forecast visibility with the conversion factor always results in CMV (nor RVR).</p>
response	<p>Partially accepted.</p> <p>The review group has performed a revision of CMV, RVR, reported RVR and minimum RVR.</p> <p>AMC9 has been substantially amended and now contains point (c)(1) to clarify that 'for flight planning purposes, a conversion factor of 1.0 should be used.'</p>
comment	<p>431                      comment by: DGAC France</p> <p>Page 71 AMC9 CAT.OP.MPA.110 Aerodrome operating minima CONVERSION OF REPORTED METEOROLOGICAL VISIBILITY TO RVR</p>



	<p>(a)(2) for the purpose of continuation of an approach in LVO.</p> <p>Comment: It should be addressed in part SPA dedicated to LVO, where it could be detailed that the RVR threshold may be substituted by the mid RVR / end RVR in case of system failure. Moreover, it should include operations with operational credits. <u>Note:</u> this modified AMC is not consistent with modified <b>AMC8 NCC.OP.110</b>.</p>
response	<p>Partially accepted</p> <p>The review group has performed a revision of CMV, RVR, reported RVR and minimum RVR.</p> <p>AMC9 has been substantially amended and now contains point (c)(1) to clarify that 'for flight planning purposes, a conversion factor of 1.0 should be used.'</p>
comment	<p>433                      comment by: <i>DGAC France</i></p> <p>Page 72 AMC9 CAT.OP.MPA.110 Aerodrome operating minima CONVERSION OF REPORTED METEOROLOGICAL VISIBILITY TO RVR (b) If the minimum RVR for an approach is more than the maximum value assessed by the aerodrome operator, e.g. 'RVR more than 1 500 m', then CMV should be used.</p> <p>Comment: Not clear. This condition is not understood. And what is the minimum RVR? The reported RVR? It should be noted that the previous wording (more clear) has been kept in modified <b>AMC8 NCC.OP.110</b>.</p>
response	<p>Partially accepted</p> <p>The review group has performed a revision of CMV, RVR, reported RVR and minimum RVR.</p> <p>The example has been removed as proposed.</p>
comment	<p>447                      comment by: <i>EUROCONTROL</i></p> <p>AMC10 CAT.OP.MPA.110</p> <p>Table 12 add GLS in "ILS/MLS stand-by transmitter" in field outer marker type B: This field needs SBAS, GBAS and MLS additions: "ILS: not allowed...fix; other nav aids: not applicable" in field middle marker Type B: "ILS: no effect, other nav aids: non applicable"</p>
response	<p>Accepted</p>



comment	<p>476      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text (c) In order to determine CMV from reported or forecast visibility, the conversion factors specified in Table 11 should be used. Table 11: Conversion of reported VIS to RVR/CMV <math>RVR/CMV = \text{reported VIS} \times</math></p> <p>Requested change SWISS requests EASA to delete 'RVR'.</p> <p>Justification The conversion factor is used to determine CMV (not RVR).</p>
response	<p>Partially accepted</p> <p>The review group has performed a revision of CMV, RVR, reported RVR and minimum RVR.</p> <p>AMC9 has been substantially amended and now contains point (c)(1) to clarify that 'for flight planning purposes, a conversion factor of 1.0 should be used.'</p>
comment	<p>513      comment by: Austrian Airlines</p> <p>AMC9 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (c) In order to determine CMV from reported or forecast visibility, the conversion factors specified in Table 11 should be used. Table 11: Conversion of reported VIS to RVR/CMV <math>RVR/CMV = \text{reported VIS} \times</math></p> <p>Requested change AUSTRIAN AIRLINES requests EASA to delete 'RVR'.</p> <p>Justification The conversion factor is used to determine CMV (not RVR).</p>
response	<p>Partially accepted</p> <p>The review group has performed a revision of CMV, RVR, reported RVR and minimum RVR.</p> <p>AMC9 has been substantially amended and now contains point (c)(1) to clarify that 'for flight planning purposes, a conversion factor of 1.0 should be used.'</p>
comment	<p>610      comment by: FNAM</p> <p>AGREEMENT More flexibilities are offered for outer marker loss. FNAM thanks for this new possibility by height or glide path checking.</p>

response	Noted
comment	<p>611 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>The proposed disposal presents the effect on landing minima of temporarily failed or downgraded ground equipment. Table 12 updates current required data with the new proposed categories of this NPA. FNAM thanks for harmonizing data throughout the whole proposed regulation. However, the change in Table 12 are not adapted.</p> <p>The main issue is that current CAT I is possible with a DH over 200ft although proposed regulation includes CAT I in Type B operations which are limited with a DH below 250ft. Thus, the proposed Type B CAT I operation would have a DH from 200ft to 250ft. Table 12 is therefore more restrictive when CAT I operations are transposed with Type B operations.</p> <p>Plus, proposed requirements would be applicable for all operators since the modifications are included in CAT regulations. This is against this NPA main objective which is to introduce new possibilities on a voluntary basis without impacting all operators.</p> <p>Therefore, FNAM suggests to keep CAT I in Table 12 instead of Type B.</p>
response	<p>Not Accepted</p> <p>The column headings have been amended to be consistent with the definitions of 'type A' and 'type B' instrument approach operations, but the requirements are unchanged.</p>
comment	<p>774 comment by: <i>Germanwings</i></p> <p>AMC9 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p> <p>a) If the reported RVR is not available, a converted meteorological visibility (CMV) may be substituted for the RVR, except:</p> <p><u>Requested change</u> Delete "reported"</p> <p>Justification</p> <p>Either RVR is "reported" or "not available".</p>
response	<p>Partially accepted</p> <p>The review group has performed a revision of CMV, RVR, reported RVR and minimum RVR.</p>
comment	<p>775 comment by: <i>Germanwings</i></p> <p>AMC9 CAT.OP.MPA.110 Aerodrome operating minima</p>

	<p>NPA text (b) If the minimum RVR for an approach is more than the maximum value assessed by the aerodrome operator, e.g. 'RVR more than 1 500 m', then CMV should be used.</p> <p>Comment Unclear.</p>
response	<p>Partially accepted</p> <p>The review group has performed a revision of CMV, RVR, reported RVR and minimum RVR.</p> <p>The example has been removed as proposed.</p>

comment	<p>776                      comment by: <i>Germanwings</i></p> <p>AMC9 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text (c) In order to determine CMV from reported or forecast visibility, the conversion factors specified in Table 11 should be used. Table 11: Conversion of reported VIS to RVR/CMV <math>RVR/CMV = \text{reported VIS} \times</math></p> <p>Requested change Delete 'RVR'.</p> <p>Justification The conversion factor is used to determine CMV (not RVR) from reported or forecast visibility. Subsequently CMV substitutes for RVR. However, the multiplication of the reported or forecast visibility with the conversion factor always results in CMV (nor RVR).</p>
response	<p>Partially accepted</p> <p>The review group has performed a revision of CMV, RVR, reported RVR and minimum RVR.</p> <p>AMC9 has been substantially amended and now contains point (c)(1) to clarify that 'for flight planning purposes, a conversion factor of 1.0 should be used.'</p>

comment	<p>885                      comment by: <i>Lufthansa Cargo</i></p> <p>NPA text (c) In order to determine CMV from reported or forecast visibility, the conversion factors specified in Table 11 should be used. Table 11: Conversion of reported VIS to RVR/CMV <math>RVR/CMV = \text{reported VIS} \times</math></p> <p>Requested change Lufthansa Cargo requests EASA to delete 'RVR'.</p>
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	<p>Justification</p> <p>The conversion factor is used to determine CMV (not RVR).</p>
response	<p>Partially accepted</p> <p>The review group has performed a revision of CMV, RVR, reported RVR and minimum RVR.</p> <p>AMC9 has been substantially amended and now contains point (c)(1) to clarify that 'for flight planning purposes, a conversion factor of 1.0 should be used.'</p>

AMC10AMC11CAT.OP.MPA.110 Aerodrome operating minima
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comment	<p>62      comment by: British Airways Flight Operations</p> <p>The inclusion of Table 13 is very helpful</p>
response	<p>Noted</p>
comment	<p>306      comment by: LHSystems</p> <p>Lufthansa Systems CK</p> <p>Table 13: From our perspective it is not assured that all these data required here can be obtained on a worldwide basis (NOTAM...) . Some of the paragraphs cannot be supported by any automatization during a flight planning process. Is there really a benefit under Performance Based considerations, if hardly anyone is able to make use of it?</p>
response	<p>Noted</p> <p>Experts on the RMG and other stakeholders perceive a benefit.</p>
comment	<p>325      comment by: Aleksandar Ilkovski</p> <p>The introduction of a clear criteria for the 'minimum serviceability for a lighting group to be considered operative' would be significantly helpful. A reference to this criteria should be included in CS.ADR-DSN.S.890. Current GM1 ADR-DSN.S.890o says that the the minimum serviceability level of any element of the lightning system below which operations should not continue, is set up by the CA. This GM should be revised.</p> <p>The majority of the content in table 13 tough is the design requirement itself from CS ADR DSN. Is it intended that the design requirement is equal to the minimum serviceability level for lighting group to be considered operative?</p> <p>There is no reference to table 13 in Annex V Specific approvals (Part-SPA).</p>



response	<p>Partially accepted</p> <p>The comments about CS-ADR-DSN have been addressed separately. There is no need to refer to Table 13 in Annex V, because it sits ‘higher’ in the regulatory environment: in other words, its inclusion in Part-CAT means it is always applicable; whereas, if it was included in Part-SPA, it would only be applicable to LVOs.</p>
comment	<p>331 comment by: <i>KLM</i></p> <p>AMC10 CAP.OP.MPA.110 Aerodrome operating minima. Table 2 Failed or downgraded equipment.pg 73/75 Comment: Acceptable to clarify incl. new table minimum serviceability for a lighting group.</p>
response	<p>Noted</p>
comment	<p>393 comment by: <i>DGAC France</i></p> <p>Pages 72-73 AMC10 CAT.OP.MPA.110 Aerodrome operating minima EFFECT ON LANDING MINIMA OF TEMPORARILY FAILED OR DOWNGRADED GROUND EQUIPMENT (b)(3) and table 12</p> <p>Comment : If there is a GBAS standby system, GLS should be mentioned in (b)(3) and table 12. Same comment for Part-SPA and Part-NCC (see specific comments pages 107 and 169)</p>
response	<p>Partially accepted</p> <p>The reference to ILS and MLS has been deleted so that all nav aids are included.</p>
comment	<p>394 comment by: <i>DGAC France</i></p> <p>Page 73 AMC10 CAT.OP.MPA.110 Aerodrome operating minima EFFECT ON LANDING MINIMA OF TEMPORARILY FAILED OR DOWNGRADED GROUND EQUIPMENT Table 12 and 13 Night: not allowed except in the case of partial unserviceability</p> <p>Comment: Table 13 is quiet complex and its reference in table 12 does not specify what kind of partial failure may be acceptable for the operator. Shouldn't we have 3 separated lines in table 12 to cover each of the lighting groups (edge, threshold, and runway end) in order to determine what kind of partial failure could be accepted for each lighting group?</p>



response	Partially accepted
comment	446 comment by: <i>EUROCONTROL</i> AMC10 CAT.OP.MPA.110 b 3) add GLS
response	Accepted

GM4 CAT.OP.MPA.110 Aerodrome operating minima

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comment	104 comment by: Dassault-Aviation Text: GM4 CAT.OP.MPA.110 Aerodrome operating minima page 77 Table 15  Comment: Table 15 is a duplication of table 8A  Proposed change: Table 15 to be removed
response	Accepted  Point (b) of this GM and Table 15 have been deleted as proposed.
comment	178 comment by: <i>UK CAA</i> Page No: 76  <b>Paragraph No:</b> GM4 CAT.OP.MPA.110 paragraph (a)  <b>Comment:</b> GM4 explains 'MEANS TO DETERMINE THE REQUIRED <u>RVR</u> ,...' i.e. not VIS. We suggest that VIS should be removed from the formula.  <b>Justification:</b> RVR and VIS are not interchangeable. They are measured using different techniques and are not the same.  Proposed Text: Required RVR or VIS (m) = $[(DH/MDH \text{ (ft)} \times 0.3048)/\tan\alpha]$ — length of approach lights (m)
response	Accepted
comment	308 comment by: <i>LHSystems</i> Lufthansa Systems CK



response	<p>Chapter (b) we do not see the difference or additional value of table 15, as the mentioned table 8A looks to be exactly the same!? Wrong reference?</p> <p>Noted</p> <p>Table 15 duplicated Table 8.A and has been deleted.</p>
comment	<p>309                      comment by: <i>LHSystems</i></p> <p>Lufthansa Systems CK</p> <p>Chapter (a): is this chapter from the GM only to explain, how the values of table 6A are derived or is there in addition any expectation to use a higher RVR value for pre-flight validations, if the used approach has an angle of more than 3°?</p>
response	<p>Noted</p> <p>The GM explains how the values in Table 6.A were derived. There is no requirement to use different RVR for approaches with a glidepath angle of more than 3 degrees. Note: Application of the formula for steeper approaches will result in a lower value of required RVR.</p>
comment	<p>612                      comment by: <i>FNAM</i></p> <p>AGREEMENT</p> <p>FNAM thanks for explaining the calculation of operating minima in GM instead of IR and AMC. Indeed, in that way, the regulation is much simple to understand than the current one.</p>
response	<p>Noted</p>
comment	<p>613                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>FNAM proposes to refer to Table 8.A instead to repeat the same value in Table 15. This repetition introduces unnecessary complexity to the proposed regulation.</p>
response	<p>Noted</p> <p>Table 15 has been deleted.</p>
comment	<p>614                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (a)</p> <p>The proposed disposal transposes current IR requirements in GM. In that way, the formula to calculate the required RVR / VIS is now provided in GM. FNAM agrees and thanks for this initiative. Nevertheless, this formula should have been modified taking into account proposed updates of RVR limitation in Table 6.A. Indeed, RVR values are limited to a threshold at 2400m which is not the case in the formula.</p>

	Thus, FNAM suggests to precise this new requirement while describing the formula in this GM.
response	Accepted GM5 has been amended to include the upper limit of 2 400 m as proposed.

GM5 CAT.OP.MPA.110 Aerodrome operating minima

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comment	63      comment by: British Airways Flight Operations  It might be expected that BA would say this, being a very strong supporter (and user) of the MDA = DA concept for many years, but the material in this GM is amongst the most forward-thinking and helpful in the whole NPA!
response	Noted

comment	358      comment by: J.Woehrlin/DLH  GM5 CAT.OP.MPA.110 Aerodrome operating minima  The conclusion that, in certain circumstances, a published MDH may be used as a DH for a 2D operation flown using the CDFA technique is supported by LH.
response	Noted

comment	477      comment by: Swiss International Air Lines Ltd.  SWISS strongly supports the conclusion that a published MDH may be used as a DH for a 2D operation flown using the CDFA technique in certain circumstances.
response	Noted

comment	514      comment by: Austrian Airlines  GM5 CAT.OP.MPA.110 Aerodrome operating minima  AUSTRIAN AIRLINES strongly supports the conclusion that a published MDH may be used as a DH for a 2D operation flown using the CDFA technique in certain circumstances.
response	Noted

comment	615      comment by: FNAM  AGREEMENT
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	FNAM welcomes the initiative of removing the “add-on” for CDFA operations using MDH as DH. This measure is along the line of regulatory simplification while warranting a high level of safety.
response	Noted
comment	<p>616 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>The proposed disposal describes 4 suitable topics for the safety assessment required for each operators for the use of DH for Non-Precision Approaches flown using CDFA technique.</p> <p>The wording of the proposal is confusing because it seems that 4 topics are mandatory to demonstrate although these proposed requirements are a guidance. Therefore, FNAM suggests to modify the wording by replacing ‘include’ by ‘may include’.</p> <p>Plus, considering current quality system requirements and demonstrations, these items may have already been demonstrated by operators. In order to reduce the complexity of this regulations, FNAM suggests to remove redundant requirements. The oversight items may be provided in Part-ARO if needed.</p>
response	<p>Not Accepted</p> <p>The text is in GM and, therefore, not in any sense binding on operators. It is provided so as to give advice. If the text was moved to Part-ARO, it would become much more onerous – because the NAA would be required to assess the operator’s process for authorising MDA = DA operations.</p>
comment	<p>777 comment by: <i>Germanwings</i></p> <p>GM5 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>Comment</p> <p>The conclusion that, in certain circumstances, a published MDH may be used as a DH for a 2D operation flown using the CDFA technique is supported by BDL.</p>
response	Noted
comment	<p>778 comment by: <i>Germanwings</i></p> <p>GM5 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text</p> <p>However, it is necessary for operators to assess whether their cockpit procedures and training are adequate to ensure minimal height loss in case of a go-around manoeuvre. Suitable topics for the safety assessment required by each operator include:</p> <ul style="list-style-type: none"> <li>- understanding of the CDFA concept including the use of the MDA/H as DA/H;</li> </ul>

	<ul style="list-style-type: none"> <li>- cockpit procedures that ensure flight on speed, on path and with proper configuration and energy management;</li> <li>- cockpit procedures that ensure gradual decision making; and</li> <li>- identification of cases where an increase of the DA/H may be necessary because of non-standard circumstances, etc.</li> </ul> <p>Requested change Define “non-standard circumstances” which might justify increase of the DA/H.</p> <p>Justification As the operator is required to perform safety assessment about adequacy of procedures, which shall reflect the given examples, it is vital to know the definition of “non-standard circumstances”.</p>
response	<p>Not Accepted</p> <p>The text is in GM and, therefore, not in any sense binding on operators. It is provided so as to give advice. It will be for the operator to determine, as part of the process for authorising an operation to a particular airport or runway end, whether there might be circumstances when the use of MDA = DA might not be appropriate.</p>
comment	<p>886                      comment by: Lufthansa Cargo</p> <p>Lufthansa Cargo strongly supports the conclusion that a published MDH may be used as a DH for a 2D operation flown using the CDFA technique in certain circumstances.</p>
response	<p>Noted</p>

GM6 CAT.OP.MPA.110 Aerodrome operating minima	p. 78
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comment	<p>359                      comment by: J.Woehrlin/DLH</p> <p>GM5 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text However, it is necessary for operators to assess whether their cockpit procedures and training are adequate to ensure minimal height loss in case of a go-around manoeuvre. Suitable topics for the safety assessment required by each operator include:</p> <ul style="list-style-type: none"> <li>— understanding of the CDFA concept including the use of the MDA/H as DA/H;</li> <li>— cockpit procedures that ensure flight on speed, on path and with proper configuration and energy management;</li> <li>— cockpit procedures that ensure gradual decision making; and</li> <li>— identification of cases where an increase of the DA/H may be necessary because of non-standard circumstances, etc.</li> </ul> <p>Requested change Define “non-standard circumstances” which might justify increase of the DA/H</p>
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	<p>Justification</p> <p>As the operator is required to perform safety assessment about adequacy of procedures, which shall reflect the given examples, it is vital to know the definition of “non-standard circumstances”</p>
response	<p>Not Accepted</p> <p>The text is GM and, therefore, not in any sense binding on operators. It is provided so as to give advice. It will be for the operator to determine, as part of the process for authorising an operation to a particular airport or runway end, whether there might be circumstances when use of MDA = DA might not be appropriate.</p>
comment	<p>360                      comment by: J.Woehrlin/DLH</p> <p>GM6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text [...], such as downwind approaches, [...]</p> <p>Requested change Define the term ‘downwind approach’.</p> <p>Justification The definition of ‘downwind approach’ is missing in EASA. Hence, the meaning is unclear.</p>
response	<p>Not accepted</p> <p>It is not necessary to define every term used in GM, especially when the terminology is widely understood by the intended audience.</p>
comment	<p>395                      comment by: DGAC France</p> <p>Page 78 GM6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>INCREMENTS SPECIFIED BY THE COMPETENT AUTHORITY</p> <p>Comment: Shouldn’t we specify that the scope of the increment is the RVR/CMV? And not the DH/MDH? Same comment for Part-NCC (see specific comment page 172)</p>
response	<p>Not accepted</p>
comment	<p>478                      comment by: Swiss International Air Lines Ltd.</p>

response	<p>NPA text [...], such as downwind approaches, [...]</p> <p>Requested change SWISS requests EASA to define the term 'downwind approach'.</p> <p>Justification The definition of 'downwind approach' is missing.</p> <p>Not accepted</p> <p>It is not necessary to define every term used in GM, especially when terminology is widely understood by the intended audience.</p>
comment	<p>519                      comment by: Austrian Airlines</p> <p>GM6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text [...], such as downwind approaches, [...]</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to define the term 'downwind approach'.</p> <p>Justification The definition of 'downwind approach' is missing.</p>
response	<p>Not accepted</p> <p>It is not necessary to define every term used in GM, especially when terminology is widely understood by the intended audience.</p>
comment	<p>779                      comment by: Germanwings</p> <p>GM6 CAT.OP.MPA.110 Aerodrome operating minima</p> <p>NPA text [...], such as downwind approaches, [...]</p> <p>Requested change Define the term 'downwind approach'.</p> <p>Justification The definition of 'downwind approach' is missing in EASA. Hence, the meaning is unclear.</p>
response	<p>Not accepted</p> <p>It is not necessary to define every term used in GM, especially when terminology is widely understood by the intended audience.</p>



comment	<p>887 comment by: Lufthansa Cargo</p> <p>NPA text [...], such as downwind approaches, [...]</p> <p>Requested change Lufthansa Cargo requests EASA to define the term 'downwind approach'.</p> <p>Justification The definition of 'downwind approach' is missing.</p>
response	<p>Not accepted</p> <p>It is not necessary to define every term used in GM, especially when terminology is widely understood by the intended audience.</p>

GM7 CAT.OP.MPA.110 Aerodrome operating minima

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comment	<p>332 comment by: KLM</p> <p>GM7 CAT.OP.MPA.110 table 16 low temp correction pge 78 Comment: Acceptable to amend table conform publication ICAO 8168. (KLM publication to be adjusted accordingly see att. OM C2 2.3-11)</p>
response	<p>Noted</p>

comment	<p>617 comment by: FNAM</p> <p>ISSUE AND PROPOSAL The demonstration of aerodrome operating minima calculation is currently not oversight and no approval is required. Although the calculation of operating minima is an essential task for operator, the need of approval would require additional resources in time, personnel, etc. in order to complete the demonstration file for competent authorities. Plus, since proposed disposal is introduced in Part-CAT, it would impact all CAT operators. This is against the NPA main objective which is to introduce new possibilities on a voluntary basis without impacting all operators. Therefore, FNAM suggests to remove this requirement.</p>
response	<p>Not accepted</p> <p>The requirement for approval of the method of determination has been incorporated to align with ICAO Annex 6, but this does not create any additional burden for operators. There is no additional requirement for a demonstration file.</p>

GM8 CAT.OP.MPA.110 Aerodrome operating minima

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comment	<p>105                      comment by: Dassault-Aviation</p> <p>Text: GM8 CAT.OP.MPA.110 Aerodrome operating minima page 78</p> <p>"(b) Table <b>Z</b> may be used to determine the correction that should be applied."</p> <p>Comment: Typo</p> <p>Proposed text: Table 16 instead of Z</p>
response	<p>Accepted</p> <p>'Table Z' has been replaced as proposed (now 'Table 15' due to the deletion of the previous Table 15).</p>
comment	<p>179                      comment by: UK CAA</p> <p>Page No: 78</p> <p><b>Paragraph No:</b> GM8 CAT.OP.MPA.110 paragraph (a) and Table 16</p> <p><b>Comment:</b> Amendments are proposed below to make it clearer which temperature should be used for the calculation.</p> <p><b>Justification:</b> Clarification</p> <p>Proposed Text: '(a) An operator may determine the <b>aerodrome</b> temperature below which a correction should be applied...'</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>
comment	<p>180                      comment by: UK CAA</p> <p>Page No: 78</p> <p><b>Paragraph No:</b> GM8 CAT.OP.MPA.110 paragraph (b)</p> <p><b>Comment:</b> An amendment is proposed below to correct a suspected editorial error.</p> <p>Justification: Accuracy</p> <p>Proposed Text: '(b) Table <del>Z</del> <b>16</b> may be used to determine the correction that should be applied.'</p>



response	<p>Accepted</p> <p>'Table Z' has been replaced as proposed (now 'Table 15' due to the deletion of the previous Table 15).</p>
comment	<p>181 comment by: <i>UK CAA</i></p> <p>Page No: 78</p> <p><b>Paragraph No:</b> GM8 CAT.OP.MPA.110 Aerodrome operating minima</p> <p><b>Comment:</b> Amendments are proposed below for the following reasons:  (1) The temperature correction table could be used for minimum altitudes other than DA/H.  (2) To add reference to technology capable of temperature compensation;  (3) To align with ICAO Doc 8168 Volume I, Part III, Section 1, Chapter 4, Table III-1-4-1 b).</p> <p><b>Justification:</b> (1) Adaptability (2) Technology (3) Accuracy/clarity</p> <p>Proposed Text:  LOW TEMPERATURE CORRECTION  (a) An operator may determine the <u>aerodrome</u> temperature below which a correction should be applied to the DA/H. <b>minimum promulgated heights/altitudes;</b>  <del>(b) Table Z may be used to determine the correction that should be applied.</del> The cold temperature correction may be determined by a flight management system (FMS) with an approved temperature compensation function for the final approach, or by using the values in Table 16.  <del>Table 16: Temperature corrections to be applied to barometric DH/MDH Values to be added by the pilot to minimum promulgated heights/altitudes</del></p>
response	<p>(a) Partially accepted: The intent of CAT.OP.MPA.110 is to focus on minima determination that are DA/H and MDA/H. MDA/H is added in (c).</p> <p>(b) Not accepted: The temperature compensation function corrects the vertical path flown by the aircraft, but the DA/H should be corrected by the pilot to fulfil the obstacle clearance height.</p>
comment	<p>427 comment by: <i>THALES</i></p> <p>1) the (a) is referring correction to be applied to DA/H whereas the table 16 title is referring DH/MDH. It shall be harmonised as it introduces a confusion on the approach type that are concerned by this section about low temperature correction.</p> <p>2) (b) is referring Table Z instead of Table 16</p> <p>3) Table 16 is using aerodrome temperature in the first column. Would it be more appropriate to use delta ISA instead.</p>



	<p>Thales proposal :</p> <p>1) remove MDH from Table 16 title</p> <p>2) Table 16 instead of Table Z in (b)</p> <p>3) Use of delta ISA in table 16.</p>
response	<p>Partially accepted</p> <p>(1) In order to harmonise as suggested, 'MDA/H' has been added to the text as the temperature correction is relevant to both MDA/H and DA/H.</p> <p>(2) 'Table Z' has been replaced as proposed (now 'Table 15' due to the deletion of the previous Table 15).</p> <p>(3) The table is based on aerodrome temperature at sea-level. Although this is less accurate than delta ISA, the table will be conservative if applied to aerodromes at a higher elevation. Additional points (c) and (d) have been added to explain this. Operators are free to use more accurate temperature compensation if required.</p>
comment	<p>618 comment by: <i>FNAM</i></p> <p>TYPO ISSUE</p> <p>Modify the reference of Table Z to Table 16.</p>
response	<p>Accepted</p>

## GM9 CAT.OP.MPA.110 Aerodrome operating minima

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comment	<p>619 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>The current LVP for helicopter operations is defined with and RVR lower than 500m. However, the proposed RVR limit for LVO operations for all type of aircraft is proposed lower than 550. Since the proposed disposal applies for all helicopter operations, this modification would impact them.</p> <p>Since one of the NPA main objective is to introduce new possibilities on a voluntary basis without impacting all operators and in order to be consistent with current helicopter requirements, <i>FNAM</i> suggests to precise helicopter specific definition with an RVR lower than 500m instead of 550m in the whole regulation.</p>
response	<p>Not accepted</p> <p>The objective is to ensure consistency across all operations in the European regulatory framework (e.g. Aerodromes Regulation).</p>

## GM1 CAT.OP.MPA.110(b)(5) Aerodrome operating minima

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comment	<p>361 comment by: J.Woehrlin/DLH</p> <p>GM1 CAT.OP.MPA.110(b)(5) Aerodrome operating minima</p> <p>NPA text ‘Visual and non-visual aids and infrastructure’ refers to all equipment and facilities required for the procedure to be used for the intended instrument approach operation. This includes but is not limited to lights, markings, ground- or space-based radio aids, etc.</p> <p>Requested change Please check whether the definition “includes... lights” is correct.</p> <p>Justification Table 7A uses the term in the title, but “lights” are also described table 8A.</p>
response	<p>Noted</p> <p>GM1 CAT.OP.MPA.110(b)(5) does not contain a definition of ‘visual and non-visual aids and infrastructure’. It provides examples of what the phrase refers to.</p>

comment	<p>780 comment by: Germanwings</p> <p>GM1 CAT.OP.MPA.110(b)(5) Aerodrome operating minima</p> <p>NPA text ‘Visual and non-visual aids and infrastructure’ refers to all equipment and facilities required for the procedure to be used for the intended instrument approach operation. This includes but is not limited to lights, markings, ground- or space-based radio aids, etc.</p> <p>Requested change Please check whether the definition “includes... lights” is correct.</p> <p>Justification Table 7A uses the term in the title, but “lights” are also described table 8A.</p>
response	<p>Noted</p> <p>GM1 CAT.OP.MPA.110(b)(5) does not contain a definition of ‘visual and non-visual aids and infrastructure’. It provides examples of what the phrase refers to.</p>

CAT.OP.MPA.115 Approach flight technique—aeroplanes
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comment	<p>333 comment by: KLM</p> <p>CAT.OP.MPA.115 Flight technique pge 79-86</p>
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response	<p>Comment: Approval for each particular runway for which CDFA technique is not used within KLM and the deletion of the extra RVR increment of 400 meters gives no impact for KLM due to NON-CDFA procedures are not authorized.</p> <p>Noted</p>
comment	<p>620 comment by: <i>FNAM</i></p> <p>AGREEMENT FNAM agrees and thanks EASA for transposing IR requirements in AMC.</p>
response	<p>Noted</p>
comment	<p>621 comment by: <i>FNAM</i></p> <p>AGREEMENT FNAM welcomes the use of the CFDA technique for NPA approaches.</p>
response	<p>Noted</p> <p>The use of CDFA technique for NPA is required by the existing regulation.</p>

AMC1 CAT.OP.MPA.115 Approach flight technique — aeroplanes

p. 79-82

comment	<p>362 comment by: J.Woehrlin/DLH</p> <p>AMC1 CAT.OP.MPA.115 Approach flight technique - aeroplanes</p> <p>NPA text (c) The descent path should be calculated and flown to pass at or above the minimum altitude specified at any step down fix.</p> <p>(e)(1) the pilot monitoring to verbalise any deviation from the required descent path;</p> <p>Requested change (c) Delete 'and flown'.</p> <p>(e)(1) Rephrase wording to: 'the pilot monitoring to verbalise deviations from the required descent path as specified by the operator' (Delete 'any'; add 'as specified by the operator').</p> <p>Justification (c) In order to avoid additional safety risks caused by flight guidance mode changes during final approach, the operator should have the possibility to define an acceptable tolerance over step down fixes (e.g. -50ft). This acceptable tolerance should not be valid for the calculated descent path but for the flown descent path.</p>
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	<p>(e)(1) According to other passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions, the term ‘required descent path’ can be interpreted as to having zero tolerance. The proposed text in the NPA would trigger a call-out even if the deviation was as small as 1ft. To avoid unnecessary call-outs within acceptable tolerance of the required descent path, the operator should have the possibility to define the extent of deviation when a call-out is required.</p>
response	<p>Partially accepted</p> <p>(c) To ensure obstacle clearance during approach, it is necessary for an aircraft to fly above stepdown fixes on a non-precision approach procedure. See PANS-OPS 1.7.2.2.</p> <p>(e)(1) The text has been amended to require the pilot monitoring ‘to verbalise deviations’ rather than ‘to verbalise any deviation’. Operators may choose to provide additional guidance to crew about the magnitude of deviations that must be verbalised.</p>
comment	<p>479      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text (c) The descent path should be calculated and flown to pass at or above the minimum altitude specified at any step down fix.</p> <p>Requested change SWISS requests EASA to delete ‘and flown’.</p> <p>Justification The operator should have the possibility to apply the vertical tracking tolerance defined for the approach also over step down fixes. Additional flight guidance mode changes over step down fixes must be avoided since they could cause additional safety risks.</p>
response	<p>Accepted</p>
comment	<p>480      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text (e)(1) the pilot monitoring to verbalise any deviation from the required descent path;</p> <p>Requested change SWISS requests EASA to rephrase the wording to: ‘the pilot monitoring to verbalise deviations from the required descent path as specified by the operator’ (delete ‘any’; add ‘as specified by the operator’).</p>

response	<p>Justification</p> <p>According to other passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions, the term ‘required descent path’ has zero tolerance. According to (e)(1) a call-out is required even if the deviation is only 1 ft. To avoid unnecessary call-outs within acceptable tolerance of the required descent path, the operator should have the possibility to define the extent of deviation when a call-out is required.</p> <p>Partially accepted</p> <p>The text has been amended from ‘verbalise any deviation’ to ‘verbalise deviations’ to avoid the implication that there is ‘zero tolerance’ to flight path deviations. Operators may choose to quantify the magnitude of acceptable deviation.</p>
comment	<p>520                      comment by: Austrian Airlines</p> <p>AMC1 CAT.OP.MPA.115 Approach flight technique - aeroplanes</p> <p>NPA text</p> <p>(c) The descent path should be calculated and flown to pass at or above the minimum altitude specified at any step down fix.</p> <p>Requested change</p> <p>AUSTRIAN AIRLINES requests EASA to change the text to:</p> <p>(c) The descent path should be calculated and flown to pass at or above the minimum altitude specified at any step down fix within the vertical tracking tolerances definiert for the approach.</p> <p>Justification</p> <p>The operator should have the possibility to apply the vertical tracking tolerance defined for the approach also over step down fixes. Additional flight guidance mode changes over step down fixes must be avoided since they could cause additional safety risks.</p>
response	<p>Accepted</p>
comment	<p>521                      comment by: Austrian Airlines</p> <p>AMC1 CAT.OP.MPA.115 Approach flight technique - aeroplanes</p> <p>NPA text</p> <p>(e)(1) the pilot monitoring to verbalise any deviation from the required descent path;</p> <p>Requested change</p> <p>AUSTRIAN AIRLINES requests EASA to rephrase the wording to: ‘the pilot monitoring to verbalise deviations from the required descent path as specified by the operator’ (delete ‘any’; add ‘as specified by the operator’).</p>

response	<p>Justification</p> <p>According to other passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions, the term ‘required descent path’ has zero tolerance. According to (e)(1) a call-out is required even if the deviation is only 1 ft. To avoid unnecessary call-outs within acceptable tolerance of the required descent path, the operator should have the possibility to define the extent of deviation when a call-out is required.</p> <p>Partially accepted</p> <p>The text has been amended from ‘verbalise any deviation’ to ‘verbalise deviations’ to avoid the implication that there is ‘zero tolerance’ to flight path deviations. Operators may choose to quantify the magnitude of acceptable deviation.</p>
comment	<p>522                      comment by: Austrian Airlines</p> <p>AMC1 CAT.OP.MPA.115(a) Approach flight technique - aeroplanes</p> <p>NPA text (g)(2) the means to identify the predetermined point referred to in (a) and (b) above. This should normally be the FAF.</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to replace ‘This should normally be the FAF.’ with ‘This should be a point not lower than 1500 ft above the landing runway threshold elevation’.</p> <p>Justification This AMC is valid for all approach procedures and aircraft types. There is no FAF but a FAP on precision approaches. Occasionally an approach is not flown via the FAF/FAP when being vectored by ATC (i.e. vectors to intercept the localizer past the FAF/FAP). Sometimes ATC is, for various reasons, not able to let the aircraft descent to the intermediate altitude before reaching the FAF/FAP resulting in an interception of the glide slope from above. With the requirements stated in (b)(2) and (c) of this AMC, it will no longer be possible to perform an interception of the glide slope from above.</p>
response	<p>Not accepted</p> <p>The proposed amendment would facilitate unstable approaches. The justification provided is contrary to the safety objective of the rule.</p>
comment	<p>781                      comment by: Germanwings</p> <p>AMC1 CAT.OP.MPA.115 Approach flight technique - aeroplanes</p> <p>NPA text (c) The descent path should be calculated and flown to pass at or above the minimum altitude specified at any step down fix.</p>

	<p>(e)(1) the pilot monitoring to verbalise any deviation from the required descent path;</p> <p>Requested change (c) Delete 'and flown'.</p> <p>(e)(1) Rephrase wording to: 'the pilot monitoring to verbalise deviations from the required descent path as specified by the operator' (Delete 'any'; add 'as specified by the operator').</p> <p>Justification (c) In order to avoid additional safety risks caused by flight guidance mode changes during final approach, the operator should have the possibility to define an acceptable tolerance over step down fixes (e.g. -50ft). This acceptable tolerance should not be valid for the calculated descent path but for the flown descent path. (e)(1) According to other passages in the Commission Regulation (EU) No 965/2012 and related EASA Decisions, the term 'required descent path' can be interpreted as to having zero tolerance. The proposed text in the NPA would trigger a call-out even if the deviation was as small as 1ft. To avoid unnecessary call-outs within acceptable tolerance of the required descent path, the operator should have the possibility to define the extent of deviation when a call- out is required.</p>
response	<p>Partially accepted</p> <p>(c) To ensure obstacle clearance during approach, it is necessary for an aircraft to fly above stepdown fixes on a non-precision approach procedure. See PANS-OPS 1.7.2.2.</p> <p>(e)(1) The text has been amended to require the pilot monitoring 'to verbalise deviations' rather than 'to verbalise any deviation'. Operators may choose to provide additional guidance to crew about the magnitude of deviations that must be verbalised.</p>
comment	<p>888                      comment by: Lufthansa Cargo</p> <p>NPA text (c) The descent path should be calculated and flown to pass at or above the minimum altitude specified at any step down fix.</p> <p>Requested change Lufthansa Cargo requests EASA to delete 'and flown'.</p> <p>Justification The operator should have the possibility to apply the vertical tracking tolerance defined for the approach also over step down fixes. Additional flight guidance mode changes over step down fixes must be avoided since they could cause additional safety risks.</p>
response	<p>Accepted</p>

AMC2 CAT.OP.MPA.115 Approach flight technique — aeroplanes

p. 82

comment

2 comment by: Jose Luis CABRERA GONZALEZ

It would be appreciated establishing an orientation value for "MDA/H is high" in the context of AMC2 CAT.OP.MPA.115 paragraph (d).

response

Not accepted

The competent Authority issuing such approval will review each operator's interpretation of this phrase, so it is not necessary for additional guidance to be provided.

comment

396 comment by: DGAC France

Page 82

AMC2 CAT.OP.MPA.115 Approach flight technique — aeroplanes

NPA OPERATIONS WITHOUT APPLYING THE CDFA TECHNIQUE

Title

Comment:

Change title to make the link explicit with CAT.OP.MPA.115 (The CDFA technique shall be used for approach operations using NPA procedures except for such particular runways for which the competent authority has approved another flight technique).

"Particular Runway operated without CDFA technique"

response

Partially accepted

In order to make the link to CAT.OP.MPA.115, the title has been amended to 'APPROACH OPERATIONS USING NPA PROCEDURES FLOWN WITH A FLIGHT TECHNIQUE OTHER THAN CDFA'

comment

397 comment by: DGAC France

Page 82

AMC2 CAT.OP.MPA.115 Approach flight technique — aeroplanes

NPA OPERATIONS WITHOUT APPLYING THE CDFA TECHNIQUE

(f) Operators should categorise aerodromes where there are approaches that require level flight at/ or above the MDA/H **as B and C**. Such aerodrome categorisation will depend upon the operator's experience, operational exposure, training programme(s) and flight crew qualification(s).

Modification suggestion:

(...) above the MDA/H as B **and or** C.

response

Accepted



AMC3 CAT.OP.MPA.115 Approach flight technique — aeroplanes

p. 82-84

comment

90

comment by: AIRBUS

Current new proposed wording focuses on CDFA technique. On most modern aircraft, Non precision approaches can be flown either with guidance providing deviation from intended approach path (3D operation with V-DEV or Pseudo GS deviations) or without deviations from approach path (2D operation: typically FPA mode).

Usual understanding is that CDFA technics apply only to the latest one (2D operation only).

Operational procedure and through training, differ from one type of operation (3D operation with guidance providing vertical deviation from intended approach path) to operation that does not provide vertical deviation from intended approach path (2D operation).

We suggest that the AMC leaves flexibility to the operator, based on available guidance system used to fly non precision approach and/or the network used by the operator, to adapt its training accordingly. We suggest the following rewording:

**(a) The operator should ensure that initial and recurrent flight crew training required by ORO.FC includes 3D and 2D operations (including CDFA technique if applicable).**

response

Not accepted

EASA agrees that initial and recurrent flight crew training should include both 3D and 2D operations. 2D and 3D operations must be checked during licence skill tests and proficiency checks (see Appendix 9 to Part-FCL) and during operator proficiency checks (ORO.FC.230). It is not considered necessary to introduce an additional training requirement.

comment

398

comment by: DGAC France

Page 82

AMC3 CAT.OP.MPA.115 Approach flight technique — aeroplanes  
OPERATIONAL PROCEDURES AND INSTRUCTIONS AND TRAINING

Comment:

This chapter has been simplified a lot. However shouldn't we keep a reference to the Visual Descent Point – as it is defined in ICAO AWO manual?

Extract of the AWO manual:

4.5.4.5.1 If it is not appropriate or desired to use the CDFA technique, calculating and using a visual descent point (VDP) is another way to guard against late, steep descents. VDPs provide pilots with a reference for the optimal location to begin descent from the MDA based on the designed visual descent angle for the approach procedure. Some approaches will publish a VDP on the chart but the pilot can



	calculate a VDP if one is not published. The formula for calculating a VDP for a three-degree glide path is: VDP = HAT/300
response	<p>Noted</p> <p>The use of a visual descent point is not a requirement in the current regulation. Operators require approval from the competent authority for NPA operations without CDFA so the competent authority will ensure that adequate procedures have been established based on a risk assessment and that an acceptable level of safety will be achieved (see GM2 CAT.OP.MPA.115(a)). AWO manual 4.5.4.5.1 provides useful advice on operating techniques for non-CDFA but would not be appropriate as a mandatory requirement.</p>

GM1 CAT.OP.MPA.115 Approach flight technique — aeroplanes

p. 84

comment	<p>133 comment by: Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</p> <p>Proposal:</p> <p>Suggest that this GM be renumbered as GM3 CAT.OP.MPA.115(a) or combined with existing GM2.</p> <p><b>Rationale:</b> Doubtful if a higher approach speed should be made acceptable? Higher than normal approach speed is a hazard potentially related to CFIT and runway safety, both of which are on the priority list. This may also be in conflict with the stabilized concept described in Pans-Ops.</p> <p>However, by combining this GM with GM 2, the risk management will automatically apply to higher than normal approach speeds.</p>
response	<p>Accepted</p> <p>GM1 CAT.OP.MPA.115 has been deleted and the content transferred to GM2 CAT.OP.MPA.115(a), as proposed. GM2 has also been amended so that the order of items correlates with AMC1 CAT.OP.MPA.115(a) and the title has been updated to reflect the amended content.</p> <p>The current AMC1 CAT.OP.MPA.115 allows higher approach speeds if required by ATC procedures. This has been removed from AMC in order to emphasise that the operator must establish the circumstances when a higher approach speed would be acceptable. As these circumstances must be included in the operations manual, they will be subject to the operator's risk assessment processes (required by ORO.GEN.200(a)(3)) and to the oversight of the competent authority.</p>
comment	<p>262 comment by: EUROCONTROL</p>



	<p>p.84 -GM1 CAT.OP.MPA.115 Not clear to what specification this refers to.</p> <p>Remove specifying.</p>
response	<p>Partially accepted</p> <p>GM1 CAT.OP.MPA.115 has been deleted and the content transferred to GM2 CAT.OP.MPA.115(a) in order to clarify that this refers to AMC 1 CAT.OP.MPA.115(a), which requires that the reasons for higher than normal approach speeds must be specified in the operations manual.</p>

AMC1 CAT.OP.MPA.115(a) Approach flight technique — aeroplanes

p. 84-85

comment	<p>39 comment by: Wideroe Flyveselskap AS</p> <p>GM1 CAT.OP.MPA 115(a) Approach Flight Techniques – aeroplanes: P85 Stabilised Approach Operations – Aeroplanes</p> <p>(f) For operations where the pilot does not have visual reference with the ground, the aeroplane should additionally be stabilized for landing before reaching 1000 ft above the landing runway threshold elevation except that a later stabilization in airspeed may be acceptable if higher than normal approach speeds are required for operational reasons specified in the operations manual.</p> <p>Comment: Widerøe's Flyveselskap AS operates both CAT B turbo props, CAT C turbo props and CAT C jets at larger aerodromes that typically require a minimum speed of 160 kts to 4 NM final.</p> <p>Such requirements cannot be complied with when flying the DASH-8/100/200/300 series if the goal is to be stabilized at 1000 ft. The reason for this is that maximum gear speed is 158 kt and the maximum approach/landing flap speed is 148 kt. If a 160 kt ATC instruction is to be complied with both gear and flap will be in transition when passing the 1000 ft stabilized approach gate at approximately 3 nm final, making the flight un-stabilized.</p> <p>However, the DASH-8/400 turbo prop is Cat C aircraft with a significantly higher gear and flap speed than the smaller DASH-8 variants and it easily complies with the 1000 ft stabilized approach gate.</p> <p>The GM should not require slower CAT B and/or turbo props to be stabilized at 1000 ft. One of the characteristics of a turbo prop is an instant increase in thrust or drag from the propellers making speed control easier than on a heavy jet with slower response in thrust from the engines. Hence, configuration or transition of flap and gear around 1000 ft is not deemed a safety issue in a slow turboprop, as long as the requirement to be stabilized at 500 ft is complied with.</p>
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response	<p>Noted</p> <p>The requirement to be stabilised by 1 000 feet has been transposed from the existing requirements [AMC1 CAT.OP.MPA.115 (b)(3)].</p> <p>The proposed AMC contains a provision for an operator to permit a later stabilisation in airspeed for specific reasons such as those described in this comment.</p> <p>The GM does not place any obligation on an operator.</p>
comment	<p>363                      comment by: J.Woehrlin/DLH</p> <p>AMC1 CAT.OP.MPA.115(a) Approach flight technique - aeroplanes</p> <p>NPA text (g)(2) the means to identify the predetermined point referred to in (a) and (b) above. This should normally be the FAF.</p> <p>Requested change Replace 'This should normally be the FAF.' with 'This should be a point not lower than 1'500 ft above the landing runway threshold elevation'.</p> <p>Justification This AMC is valid for all approach procedures and aircraft types. There is no FAF but a FAP on precision approaches. Occasionally an approach is not flown via the FAF/FAP when being vectored by ATC (i.e. vectors to intercept the localizer past the FAF/FAP). Sometimes ATC is, for various reasons, not able to let the aircraft descent to the intermediate altitude before reaching the FAF/FAP resulting in an interception of the glide slope from above. With the requirements stated in (b)(2) ('the target rate of descent should be that required to maintain the correct vertical path at the planned approach speed.') and (c) ('Variations in the rate of descent should normally not exceed 50% of the target rate of descent.') it will no longer be possible to perform an interception of the glide slope from above.</p>
response	<p>Not accepted</p> <p>The proposed amendment would facilitate unstable approaches. The justification provided is contrary to the safety objective of the rule.</p>
comment	<p>428                      comment by: THALES</p> <p>in (f) an exception to the stabilisation for landing before reaching 1000ft is presented. An additional exception may be considered : a greater speed at 1000Ft may also result from ATC spacing on final and slow deceleration to approach speed once speed limitation is released by ATC.</p> <p>Thales proposal:</p> <p>To add an exception at the end of (f):</p>



	<p>'(f) For approach operations where the pilot does not have visual reference with the ground, the aeroplane should additionally be stabilised for landing before reaching 1 000 ft above the landing runway threshold elevation except that a later stabilisation in airspeed may be acceptable if higher than normal approach speeds are required for operational reasons specified in the operations manual <b>or resulting from ATC spacing.</b>'</p>
response	<p>Not accepted</p> <p>It must be the responsibility of the operator to determine the circumstances in which a higher airspeed is acceptable. ATC may not have adequate knowledge of the performance characteristics of different aircraft or of a particular operator's SOPs. Individual operators may choose to include 'resulting from ATC spacing' in the operations manual if the operator has identified an operational need and established that the required level of safety will be maintained.</p>
comment	<p>481                      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text (g)(2) the means to identify the predetermined point referred to in (a) and (b) above. This should normally be the FAF.</p> <p>Requested change SWISS requests EASA to replace 'This should normally be the FAF.' with 'This should be a point not lower than 1500 ft above the landing runway threshold elevation'.</p> <p>Justification This AMC is valid for all approach procedures and aircraft types. There is no FAF but a FAP on precision approaches. Occasionally an approach is not flown via the FAF/FAP when being vectored by ATC (i.e. vectors to intercept the localizer past the FAF/FAP). Sometimes ATC is, for various reasons, not able to let the aircraft descent to the intermediate altitude before reaching the FAF/FAP resulting in an interception of the glide slope from above. With the requirements stated in (b)(2) and (c) of this AMC, it will no longer be possible to perform an interception of the glide slope from above.</p>
response	<p>Not accepted</p> <p>The proposed amendment may result in a higher probability of unstable approaches. The justification provided is contrary to the safety objective of the rule.</p>
comment	<p>622                      comment by: FNAM</p> <p><b>ISSUE AND PROPOSAL – (f)</b></p> <p>The proposed disposal describes the limit of threshold limitations for stabilization with and without visual reference with the ground. Since EFVS would offer the possibility to fly and approaches with less visual reference, FNAM suggests to add more flexible possibilities with EFVS in these requirements. For example, it should</p>



response	<p>be possible to stabilized at 500ft without visual reference with the ground but with some conditions on visibility with EFVS.</p> <p>Not accepted</p> <p>It is unclear how ‘some conditions of visibility with EFVS’ would mitigate the risk of an unstable approach, especially if those ‘conditions of visibility’ do not include visual reference with the ground. Amending the AMC as proposed would add complexity without any clear safety or operational benefit.</p>
comment	<p>623 comment by: <i>FNAM</i></p> <p>AGREEMENT – (c) &amp; (d)</p> <p>FNAM agrees and thanks EASA for adding flexibilities thanks to the use of tolerances for target rate of descent and lateral and vertical path tracking. Indeed, this disposal would better fit to operational reality and would be more adapted to the different aircraft characteristics, operators specific activities, procedures, etc.</p>
response	<p>Noted</p>
comment	<p>782 comment by: <i>Germanwings</i></p> <p>AMC1 CAT.OP.MPA.115(a) Approach flight technique - aeroplanes</p> <p>NPA text</p> <p>(g)(2) the means to identify the predetermined point referred to in (a) and (b) above. This should normally be the FAF.</p> <p>Requested change</p> <p>Replace ‘This should normally be the FAF.’ with ‘This should be a point not lower than 1’500 ft above the landing runway threshold elevation”.</p> <p>Justification</p> <p>This AMC is valid for all approach procedures and aircraft types. There is no FAF but a FAP on precision approaches. Occasionally an approach is not flown via the FAF/FAP when being vectored by ATC (i.e. vectors to intercept the localizer past the FAF/FAP). Sometimes ATC is, for various reasons, not able to let the aircraft descent to the intermediate altitude before reaching the FAF/FAP resulting in an interception of the glide slope from above. With the requirements stated in (b)(2) (‘the target rate of descent should be that required to maintain the correct vertical path at the planned approach speed.’) and (c) (‘Variations in the rate of descent should normally not exceed 50% of the target rate of descent.’) it will no longer be possible to perform an interception of the glide slope from above.</p>
response	<p>Not accepted</p> <p>The proposed amendment would facilitate unstable approaches. The justification provided is contrary to the safety objective of the rule.</p>



comment	<p>889 comment by: Lufthansa Cargo</p> <p>NPA text (g)(2) the means to identify the predetermined point referred to in (a) and (b) above. This should normally be the FAF.</p> <p>Requested change Lufthansa Cargo requests EASA to replace ‘This should normally be the FAF.’ with ‘This should be a point not lower than 1500 ft above the landing runway threshold elevation’.</p> <p>Justification This AMC is valid for all approach procedures and aircraft types. There is no FAF but a FAP on precision approaches. Occasionally an approach is not flown via the FAF/FAP when being vectored by ATC (i.e. vectors to intercept the localizer past the FAF/FAP). Sometimes ATC is, for various reasons, not able to let the aircraft descent to the intermediate altitude before reaching the FAF/FAP resulting in an interception of the glide slope from above. With the requirements stated in (b)(2) and (c) of this AMC, it will no longer be possible to perform an interception of the glide slope from above.</p>
response	<p>Not accepted</p> <p>The proposed amendment would facilitate unstable approaches. The justification provided is contrary to the safety objective of the rule.</p>

GM1 CAT.OP.MPA.115(a) Approach flight techniques — aeroplanes	p. 85
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comment	<p>40 comment by: Wideroe Flyveselskap AS</p> <p>GM1 CAT.OP.MPA 115(a) Approach Flight Techniques – aeroplanes: P85 Target rate of descent of stabilized approach</p> <p>(a (a) The target rate of descent for the final approach segment (FAS) of a stabilized approach should not normally exceed 1000 fpm. Where a rate of descent of more than 1000 fpm will be required (.....) this should be briefed in advance.</p> <p>Comment: Widerøe's Flyveselskap AS operates CAT B aircraft with a standard 4.5 degrees FAS to more than 20 Norwegian regional short field aerodromes, as well as Cat C turbo prop and jet aircrafts to a 2400 meters long runway with a 4 degrees FAS. Thus, the target rate of descent may often exceed 1000 fpm. The GM should allow the operator to specify a higher target rate of descent as standard for normal operation, i.e. 1300 fpm, as long as the allowed variation is restricting the rate of descent to a maximum of 1500 fpm, thereby minimizing use, or misuse, of the special briefing concept. The proposed text is a bit like “Cry Wolf” making Flight Crew complacent to the concept of special briefing. Special briefing should be saved for the special circumstances.</p> <p>(b(b) For operations.....down to a point of 50 ft above the threshold or the point where the flare manoeuvre is initiated, if higher.</p>
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	<p>Comment: Widerøe's Flyveselskap AS utilize both short field landing operation and 4.5 degrees FAS in combination with 35 ft threshold crossing height. The GM should be sufficiently flexible to allow use of threshold crossing heights typically used in short field landing operations and step approach operations, i.e. 35 ft.</p>
response	<p>Noted</p> <p>(a) Further to the current AMC1 CAT.OP.MPA.115 (b)(5), the target rate of descent should not exceed 1 000 fpm except 'under exceptional circumstances that have been anticipated and briefed prior to commencing the approach'. This requirement has been removed from AMC for the reasons mentioned in the comment. GM does not place any obligation on an operator. Each operator will specify target rate of descent and acceptable tolerances according to the specific operation.</p> <p>(b) The GM does not place any obligations on an operator and there is nothing in the proposed AMC/GM that precludes stabilised approach operations in conjunction with short field operations or a threshold crossing height of 35 ft.</p>

GM1 CAT.OP.MPA.115(b) Approach flight technique — aeroplanes

p. 87-88

comment	<p>182 comment by: UK CAA</p> <p>Page No: 87</p> <p><b>Paragraph No:</b> GM1 CAT.OP.MPA.115(b), paragraph (a)(1)</p> <p><b>Comment:</b> A sentence break is missing</p> <p>Justification: Grammar</p> <p>Proposed Text: 'Controlled flight into terrain (CFIT) is a major hazard in aviation. Most CFIT accidents occur in the FAS of approach operations flown using NPA procedures. The use of stabilised-approach criteria on a continuous descent with a constant, predetermined vertical path is seen as a major improvement in safety during the conduct of such approaches.'</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>

CAT.OP.MPA.265 Take-off conditions

p. 88

comment	<p>364 comment by: J.Woehrlin/DLH</p>
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	<p>CAT.OP.MPA.265 Take-off conditions</p> <p>NPA text (b) the selected aerodrome operating minima are consistent with: (1) the operative ground equipment; (2) the operative aircraft systems; (3) the aircraft performance; and (4) flight crew qualifications.</p> <p>Requested change Proposal to change wording from “are consistent” to “correspond to”</p> <p>Justification The selected minima are based on the given criteria, but are not part of them.</p>
response	<p>Not accepted</p> <p>The intention of the rule is to prevent take-off if conditions are not suitable. If the minima have been selected based on the availability of (for example) particular ground equipment and that ground equipment becomes unavailable, then the minima would no longer be <i>consistent with</i> the operative ground equipment and the commander would not commence take-off.</p> <p>The use of ‘correspond’ would imply that the minima are the same as the listed conditions (e.g. a frequency of 1 500 Khz corresponds to a wavelength of 200 m).</p>
comment	<p>624                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL - AMC2 CAT.OP.MPA.126 (d)(2)(B) The paragraph AMC2 CAT.OP.MPA.126 (d)(2)(B) stands in contradiction with the ICAO PANS OPS VOL I document (Chapter 1 APV/BARO-VNAV APPROACH PROCEDURES). Indeed, within the paragraph 1.4.1 <i>Operational constraints</i> of this ICAO Chapter, it is explicit that: “Pilots are responsible for any necessary cold temperature corrections to all published minimum altitudes/heights. This includes: a) the altitudes/heights for the initial and <b>intermediate segment(s)</b>; b) <b>the DA/H</b>; and c) subsequent missed approach altitudes/heights.” This is not consistent with the following EASA requirement : “when the temperature is within the promulgated limits, the flight crew should not make compensation to the altitude at the FAF and DA/H”.</p>
response	<p>Partially accepted.</p> <p>DA/H has been deleted. The FAF remains in the paragraph commented.</p>
comment	<p>824                      comment by: <i>Germanwings</i></p> <p>CAT.OP.MPA.265 Take-off conditions</p>



	<p>NPA text (b) the selected aerodrome operating minima are consistent with: (1) the operative ground equipment; (2) the operative aircraft systems; (3) the aircraft performance; and (4) flight crew qualifications.</p> <p>Requested change Proposal to change wording from “are consistent” to “correspond to”.</p> <p>Justification The selected minima are based on the given criteria, but are not part of them.</p>
response	<p>Not accepted</p> <p>The intention of the rule is to prevent take-off if conditions are not suitable. If the minima have been selected based on the availability of (for example) particular ground equipment and that ground equipment becomes unavailable, then the minima would no longer be <i>consistent with</i> the operative ground equipment and the commander would not commence take-off.</p> <p>The use of ‘correspond’ would imply that the minima are the same as the listed conditions (e.g. a frequency of 1 500 Khz corresponds to a wavelength of 200 m).</p>
comment	<p>859                      comment by: Lufthansa Cargo</p> <p>NPA text (b) the selected aerodrome operating minima are consistent with: (1) the operative ground equipment; (2) the operative aircraft systems; (3) the aircraft performance; and (4) flight crew qualifications.</p> <p>Requested change Proposal to change wording from “are consistent” to “correspond to”</p> <p>Justification The selected minima are based on the given criteria, but are not part of them.</p>
response	<p>Not accepted</p> <p>The intention of the rule is to prevent take-off if conditions are not suitable. If the minima have been selected based on the availability of (for example) particular ground equipment and that ground equipment becomes unavailable, then the minima would no longer be <i>consistent with</i> the operative ground equipment and the commander would not commence take-off.</p> <p>The use of ‘correspond’ would imply that the minima are the same as the listed conditions (e.g. a frequency of 1 500 Khz corresponds to a wavelength of 200 m).</p>



CAT.OP.MPA.300 Approach and landing conditions

p. 88-89

comment

365 comment by: J.Woehrlin/DLH

CAT.OP.MPA.300 Approach and landing conditions

NPA text

Before commencing an approach operation, the commander shall be satisfied that:

(b) the selected aerodrome operating minima are consistent with:

- (1) the operative ground equipment;
- (2) the operative aircraft systems;
- (3) the aircraft performance; and
- (4) flight crew qualifications.

Requested change

Change wording analogue to CAT.OP.265 Take-off conditions, instead of “the commander shall be satisfied” use “shall verify”

Justification

Verification is the correct phrase, as “satisfaction” is not measurable

Requested change

Proposal to change wording analogue to CAT.OP.265 Take-off conditions, from “minima are consistent” to “minima correspond to”

response

1. Not accepted

The term ‘shall be satisfied’ provides the commander with the flexibility to use good judgement, whereas ‘shall verify’ would require proof, which may not be practical in-flight. CAT.OP.MPA.265 will be amended to ‘shall be satisfied’.

2. Not accepted

a) CAT.OP.MPA.265 does not employ the word ‘correspond’.

b) The appropriate aerodrome operating minima are determined by the status of the aircraft, systems, ground equipment and flight crew qualification; the term ‘correspond’ does not imply the same level of accuracy as the term ‘consistent’.

comment

625 comment by: *FNAM*

ISSUE AND PROPOSAL

CAT.OP.MPA.265 and CAT.OP.MPA.300 disposals propose to add a step in commander checklist before take-off and before commencing an approach. The operative ground equipment, operative aircraft systems, aircraft performances and flight crew qualifications should be checked out by the commander. *FNAM* wonders if these steps are necessary twice per flight to enhance the flight safety. Indeed, current CAT.OP.MPA.110 is already transposed in CAT.OP.MPA.265 for take-off



	<p>procedure. Alleviated procedures should be provided for in-flight check such as before commencing the approach when some points have already been checked out before the take-off. It could help and simplify the in-flight check and focusing commanders attention on flight parameters. This may enhance the flight safety. For example, crew member qualification should be checked only once before the take-off.</p> <p>Plus, this requirement would imply changes of procedures and operating documents. It would therefore impact operators.</p>
response	Not accepted
comment	<p>826                      comment by: <i>Germanwings</i></p> <p>CAT.OP.MPA.300 Approach and landing conditions</p> <p>NPA text Before commencing an approach operation, the commander shall be satisfied that:</p> <p>(b) the selected aerodrome operating minima are consistent with: (1) the operative ground equipment; (2) the operative aircraft systems; (3) the aircraft performance; and (4) flight crew qualifications.</p> <p>Requested change Proposal to change wording analogue to CAT.OP.265 Take-off conditions, instead of “the commander shall be satisfied” use “shall verify”.</p> <p>Justification Verification is the correct phrase, as “satisfaction” is not measurable.</p> <p>Requested change Proposal to change wording analogue to CAT.OP.265 Take-off conditions, from “minima are consistent” to “minima correspond to”.</p> <p>Justification The selected minima are based on the given criteria, but are not part of them.</p>
response	<p>1. Not accepted.</p> <p>The phrase ‘shall be satisfied’ provides the commander with the flexibility to use good judgement, whereas ‘shall verify’ would require proof, which may not be practical in-flight. CAT.OP.MPA.265 will be amended to read ‘shall be satisfied’.</p> <p>2. Not accepted</p> <p>a) CAT.OP.MPA.265 does not employ the word ‘correspond’.</p> <p>b) The appropriate aerodrome operating minima are determined by the status of the aircraft, systems, ground equipment and flight crew qualification; the term ‘correspond’ does not imply the same level of accuracy as the term ‘consistent’.</p>



comment	<p>831                      comment by: <i>Germanwings</i></p> <p>CAT.OP.MPA.300 Approach and landing conditions</p> <p>NPA text Before commencing an approach operation, the commander shall be satisfied that:</p> <p>(b) the selected aerodrome operating minima are consistent with: (1) the operative ground equipment; (2) the operative aircraft systems; (3) the aircraft performance; and (4) flight crew qualifications.</p> <p>Requested change Proposal to change wording analogue to CAT.OP.265 Take-off conditions, instead of “the commander shall be satisfied” use “shall verify”.</p> <p>Justification Verification is the correct phrase, as “satisfaction” is not measurable.</p> <p>Requested change Proposal to change wording analogue to CAT.OP.265 Take-off conditions, from “minima are consistent” to “minima correspond to”.</p> <p>Justification The selected minima are based on the given criteria, but are not part of them.</p>
response	<p>1. Not accepted.</p> <p>The phrase ‘shall be satisfied’ provides the commander with the flexibility to use good judgement, whereas ‘shall verify’ would require proof, which may not be practical in-flight. CAT.OP.MPA.265 will be amended to read ‘shall be satisfied’.</p> <p>2. Not accepted</p> <p>a) CAT.OP.MPA.265 does not employ the word ‘correspond’.</p> <p>b) The appropriate aerodrome operating minima are determined by the status of the aircraft, systems, ground equipment and flight crew qualification; the term ‘correspond’ does not imply the same level of accuracy as the term ‘consistent’.</p>
comment	<p>860                      comment by: <i>Lufthansa Cargo</i></p> <p>NPA text</p> <p>Before commencing an approach operation, the commander shall be satisfied that:</p> <p>(b) the selected aerodrome operating minima are consistent with: (1) the operative ground equipment; (2) the operative aircraft systems; (3) the aircraft performance; and</p>



	<p>(4) flight crew qualifications.</p> <p>Requested change Proposal to change wording analogue to CAT.OP.265 Take-off conditions, instead of “the commander shall be satisfied” use “shall verify”</p> <p>Justification Verification is the correct phrase, as “satisfaction” is not measurable</p> <p>Requested change Proposal to change wording analogue to CAT.OP.265 Take-off conditions, from “minima are consistent” to “minima correspond to”</p> <p>Justification The selected minima are based on the given criteria, but are not part of them.</p>
response	<p>1. Not accepted.</p> <p>The phrase ‘shall be satisfied’ provides the commander with the flexibility to use good judgement, whereas ‘shall verify’ would require proof, which may not be practical in-flight. CAT.OP.MPA.265 will be amended to read ‘shall be satisfied’.</p> <p>2. Not accepted</p> <p>a) CAT.OP.MPA.265 does not employ the word ‘correspond’.</p> <p>b) The appropriate aerodrome operating minima are determined by the status of the aircraft, systems, ground equipment and flight crew qualification; the term ‘correspond’ does not imply the same level of accuracy as the term ‘consistent’.</p>

CAT.OP.MPA.305 Commencement and continuation of approach

p. 89

comment	<p>183                      comment by: UK CAA</p> <p><b>Page No:</b> 89 / 117 / 176</p> <p><b>Paragraph No:</b> CAT.OP.MPA.305 paragraph (a)(2) / GM4 SPA.LVO.100(c) paragraph (f) / NCC.OP.230 paragraph (a)(2)</p> <p><b>Comment:</b> Some amendments are suggested for easier reading.</p> <p>Justification: Clarity</p> <p>Proposed Text: Page 89, CAT.OP.MPA.305, paragraph (a)(2): ‘(a) If the reported visibility or controlling RVR for the runway to be used for landing is less than the applicable minimum, then an instrument approach operation shall not be continued: (1) past a point at which the aircraft is 1 000 ft above the aerodrome elevation; or</p>
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	<p>(2) <b>into the final approach segment (FAS)</b> if the DH or MDH is higher than 1 000 ft, <del>in the final approach segment (FAS).</del></p> <p>Page 117: GM4 SPA.LVO.100(c) paragraph (f): (f) Conditions for commencement and continuation of the approach are in accordance with CAT.OP.MPA.305. Pilots conducting EFVS operations may commence an approach and continue that approach below 1 000 ft above the aerodrome or <b>into</b> the final approach segment (FAS) if:</p> <p>Page 176: NCC.OP.230 paragraph (a)(2): (2) <b>into the FAS</b> if the DH or MDH is higher than 1 000 ft. <del>into the FAS.</del></p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>
comment	<p>263                      comment by: <i>EUROCONTROL</i></p> <p>p.89 - CAT.OP.MPA.305 Procedure designers distinguish between missed approach and balked landing at DH; here piloting techniques are referenced. Are the terms missed approach/go-around appropriate?</p> <p>Review throughout.</p>
response	<p>Noted</p> <p>See the definition of 'go-around' in Annex I.</p>
comment	<p>367                      comment by: J.Woehrlin/DLH</p> <p>CAT.OP.MPA.305 Commencement and continuation of approach GM1 CAT.OP.MPA.305 Commencement and continuation of approach APPLICATION OF RVR OR VIS REPORTS NPA text (IR)        a) If the reported visibility or controlling RVR for the runway to be used for landing is less than (...) (GM)       a) There is no prohibition on the commencement of an approach based on the reported RVR or VIS</p> <p>Requested change Use consistent wording IR is "reported visibility and controlling RVR" whereas GM is "reported RVR and VIS"</p> <p>Justification Avoidance of misinterpretation, by confusion</p>



response	<p>Not accepted</p> <p>While a pilot may choose to continue approach down to DA/H, there is no reason to mandate this.</p> <p>Visibility has been amended to 'VIS'.</p>
comment	<p>368                      comment by: J.Woehrlin/DLH</p> <p>CAT.OP.MPA.305 Commencement and continuation of approach NPA text (b) If the required visual reference is not established, then a missed approach shall be executed at or before the DA/H or the MDA/H.</p> <p>Requested change Deletion of "before"</p> <p>Justification In context with establishment of visual contact, it is counterproductive to initiate GA before reaching the minimum.</p>
response	<p>Partially accepted</p> <p>The review group has redrafted CAT.OP.MPA.305.</p>
comment	<p>832                      comment by: <i>Germanwings</i></p> <p>CAT.OP.MPA.305 Commencement and continuation of approach GM1 CAT.OP.MPA.305 Commencement and continuation of approach APPLICATION OF RVR OR VIS REPORTS</p> <p>NPA text (IR)            a) If the reported visibility or controlling RVR for the runway to be used for landing is less than (...) (GM)           a) There is no prohibition on the commencement of an approach based on the reported RVR or VIS</p> <p>Requested change Use consistent wording. IR is "reported visibility and controlling RVR" whereas GM is "reported RVR and VIS".</p> <p>Justification Avoidance of misinterpretation, by confusion.</p>
response	<p>Not accepted</p> <p>While a pilot may choose to continue approach down to DA/H, there is no reason to mandate this.</p> <p>Visibility has been amended to 'VIS'.</p>



comment

833

comment by: *Germanwings*

CAT.OP.MPA.305 Commencement and continuation of approach

NPA text

(b) If the required visual reference is not established, then a missed approach shall be executed at or before the DA/H or the MDA/H.

Requested change Deletion of “before”.

Justification

In context with establishment of visual contact, it is counterproductive to initiate GA before reaching the minimum.

response

Partially accepted

The review group has redrafted CAT.OP.MPA.305.

comment

861

comment by: *Lufthansa Cargo*

NPA text

(IR) a) If the reported visibility or controlling RVR for the runway to be used for landing is less than (...)

(GM) a) There is no prohibition on the commencement of an approach based on the reported RVR or VIS

Requested change

Use consistent wording

IR is “reported visibility and controlling RVR” whereas GM is “reported RVR and VIS”

Justification

Avoidance of misinterpretation, by confusion

response

Not accepted

While a pilot may choose to continue approach down to DA/H, there is no reason to mandate this.

Visibility has been amended to ‘VIS’.

comment

862

comment by: *Lufthansa Cargo*

NPA text

(b) If the required visual reference is not established, then a missed approach shall be executed at or before the DA/H or the MDA/H.

Requested change

Deletion of “before”



response	Justification In context with establishment of visual contact, it is counterproductive to initiate GA before reaching the minimum.
	Partially accepted  The review group has redrafted CAT.OP.MPA.305.

GM1 CAT.OP.MPA.305 Commencement and continuation of approach

p. 89-90

comment	41      comment by: Wideroe Flyveselskap AS  GM1 CAT.OP.MPA.305 (b): P89  Questions:    When is visual reference not required?
response	Noted  Visual reference is not required for approaches followed by a missed approach, e.g. for training flights and for CAT III no DH operations.
comment	64      comment by: British Airways Flight Operations  The information in sub-para c is very helpful, rather than the practice hitherto of using a blanket value of 125m as the required mid-point and stop-end RVR, irrespective of the runway lighting and markings
response	Noted
comment	264      comment by: EUROCONTROL  p. 89 - GM1 CAT.OP.MPA.305 EFVS 200 is a special case.  Add refer to GM1 CAT.OP.MPA.312.
response	Not accepted  EFVS200 is not a special case; the requirements of CAT.OP.MPA.305 still apply. This is clarified in GM1 CAT.OP.MPA.312.
comment	366      comment by: J.Woehrlin/DLH  CAT.OP.MPA.305 Commencement and continuation of approach GM1 CAT.OP.MPA.305 Commencement and continuation of approach APPLICATION OF RVR OR VIS REPORTS NPA text (IR)      a) If the reported visibility or controlling RVR for the runway to be used for landing is less than (...)



	<p>(GM) a) There is no prohibition on the commencement of an approach based on the reported RVR or VIS</p> <p>Requested change Use consistent wording IR is “reported visibility and controlling RVR” whereas GM is “reported RVR and VIS”</p> <p>Justification Avoidance of misinterpretation, by confusion</p>
response	<p>Not accepted</p> <p>While a pilot may choose to continue approach down to DA/H, there is no reason to mandate this.</p> <p>Visibility has been amended to ‘VIS’.</p>

AMC1 CAT.OP.MPA.305(be) Commencement and continuation of approach
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p. 90-92
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comment	<p>74 comment by: <i>ERAA</i></p> <p>GM1 CAT.OP.MPA.305 (b):</p> <p>When is visual reference not required?</p>
response	<p>Noted</p> <p>Visual reference is not required for approaches followed by a missed approach, e.g. for training flights and for CAT III no DH operations.</p>
comment	<p>626 comment by: <i>FNAM</i></p> <p>AGREEMENT FNAM thanks for the clarification for these requirements. Plus, more flexibilities are provided by allowing same conditions for Type A and Type B operations. Moreover, some requirements are moved to SPA requirements. FNAM welcomes this initiative since these requirements are requiring specific approvals.</p>
response	<p>Noted</p>

CAT.OP.MPA.312 EFVS 200 operations
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p. 92
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comment	<p>42 comment by: Wideroe Flyveselskap AS</p> <p>CAT.OP.MPA.312 (b): P92</p>
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response	<p>Question: Which IAP's are suitable for EFVS 200 operation?</p> <p>Noted</p> <p>Refer to AMC1 CAT.OP.MPA.312(b).</p>
comment	<p>46 comment by: German NSA (BAF)</p> <p>According to the changes introduced with the NPA, it is the responsibility of the operator to determine whether the instrument approach procedures (IAPs) are suitable for the EFVS and LVO operations. The NPA also does not propose any changes to the way the IAPs are designed (ICAO Doc 8168) and does not explicitly foresee any changes to the existing IAPs. However, reading AMC1 SPA.LVO.110, it seems that the IAPs designed according to ICAO Doc 8168 might not be suitable. Clarity would be needed, how the operator is supposed to decide whether or not an IAP is suitable and whether it will be necessary to change the IAPs or somehow indicate their suitability.</p>
response	<p>Noted</p> <p>Refer to AMC1 CAT.OP.MPA.312(b) and AMC2 CAT.OP.MPA.312(b). AMC1 SPA.LVO.110 is not relevant to EFVS200 operations.</p>
comment	<p>265 comment by: EUROCONTROL</p> <p>p.92 - CAT.OP.MPA.312 (b) What are the criteria?</p> <p>Add AMC defining those criteria.</p>
response	<p>Noted</p> <p>See AMC1 CAT.OP.MPA.312(b) and AMC2 CAT.OP.MPA.312(b).</p>
comment	<p>536 comment by: ERA Operations Group</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>627 comment by: FNAM</p> <p><b>AGREEMENT</b> FNAM agrees with EASA's proposals for EFVS 200 operations which would not need specific approvals.</p>
response	<p>Noted</p>

GM1CAT.OP.MPA.312 EFVS 200 operations

p. 92-94

comment

83

comment by: AIRBUS

GM1 CAT.OP.MPA.312 EFVS 200 operation (b) contains a description of the EFVS. This seems redundant if a definition is provided in GM16 to Annex I: All-weather operations. Airbus suggests removing the definition in the GM1 :

GM1 CAT.OP.MPA.312 EFVS 200 operations

GENERAL

(a) EFVS operations exploit the improved visibility provided by the EFVS to extend the visual segment of an instrument approach. EFVS cannot be used to extend the instrument segment of an approach and thus the DH for EFVS 200 operations is always the same as for the same approach conducted without EFVS.

(b) Equipment for EFVS 200 operations

(1) In order to conduct EFVS 200 operations, a certified EFVS is used (EFVS-A or EFVS-L). An EFVS is an enhanced vision system (EVS) that also incorporates a flight guidance system and displays the image on a HUD or equivalent display. The flight guidance system will incorporate aircraft flight information and flight symbology.

response

Not accepted

The intention of GM1 CAT.OP.MPA.312 is to provide a logical description, in one place, of the different elements of the system that the operator needs to put in place and which are described in different AMC/GM.

comment

84

comment by: AIRBUS

GM1 CAT.OP.MPA.312 EFVS 200 operation (b) (2) seems to require EFVS-sensor imagery provided for pilot monitoring. This seems redundant with CS AWO.A.EFVS.104 EFVS display (e).

CS AWO.A.EFVS.104 EFVS display (e) requires:

(e) When a minimum flight crew of more than one pilot is required for the conduct of the operation, a suitable display EFVS sensor imagery shall be provided to the pilot monitoring.

GM1 CAT.OP.MPA.312 EFVS 200 operation (b) requires a system to be certified. It seems redundant to add an explicit reference to the need of EFVS sensory imagery to be provided to the pilot monitoring. Airbus suggest to remove (b) (2)

(b) Equipment for EFVS 200 operations

(1) In order to conduct EFVS 200 operations, a certified EFVS is used (EFVS-A or EFVS-L).



	<p>(2) In multi-pilot operations, a suitable display of EFVS sensory imagery is provided to the pilot monitoring.</p>
response	<p>Not accepted</p> <p>The intention of GM1 CAT.OP.MPA.312 is to provide a logical description, in one place, of the different elements of the system that the operator needs to put in place. Users of this regulation may not be familiar with certification standards, so it is useful to provide this information in GM.</p>
comment	<p>106 comment by: Dassault-Aviation</p> <p>Text: GM1 CAT.OP.MPA.312 EFVS 200 operations page 94 "(g) Obstacle clearance in the visual segment The 'visual segment' is the portion of the approach between the DH or the MAPt and the runway threshold. In the case of EFVS 200 operations, this part of the approach may be flown using the EFVS image as the primary reference and obstacles may not always be identifiable on an EFVS image. The operational assessment specified <i>in AMC1 NCC.OP.235(b)</i> is therefore required to ensure obstacle clearance during the visual segment."</p> <p>Comment: Typo</p> <p>Proposed text: Should be "...in AMC1 CAT.OP.MPA.312(b)..."</p>
response	<p>Accepted</p> <p>The reference to AMC1 NCC.OP.235(b) has been updated to AMC1 CAT.OP.MPA.312(b) as proposed.</p>
comment	<p>109 comment by: Dassault-Aviation</p> <p>Text: GM1 CAT.OP.MPA.312 EFVS 200 operations GENERAL Page 93</p> <p>"(d) Aerodrome operating minima for EFVS 200 operations determined in accordance with AMC1 CAT.OP.MPA.312(h) The performance of EFVSs depends on the technology used and weather conditions encountered. Table 1 'Operations utilising EFVS: RVR reduction' has been developed after an operational evaluation of two different EVSs both using infrared sensors, along with data and support</p>

	<p>provided by the FAA. Approaches were flown in a variety of conditions including fog, rain and snow showers, as well as at night to aerodromes located in mountainous terrain. Table 1 contains conservative figures to cater for the expected performance of infrared sensors in the variety of conditions that might be encountered. Some systems may have better capability than those used for the evaluation, but credit cannot be taken for such performance in EFVS 200 operations."</p> <p>Comment: To limit Ops credit in EFVS200 would not allow to take credit of better performance of cameras in future, or better performance of EFVS for some dedicated conditions that have not been already specifically demonstrated (such as Haze) and for which EFVS can be very valuable. Proposed to be modified in consistency with AMC3 SPA.LVO.100(c)</p> <p>Proposed change: To remove (d) and replace it by the text of AMC3 SPA.LVO.100(c) Low-visibility operations and operations with operational credits OPERATIONAL CREDIT: EFVS OPERATIONS The following provisions should apply to EFVS operations: (a) The DA/H used should be the same as for operations without EFVS. <b>(b) The lowest RVR minima to be used should be determined:</b> <b>(1) in accordance with criteria specified in the AFM for the expected weather conditions or, if no such criteria are specified,</b> <b>(2) by reducing the RVR determined for operation without the use of EFVS/CVS in accordance with Table 8.</b></p>
response	<p>Not accepted</p> <p>The rulemaking group decided that since Part-SPA will include the provision to take credit of better performance of cameras, EFVS etc. in the future, it is not appropriate to include this in the simplified criteria for EFVS200.</p>
comment	<p>110 comment by: Dassault-Aviation</p> <p>Text: GM1 CAT.OP.MPA.312 EFVS 200 operations GENERAL page 94 "(i) Use of EFVS to touchdown In order to use an EFVS to touchdown, the operator needs to hold a specific</p>



	<p>approval in accordance with Part-SPA.</p> <p>Comment: What is the objective of that article related to EFVS to touchdown in EFVS200 related section ?</p> <p>Proposed change: To be removed</p>
response	<p>Not accepted</p> <p>The intention of GM1 CAT.OP.MPA.312 is to provide a logical description, in one place, of the different elements of the system that the operator needs to put in place. As GM this does not introduce any new requirements. It was thought that stakeholders would find it useful to include a reference to the specific approval requirements for EFVS to touchdown.</p>
comment	<p>266            comment by: <i>EUROCONTROL</i></p> <p>p. 94 - GM1 CAT.OP.MPA.312 (g) Obstacle clearance in the visual segment Why is there no equivalent requirement to AMC1 NCC.OP.235(b) in Part CAT?</p> <p>Check.</p>
response	<p>Noted</p> <p>This is a typographic error. The correct reference is AMC1 CAT.OP.MPA.312(b).</p>
comment	<p>267            comment by: <i>EUROCONTROL</i></p> <p>p. 94 - GM1CAT.OP.MPA.312 (i) Use of EFVS to touchdown Same for EFVS used below 200ft without natural vision.</p> <p>Clarify EFVS-A case up to 200 and below.</p>
response	<p>Accepted</p> <p>Point (i) has been amended to refer to EFVS-A up to 200 as well as EFVS-L.</p>
comment	<p>268            comment by: <i>EUROCONTROL</i></p> <p>p.94 - GM1 CAT.OP.MPA.312 (j) Go-around CS ADR requires OFZ for CAT I runways.</p> <p>Text to be adapted to reflect CS ADR.</p>



response	<p>Noted</p> <p>The intent of GM is also for operations outside the EASA system. Those aerodromes may or may not include OFZ in CAT I runways.</p>
comment	<p>269                      comment by: <i>EUROCONTROL</i></p> <p>p.94 - GM1 CAT.OP.MPA.312 (j) Go-around This requirement on publishing non-existence of an OFZ contradicts above statement in GM1 CAT.OP.MPA.312 that OFZ are not a requirement for CAT I and thus will not be marked on a chart.</p> <p>Review.</p>
response	<p>Noted</p> <p>The intent of GM is also for operations outside the EASA system. Those aerodromes may or may not include OFZ in CAT I runways.</p>
comment	<p>399                      comment by: <i>DGAC France</i></p> <p>Page 94 GM1 CAT.OP.MPA.312 EFVS 200 operations GENERAL j) Go-around (...) Where an OFZ is not provided for a CAT I precision approach, this will be indicated on the approach chart.</p> <p>Comment: Replace “will be indicated” by “may be indicated”. Indeed, a few states are indicating that OFZ are not provided on a CAT I approach. OFZ is not required if the procedure is defined with a DH not less than 200ft (CS.ADR-DSN.J480). Same comment for Part-SPA and Part-NCC (see specific comments pages 119 and 181)</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>
comment	<p>628                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (c)(1); ‘EFVS 200 operations may be used for 3D operations. This may include operations based on NPA procedures, ...’ This statement is non-consistent. Indeed, NPA approaches are 2D approaches operations. Thus, it is non-consistent to affirm that NPA would benefit of EFVS because they are included in 3D approached operations. Thus, FNAM suggests to reformulate this requirement.</p>



response	<p>Not accepted</p> <p>NPA procedures may be flown as 3D operations; in fact, this is mandated by CAT.OP.MPA.115 unless the competent authority approves otherwise.</p>
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AMC1 CAT.OP.MPA.312(b) EFVS 200 operations

p. 95

comment	<p>47                      comment by: German NSA (BAF)</p> <p>According to the changes introduced with the NPA, it is the responsibility of the operator to determine whether the instrument approach procedures (IAPs) are suitable for the EFVS and LVO operations. The NPA also does not propose any changes to the way the IAPs are designed (ICAO Doc 8168) and does not explicitly foresee any changes to the existing IAPs. However, reading AMC1 SPA.LVO.110, it seems that the IAPs designed according to ICAO Doc 8168 might not be suitable. Clarity would be needed, how the operator is supposed to decide whether or not an IAP is suitable and whether it will be necessary to change the IAPs or somehow indicate their suitability.</p> <p>s. CAT.OP.MPA 312 (b)</p>
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response	<p>Noted</p> <p>Refer to AMC1 CAT.OP.MPA.312(b) and AMC2 CAT.OP.MPA.312(b). AMC1 SPA.LVO.110 is not relevant to EFVS200 operations.</p>
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comment	<p>75                      comment by: ERAA</p> <p>Which IAP's are suitable for EFVS 200 operation?</p>
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response	<p>Noted</p> <p>See AMC1 CAT.OP.MPA.312(b) and AMC2 CAT.OP.MPA.312(b).</p>
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comment	<p>82 ❖                      comment by: AIRBUS</p> <p>There is a inconsistency between introduction Guidance Materials for allowed angle between final approach path and the extended runway centerline :</p> <p>Page 20:</p> <p>“The EFVS will include path information (e.g. a flight path vector). In order for this flight path information to correlate with the EFVS or natural visual image, the proposal is that EFVS 200 operations should only be flown where the final approach track is aligned with the runway centreline (<b>+/- 2 degrees</b>). This will ensure that the pilot can ‘place’ the flight path vector over the runway threshold when flying the approach. Further explanation of the other requirements (point (a)) is provided in GM1 CAT.OP.MPA.312(b) and respectively in GM1 NCC.OP.235(b).”</p>
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	<p>Page 95:</p> <p>AERODROMES AND INSTRUMENT PROCEDURES SUITABLE FOR EFVS 200 OPERATIONS</p> <p>(b) EFVS 200 operations should only be conducted as 3D operations, using an IAP in which the final approach track is off-set by a maximum of <b>3 degrees</b> from the extended centreline of the runway and intercepts the centreline at the threshold. Please correct this inconstancy.</p>
response	<p>Accepted</p> <p>This was a typographic error in the Explanatory Note. The Explanatory Note has been corrected to be consistent with AMC1 CAT.OP.MPA.312(b).</p>
comment	<p>107            comment by: Dassault-Aviation</p> <p>Text: AMC1 CAT.OP.MPA.312(b) EFVS 200 operations page 95 "(c) The <b>IPA</b> should be designed in accordance with PANS-OPS, Volume I (ICAO Doc 8168) or equivalent criteria."</p> <p>Comment: Typo</p> <p>Proposed change: (c) The <del>IPA</del> <b>IAP</b> should be designed in accordance with PANS-OPS, Volume I (ICAO Doc 8168) or equivalent criteria.</p>
response	<p>Accepted</p> <p>The text has been corrected as proposed.</p>
comment	<p>108            comment by: Dassault-Aviation</p> <p>Text: AMC1 CAT.OP.MPA.312(b) EFVS 200 operations page 95 "(b) EFVS 200 operations should only be conducted as 3D operations, using an IAP in which the final approach track is off-set by a maximum of 3 degrees from the extended centreline of the runway <b>and intercepts the centreline at the threshold.</b>"</p> <p>Comment: In EFVS segment, flying technique is the same as for non EFVS operation, i.e pilot will first assess the runway is well located and then align the A/C with the runway when intersecting the extended runway centreline. Correlation does not necessarily require flight path is aligned with runway aiming point. It is more the</p>



response	<p>EFVS runway that must be assessed at the right location. This can be done using other than flight path symbols.</p> <p>Proposed change:          (b) EFVS 200 operations should only be conducted as 3D operations, using an IAP in which the final approach track is off-set by a maximum of 3 degrees from the extended centreline of the runway <del>and intercepts the centreline at the threshold.</del></p> <p>Accepted</p> <p>The text has been amended as proposed.</p>
comment	<p>147 comment by: <i>US FAA</i></p> <p>(a) Designations of runways "suitable for EFVS operations" and inferences to CAT II/III runways may discourage EFVS operations to runways without such designations. The FAA does not designate runways as EFVS suitable. The operator is best able to determine if the runway and approach are suitable based on aircraft capabilities and weather conditions.</p>
response	<p>Not accepted</p>
comment	<p>273 comment by: <i>EUROCONTROL</i></p> <p>p.95 - AMC1 CAT.OP.MPA.312(b)          List of suitability criteria.</p> <p>Review using ENSB RWY 10 as example. Analysis suggests that the runway may be assessed as suitable according to this AMC, but could leave aircraft in non-extractable situation.</p>
response	<p>Not accepted</p> <p>The criteria for determining the suitability of a runway are in AMC2 CAT.OP.MPA.312. If the aircraft is left in a 'non-extractable situation', then the runway is not suitable.</p>
comment	<p>275 comment by: <i>EUROCONTROL</i></p> <p>p.95 - AMC1 CAT.OP.MPA.312(b)          (a) For the EFVS200 operations according to GM1 CAT.OP.MPA.312 (h), natural visual references are required at 200ft. At this point the aircraft is still &gt;800m away from the threshold and with 550m RVR is only required to see the approach lights. So only the approach lights enter in the evaluation of suitability for EFVS use.</p> <p>Is change desired?</p>
response	<p>Noted</p>



AMC1 CAT.OP.MPA.312(b) (a)(1) specifies the type of aerodrome lighting to be considered. The nature of the approach lights will also affect the required RVR.

comment

276 comment by: *EUROCONTROL*

p.95 - AMC1 CAT.OP.MPA.312(b)  
(c) IPA instead of IAP

Replace IPA by IAP.

response

Accepted

The text has been corrected as proposed.

comment

629 comment by: *FNAM*

EDITORIAL ISSUE  
FNAM proposes to replace IPA with IAP.

response

Accepted

The text has been corrected as proposed.

AMC2 CAT.OP.MPA.312(b) EFVS 200 operations

p. 95-96

comment

184 comment by: *UK CAA*

Page No: 96

**Paragraph No:** AMC2 CAT.OP.MPA.312(b) paragraph (b)(4)

**Comment:** The sentence is unclear as written; we suggest it is revised as proposed below

Justification: Clarity

Proposed Text:

(4) **Runways with obstacles** that require visual identification and avoidance should not be accepted.

response

Accepted

The text has been amended as proposed.

comment

277 comment by: *EUROCONTROL*

p. 95 - AMC2.CAT.OP.MPA.312(b)  
(b)(1)



	<p>Conditions of acceptability should be clarified.</p> <p>Clarify the condition of acceptability of the TERPS.</p>
response	<p>Not accepted</p> <p>AMC2.CAT.OP.MPA.312(b) (b)(1) states 'For straight-in IAPs, US Standard for Terminal Instrument Procedures (TERPS)<sup>1</sup> may be considered to be acceptable as an equivalent to PANS-OPS.'</p>
comment	<p>420 comment by: Dassault-Aviation</p> <p>Text: AMC2 CAT.OP.MPA.312(b) page 95</p> <p>3) VSSs are required for procedures published after 15 March 2007, but the existence of the VSS has to be verified through aeronautical information publication (AIP), operations manual Part C, or direct contact with the aerodrome. Where the VSS is established, it may not be penetrated by obstacles. If the VSS is not established or is penetrated by obstacles and an OFZ is not established, then the operations should not be conducted.</p> <p>Comment: Obstacle clearance is a key point of the EFVS with OPs credit operation. In order to enable the crew to determine if an approach can be continued below DA/H using EFVS, VSS penetration status should be at least mentioned in the AIP (in addition to OFZ that are supposed to be already mentioned in §2,12 of AIP per ICAO annex 15). VSS penetration should be addressed in a clear and non ambiguous way and for each minima as the VSS may be penetrated for LNAV/ VNAV, but may be not for LPV.</p> <p>Beyond VSS, and 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. This will ensure the verification task is achievable by business aviation operators, some of them being small organization with limited ressources.</p> <p>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:</p> <ul style="list-style-type: none"> <li>- 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).</li> <li>- 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 depending on AIP documentation (for example, OFZ are already clearly mentioned in AIP of some countries and are not in AIP of some others countries)</li> </ul>

1

[https://www.faa.gov/regulations\\_policies/orders\\_notices/index.cfm/go/document.information/documentID/1029266](https://www.faa.gov/regulations_policies/orders_notices/index.cfm/go/document.information/documentID/1029266)



	<p>To create an new AMC to reflect the following change and to facilitate promulgation of EFVS approaches. cf comments about NPA 2018-06 (D)</p> <p>Proposed change: To display a clear an non ambiguous status of VSS penetration in AIP. This status should clearly mention the minima to which it relates. Beyond VSS, AIP should contain all the essential aerodrome information related to EFVS operation. In particular:</p> <ul style="list-style-type: none"> <li>- presence of OFZ</li> <li>- VSS penetration for each runway/ minima</li> <li>- Presence of RVR sensor</li> <li>- ...</li> </ul> <p>These information should be presented in a clear, comprehensive and non ambiguous way. In the perspective of approval, an asterix close to the minima in the chart could refer to a note indicating to the crew if EFVS operation is possible. for example: EFVS authorized. cf comment about NPA 2018-06 (D)</p>
response	<p>Noted.</p> <p>The information is transmitted to aerodrome operators.</p>

AMC1 CAT.OP.MPA.312(c) EFVS 200 operations

p. 96-98

comment	<p>85 comment by: AIRBUS</p> <p>in AMC1 CAT.OP.MPA.312(c) EFVS 200 operations INITIAL TRAINING FOR EFVS 200 OPERATIONS (b) (2) (ii), it is required to <i>"the use of HUD or equivalent display systems during all phases of flight"</i>. One could understand that used of HUD in cruise phase is required for LVO training. This requirement seems overdemanding.</p> <p>Airbus proposes to reword in AMC1 CAT.OP.MPA.312(c) EFVS 200 operations INITIAL TRAINING FOR EFVS 200 OPERATIONS (b) (2) (ii) as follows:</p> <p><b>(ii) the use of HUD or equivalent display systems during at least approach, landing and go around</b></p>
response	<p>Accepted</p>
comment	<p>112 comment by: Dassault-Aviation</p> <p>Text: AMC1 CAT.OP.MPA.312(c) EFVS 200 operations INITIAL TRAINING FOR EFVS 200 OPERATIONS page 96 "(12) qualification requirements for <i>pilots to obtain and retain approval to EFVS 200 operations.</i>"</p>



response	<p>Comment: As no approval is requested for EFVS200, this sentence should be modified</p> <p>Proposed change: (12) <b>pilot</b> qualification requirements for <del>pilots to obtain and retain approval to</del> EFVS 200 operations.</p> <p>Accepted</p> <p>The text has been amended as proposed.</p>
comment	<p>113            comment by: Dassault-Aviation</p> <p>Text: AMC1 CAT.OP.MPA.312(c) EFVS 200 operations INITIAL TRAINING FOR EFVS 200 OPERATION page 96</p> <p>Comment: An AMC is missing to introduce a table similar to GM1.SPA.LVO. 120 (b) for EFVS 200</p> <p>Proposed change: New AMC and table to be created</p>
response	<p>Not accepted</p>
comment	<p>421            comment by: Dassault-Aviation</p> <p>Text: AMC1 CAT.OP.MPA.312(c) page 97</p> <p>(b)(2) (iii) approach using the EFVSs installed in the aircraft to the appropriate DH and transition to <b>visual</b> flight and landing;</p> <p>Comment: EFVS is an equivalent visual operation</p> <p>Proposed change: (iii) approach using the EFVSs installed in the aircraft to the appropriate DH and transition to <b>natural vision for continuing approach and landing;</b></p>
response	<p>Accepted</p> <p>The text has been updated as proposed.</p>
comment	<p>630            comment by: FNAM</p> <p>ISSUE AND PROPOSAL – (b)</p>



response	<p>The proposed disposal introduces the possibility to perform ‘a course of FSTD training and/or flight training’. FNAM wonders what is the flight safety benefit to perform the same course in flight and with FSTD. Plus, it would be a burden for operators which would provide FSTD and in-flight training. Thus, FNAM suggests to remove ‘and/’.</p> <p>Not accepted</p>
comment	<p>631 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (b)(3)  The phase 2 of EVFS 200.training is described in this proposed disposal. It is confusing that this phase focuses on low-visibility approach operations. Indeed, all operations in low-visibility are described in SPA requirements since specific approvals are required for each ones. Indeed, SPA.LVO.100 introduces requirement for Low-Visibility Operations.  Plus, EFVS 200 definition in Annex I expresses that this concept is to be used ‘in other than low-visibility operations’.  Thus, to avoid non-consistency throughout the entire proposal, FNAM suggests to remove EFVS 200 training in low-visibility operations.</p>
response	<p>Accepted</p> <p>The reference to ‘low-visibility operations’ has been removed and replaced with EFVS 200 operations.</p>

AMC2 CAT.OP.MPA.312(c) EFVS 200 operations

p. 98

comment	<p>114 comment by: Dassault-Aviation</p> <p>Text:  AMC2 CAT.OP.MPA.312(c) EFVS 200 operations  RECURRENT TRAINING AND CHECKING FOR EFVS 200 OPERATIONS page 98  "The operator should ensure that the pilots’ competence to perform EFVS 200 operations is <b>checked</b> at each required demonstration of competence by performing at least <b>four</b> approaches, of which one should be flown without natural vision to 200 ft."</p> <p>Comment:  As EFVS minima will not be lower than CAT I minima, we consider that checking for EFVS 200 should be not mandatory.  In addition, It should be clearly mentioned the fact the EFVS approaches requested for the recurrent can be done using existing approaches</p> <p>Proposed change:  The operator should ensure that the pilots’ competence to perform EFVS 200 operations is <del>checked at each required demonstration of competence by</del></p>
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	performing at least <del>four</del> <b>two</b> approaches <b>among the total number of approaches</b> , of which one should be flown without natural vision to 200 ft.
response	Partially accepted  Two approaches are required in checking.

AMC5 CAT.OP.MPA.312(c) EFVS 200 operations

p. 98-99

comment	632 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL Training for EFVS 200 may be differentiated between pilot monitoring and pilot flying. In order to reduce redundancy and alleviate any supplemental burden for operators, FNAM suggests that any redundant items between monitoring and flying pilots should be avoided.
response	Not accepted  The duties of a pilot monitoring and a pilot flying during EFVS operations are different so there are no redundant items.

AMC1 CAT.OP.MPA.312(d) EFVS 200 operations

p. 100-101

comment	185 comment by: <i>UK CAA</i>  Page No: 100  <b>Paragraph No:</b> AMC1 CAT.OP.MPA.312(d) paragraph (a)(4)(ii)(B)  <b>Comment:</b> We believe the word 'and' at the end of sub-paragraph (B) is unnecessary and should be deleted.  Justification: Grammar  <b>Proposed Text:</b> Amend as follows: (ii) both of the following: (A) the runway threshold identified by the beginning of the runway landing surface, the threshold lights or the runway end identifier lights; and (B) the touchdown zone identified by the touchdown zone lights, the touchdown zone runway markings or the runway lights; <del> and</del>
response	Not accepted  'and' provides a link between (4) and (5).

AMC1 CAT.OP.MPA.312(h) EFVS 200 operations

p. 101-102



comment	<p>12 ❖ comment by: Civil Aviation Authority Czech Republic</p> <p>page 102, Table 1, and page 67, Table 6.A, and page 166, Table 5.A</p> <p>The values of RVR in the 1st column higher than 200 m (2100, 2200, 2300, 2 400 m) are usually not supported by meteorological measurements (ref. ICAO Annex 3, Appendix 3, Par. 4.3.6.2). Please, note, that the standard "SPECI Criteria" values of RVR are: 50, 175, 300, 550, 800 m (ref. ICAO Annex 3, Appendix 3, Par. 2.3.2 (c) ) shall be preferred for operational needs. Introduction of the other limit values of RVR should be avoided as much as possible.</p>
response	<p>Partially accepted</p> <p>The review group has checked ICAO Doc 9365 AWO manual to ensure consistency, which was the primary objective; therefore, the proposed solution of this comment was not followed.</p>
comment	<p>278 comment by: EUROCONTROL</p> <p>p. 101 - AMC1 CAT.OP.MPA.312(h) Table 1</p> <p>This table takes into account operational credit for EFVS in line with table 6A. Should there be also an operational credit to be applied with EFVS on table 7A?</p> <p>It is proposed to apply operational credit to table 7A as well.</p>
response	<p>Noted</p> <p>It is not proposed to apply the adjustment to required RVR to the values obtained from Table 7.A. NOTE: EFVS is restricted to 3D operations with a final approach track offset by less than 3 degrees.</p>
comment	<p>633 comment by: FNAM</p> <p>ISSUE AND PROPOSAL</p> <p>The current LVP for helicopter operations is defined with and RVR lower than 500m. However, the proposed RVR for LVO operations for all type of aircraft is proposed lower than 550m. Since the proposed disposal applies for all helicopter operations, this modification would impact them.</p> <p>Since one of the NPA main objective is to introduce new possibilities on a voluntary basis without impacting all operators, FNAM suggests to remove take-off possibilities in LVO definition since it is already taking into account in LVTO definition. Plus, in order to be consistent with current helicopter requirements, FNAM suggests to precise helicopter specific definition with an RVR lower than 500m.</p>



response	<p>Not accepted</p> <p>The objective is to ensure consistency across all operations in the European regulatory framework (e.g. Aerodromes Regulation).</p>
comment	<p>634 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>Table 1 is not introduced in these AMC requirements. In order to understand the purpose and applicability of this Table, FNAM suggests to refer to Table 1 in (b).</p>
response	<p>Accepted</p> <p>Reference to Table 1 has been inserted in (b).</p>

SPA.GEN.100 Competent authority

p. 103

comment	<p>635 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>Low visibility operations are added in proposed requirements. In that way, third-country would be authorized to perform low-visibility operations without approvals. Since this disposal may impact the competitiveness between European and third-country operators, FNAM wonders why flexibility is allowed for third-country operators.</p> <p>Plus, it is non-consistent to allow LVO operations but not LVTO operations nor operational credits. FNAM wonders what is the requirement for third-country operators for LVTO operations and for operations with operational credits.</p> <p>Plus, if requirements for third-country operators are alleviated compared to European operators requirements, the risk is that European would continue to loss aircraft matriculation. Indeed, it would be easier to operate in Europe with aircraft registered N rather than F.</p>
response	<p>Noted</p> <p>The scope of the regulation is determined by Article 4 of Regulation (EU) 2018/1139. The ‘third-country operators’ that are within the scope of the regulation are those non-commercial operators using aircraft registered in a third country but ‘established, residing or with a principal place of business in the territory to which the Treaties apply’. These operators do not require an approval from the State in which they have their principal place of business provided that they hold an approval issued by the State of registry. This is in accordance with the Member States’ obligations under the Chicago Convention.</p> <p>The definition of LVOs includes LVTO, so approval is required for both low-visibility take-off and low-visibility approach operations.</p>



The proposed regulation does not include the acceptance of approval of operations with operational credits because the proposed operations with operational credits are not aligned with any ICAO standard.

There is no proposal to alleviate requirements for aircraft registered outside the Member States.

SPA.LVO.100 Low-visibility operations and operations with operational credits

p. 103

comment

401 comment by: *DGAC France*

Page 103  
SPA.LVO.100 Low-visibility operations and operations with operational credits  
(b) instrument approach operations with visibility conditions less than 550 m RVR;

Comment: In accordance with our comment on LVO definition, it is proposed to modify (b): instrument approach operations in LVO conditions.  
Rational: To cover operations with DH less than 200ft and RVR higher than 550m which fulfil the definition of CAT II operations.

response

Noted

A consistency check has been performed to make sure that the term 'LVO conditions' is used throughout the regulation instead of numbers.

comment

422 comment by: *Dassault-Aviation*

Text:  
Subpart E page 103

**SUBPART E: LOW-VISIBILITY OPERATIONS (LVOs) AND OPERATIONS WITH OPERATIONAL CREDITS**

Comment:  
EFVS200 is part of operations with operational credit, but is not part of the part SPA.  
Current text is misleading and should be changed even if it is clearly stated in the document that EFVS 200 is an EFVS operation with OPS credit and without the need for operational approval

Proposed change:  
"SUBPART E: LOW-VISIBILITY OPERATIONS (LVOs) AND LOW-VISIBILITY OPERATIONS (LVOs) WITH OPERATIONAL CREDITS"

Every section of part SPA entitled with "operations with operational credit" is possibly impacted.



response	Accepted
comment	<p>439 comment by: <i>ESSP SAS</i></p> <p>Regarding operations with operational credits, EFVS operations are detailed. In this sense, EFVS-A and EFVS-L systems are properly defined in NPA 2018-06 (B) and NPA 2018-06 (C). Indeed, it is wide clarified the certification process of these types of systems in NPA 2018-06 (B), regarding the airworthiness approval. However there are no concrete provisions related to the operation to “touchdown” and for “EFVS 100 operations” in NPA 2018-06 (C), related to EFVS-A and EFVS-L systems.</p> <p>CONCLUSION</p> <p>Further clarifications should be included in NPA 2018-06 (B) for EFVS 100 and EFVS touchdown operations.</p>
response	<p>Not accepted</p> <p>The provisions in NPA 2018-06(C) are applicable to EFVS operations using both EFVS-L and EFVS-A. AMC7 SPA.LVO.105(c) (f) allows that an approach may be continued to touchdown, or to the height specified in the AFM, if an EFVS-L is used.</p>
comment	<p>636 comment by: <i>FNAM</i></p> <p>AGREEMENT</p> <p>FNAM thanks EASA for simplifying Implementing Rules and providing guidance and details in AMC and GM. In that way, the regulation is better structured and easier to understand.</p> <p>Plus, requirements are much clearer and seem to be more adapted to the operational reality.</p>
response	Noted
comment	<p>637 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (a)</p> <p>FNAM agrees with EASA that take-off operations with visibility less than 400m RVR should be conducted with a specific approval. Nevertheless, this requirement is non-consistent with LVTO definition in Annex I. Thus, in order to reduce unnecessary complexity in this regulation, FNAM suggests to harmonize LVTO definition in the whole proposal and to modify Annex I LVTO definition with an RVR limitation at 400m.</p>
response	<p>Not accepted</p> <p>The objective is to ensure consistency across all operations in the European regulatory framework (e.g. Aerodromes Regulation).</p>



comment	<p>638 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (b) The current LVP for helicopter operations is defined with and RVR lower than 500m. However, the proposed RVR for LVO operations for all type of aircraft is proposed lower than 550m. Since the proposed disposal applies for all helicopter operations, this modification would impact them. Since one of the NPA main objective is to introduce new possibilities on a voluntary basis without impacting all operators, FNAM suggests to remove take-off possibilities in LVO definition since it is already taking into account in LVTO definition. Plus, in order to be consistent with current helicopter requirements, FNAM suggests to precise helicopter specific definition with an RVR lower than 500m.</p>
response	<p>Not accepted</p> <p>The objective is to ensure consistency across all operations in the European regulatory framework (e.g. Aerodromes Regulation).</p>
comment	<p>639 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (a) &amp; (b) Considering all previous comments, FNAM wonders why direct references to LVO and LVTO are not presented in this proposed requirement. Since LVO and LVTO should have been properly defined in Annex I, references would be enough and easy to understand. Therefore, in order to reduce any unnecessary complexity to this regulation, FNAM suggests to refer to LVO and LVTO in (a) and (b).</p>
response	<p>Partially accepted</p> <p>A consistency check has been performed to make sure that the term ‘LVO conditions’ is used throughout the regulation instead of numbers.</p>
comment	<p>640 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – General comment The subpart E is currently dedicated to LVO operations. It is confusing to add operations with operational credits requirements in this subpart. Indeed, since requirement names are SPA.LVO and since operations with operational credits have different requirements and conditions and cannot be associated with LVO operations, FNAM suggests to separate these two concepts in the future regulation.</p>
response	<p>Not accepted</p>
comment	<p>830 comment by: <i>GSA</i></p> <p>Further clarifications should be included in NPA 2018-06 (B) for EFVS 100 and EFVS touchdown operations.</p>

	<p>Regarding operations with operational credits, EFVS operations are detailed. In this sense, EFVS-A and EFVS-L systems are properly defined in NPA 2018-06 (B) and NPA 2018-06 (C). Indeed, it is wide clarified the certification process of these types of systems in NPA 2018-06 (B), regarding the airworthiness approval.</p> <p>However there are no concrete provisions related to the operation to “touchdown” and for “EFVS 100 operations” in NPA 2018-06 (C), related to EFVS-A and EFVS-L systems.</p>
response	<p>Not accepted</p> <p>The provisions in NPA 2018-06(C) are applicable to EFVS operations using both EFVS-L and EFVS-A. AMC7 SPA.LVO.105(c) (f) allows that an approach may be continued to touchdown, or to the height specified in the AFM, if an EFVS-L is used.</p> <p>The term ‘EFVS 100’ is not used in the NPA.</p>

AMC1 SPA.LVO.100 Low visibility operations	p. 103
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comment	<p>863                      comment by: Lufthansa Cargo</p> <p>NPA text Table 1.A: LVTO – aeroplanes: RVR vs facilities.</p> <p>Requested change Simplify by merging line 3 &amp; 4</p> <p>Justification The necessity to subdivide &lt;150m and &lt;125m is barely comprehensive.</p>
response	<p>Not accepted</p> <p>The subdivision is required because LVTO &lt; 150 m requires 15 m runway centreline spacing.</p>

AMC6 SPA.LVO.100 Low visibility operations	p. 104
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comment	<p>279                      comment by: EUROCONTROL</p> <p>p.104 - after AMC6 SPA.LVO.100</p> <p>Missing deletion of AMC7 SPA.LVO.100 as explained in guidance.</p>
response	<p>Accepted</p>



The text has been updated to include the deletion of AMC7 SPA.LVO.100 as proposed.

GM1 SPA.LVO.100 Low-visibility operations and operations with operational credits p. 104

comment	280 comment by: <i>EUROCONTROL</i> p.104 - GM1 SPA.LVO.100 (j) ICAO EUR DOC 013 is renamed starting with Ed.4: "EUROPEAN GUIDANCE MATERIAL ON ALL WEATHER OPERATIONS AT AERODROMES"  Update.
response	Accepted  The title of ICAO EUR DOC 013 has been corrected, as proposed.

comment	450 comment by: <i>EUROCONTROL</i> GM2 SPA.LVO.100 and new GM1 SPA.LVO.110  GM2 SPA.LVO.100 and new GM1 SPA.LVO.110  ILS classification  A GLS classification system exists as well in Annex 10 Amendment 91 it should be referenced in a new GM3 SPA.LVO.100 with title "GBAS classification" and text "The GBAS classification system is specified in ICAO Annex 10."
response	Partially accepted  GM1 SPA.LVO.110 has been updated to include the reference to the classification of GBAS.

AMC1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits p. 105-106

comment	65 comment by: British Airways Flight Operations  The inclusion of the new information in sub-para c is, once more, very helpful in helping the flight crew to identify exactly which parts of the runway are relevant to the takeoff operation
response	Noted
comment	186 comment by: <i>UK CAA</i>



Page No: 105

**Paragraph No:** AMC1 SPA.LVO.100(a) paragraph (a)(1), Table 1.A

**Comment:** The ‘required facilities’ in Table 1.A have not been transposed from the current requirements in AMC1 SPA.LVO.100 and are significantly less restrictive.

**Justification:** Alignment with current requirements

**Proposed Text:** Replace table 1.A with the following:

MINIMUM RVR	RUNWAY FACILITIES
300 m (Day)	Centre line markings; <b>and</b> Runway edge lights.
300 m (Night)	Centre line markings; and Runway end lights; and Runway edge lights or centre line lights.
150 m	Centre line markings; and Runway end lights; and Runway edge lights; and Runway centre line lights.
125 m	Centre line markings; and Runway end lights; and Runway edge lights (spaced 60m or less); and Runway centre line lights (spaced 15 m or less).

response Accepted

The table has been updated as proposed.

comment

369

comment by: J.Woehrlin/DLH

AMC1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits

NPA text

Table 1.A: LVTO – aeroplanes: RVR vs facilities.

Requested change

Retain the table format from currently valid regulation (i.e. list all required facilities per RVR, iso using ‘Additionally’).

Justification

Table 1A is ambiguous.



response	<p>Partially accepted</p> <p>The table has been amended to remove ‘additionally’ and to match the requirements of the current table.</p>
comment	<p>370                      comment by: J.Woehrlin/DLH</p> <p>AMC1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits</p> <p>NPA text Table 1.A: LVTO – aeroplanes: RVR vs facilities.</p> <p>Requested change Simplify by merging line 3 &amp; 4</p> <p>Justification The necessity to subdivide &lt;150m and &lt;125m is barely comprehensive.</p>
response	<p>Not accepted</p> <p>The subdivision is required because LVTO &lt; 150 m requires 15 m runway centreline spacing.</p>
comment	<p>402                      comment by: DGAC France</p> <p>Page 105 AMC1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits LVTO OPERATIONS — AEROPLANES IN AN RVR OF LESS THAN 400 M BUT NOT LESS THAN 125 M Table 1.A: LVTO — aeroplanes: RVR vs facilities</p> <p>Comment: In the table: “additionally” can be confusing. In particular from the line 2 (where there is a “or” condition) to the line 3 (where the additional criteria was figuring in the previous criteria). For instance: on runway equipped with Runway centreline markings and Runway centreline lights, can we get directly the RVR ‘not less than 150’ benefit ? Or should we have Runway centreline markings and Runway centreline lights and Runway edge light Suggestion: It would be preferable to write the expected lightning configuration in each line rather than making the configuration dependant from the previous one.</p>
response	<p>Accepted</p> <p>The table has been amended to remove ‘additionally’ and to match the requirements of the current table.</p>



comment	<p>482      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text Table 1.A: LVTO – aeroplanes: RVR vs facilities.</p> <p>Requested change SWISS requests EASA to retain the table format from currently valid regulation (i.e. list all required facilities per RVR, iso using ‘Additionally’).</p> <p>Justification Table 1A is ambiguous.</p>
response	<p>Partially accepted</p> <p>The table has been amended to remove ‘additionally’ and to match the requirements of the current table.</p>
comment	<p>524      comment by: Austrian Airlines</p> <p>AMC1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits</p> <p>NPA text Table 1.A: LVTO – aeroplanes: RVR vs facilities.</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to retain the table format from currently valid regulation (i.e. list all required facilities per RVR, iso using ‘Additionally’).</p> <p>Justification Table 1A is ambiguous.</p>
response	<p>Partially accepted</p> <p>The table has been amended to remove ‘additionally’ and to match the requirements of the current table.</p>
comment	<p>641      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL - all This disposal proposes requirements for LVTO operations. Details are providing for multi-engine aeroplane operations, in particular for RVR depending on aerodrome required facilities. FNAM thanks for these precisions but wonders why no details are provided for single engine aeroplane operations in Subpart LVO nor in Subpart SET-IMC of this regulation. For ensuring flight safety and requirement harmonization, disposals should also be proposed for single-engine aeroplane operations.</p>
response	<p>Not accepted</p>

The NPA was not intended to propose additional alleviations for LVTO aerodrome operating minima for SET-IMC operations. A scheme enabling significantly lower take-off minima for approved SET-IMC operations is already in place according to point (c)(3) of AMC1 CAT.OP.MPA.110.

LVTO aerodrome operating minima (AMC1 CAT.OP.MPA.110, Table 2A) for performance class B airplanes will usually require a minimum RVR/VIS of 1 500 m if, in the event of a critical engine failure, a positive take-off flight path may not be constructed. The visibility requirement is to allow for adequate visibility to circumnavigate obstacles and proceed or return to an adequate landing site.

For approved SET-IMC operations, the minimum required RVR/VIS may usually be as low as 800 m without further prerequisites under the conditions of AMC1 CAT.OP.MPA.110. If the operator makes use of the risk period and the surface in front of the runway does allow for a safe forced landing, aerodrome operating minima as low as those applicable to performance class A aircraft may become available (AMC1 CAT.OP.MPA.110, Table 1A) allowing minimum RVR/VIS possibly as low as 400 m.

Consequently, the AOM for SET (performance class B) may be reduced from RVR/VIS 1 500 m to as low as 400 m (given that the specific requirements are met), for approved SET-IMC operations.

comment

642

comment by: *FNAM*

ISSUE AND PROPOSAL - Title

FNAM agrees with EASA that take-off operations with visibility less than 400m RVR should be conducted with a specific approval. Nevertheless, this requirement is non-consistent with the proposed LVTO definition in Annex I which limits the RVR at 550m. Thus, in order to reduce unnecessary complexity in this regulation, FNAM suggests to harmonize LVTO definition and description in the whole proposal and to modify Annex I LVTO definition with an RVR limitation at 400m.

response

Not accepted

Consistency with the Aerodrome Regulation.

comment

643

comment by: *FNAM*

ISSUE AND PROPOSAL – Table 1.A ‘Additionally’

Table 1.A is difficult to understand. Indeed, requirements for each RVRs seem to rely on previous cellule requirements due to the mention: ‘Additionally’. Nevertheless, there are non-consistencies by using the term ‘additionally’: for example, for RVR not less than 150m, required facilities are runway centerline lights ‘additionally’ to previous cellule requirements. This previous cellule requires runway edge light and/or again runway centerline lights. It is therefore confusing and FNAM fears to not understand properly the proposed requirements. Thus, FNAM suggests to detail all requirements for each RVR limitation in order to ensure the proper understanding of EASA requirements. Nevertheless, this Table 1.A LVTO



response	– aeroplanes: RVR vs facilities is more understandable than the previous one and FNAM thanks EASA for it.
	Accepted  The table has been amended to remove ‘additionally’ and to match the requirements of the current table.

comment	644 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL – (c) This proposed requirement transposes current requirements. Nevertheless, some change imposes a different scope for this requirement. Indeed, in the current regulation the RVR value between 120m and 150m is applicable for all reporting points although, in the proposed regulation, it is now applicable for all RVR values. This proposed measure is therefore more restrictive than the current one. Plus, this measure would be applicable for all operators willing to perform LVTO operations. This is against this NPA main objective which is to introduce new possibilities on a voluntary basis without impacting all operators. Thus, FNAM suggests to remove the change and transpose the exact same requirement than the current one.
response	Accepted

comment	708 comment by: Dassault-Aviation  Text: Table 1A  Comment: in the table 1A, it is mentioned in second line that if there are runway centreline lights, "RVR not less 300" by night but in the third line, it is explained that it is possible do it (by Day and Night) when "RVR Not less 150". The table may be misleading. Should be improved and more explicit (RCLM at night should be tagged as not allowed and 400m should be mentioned for RCLM and CL in day conditions). Moreover, "not less than" should be improved. see proposal.  Proposed change:																	
	<table border="0"> <thead> <tr> <th rowspan="2">Facilities</th> <th colspan="2">lowest allowed RVR</th> </tr> <tr> <th>day</th> <th>night</th> </tr> </thead> <tbody> <tr> <td>RCLM</td> <td>300m</td> <td>Not Allowed</td> </tr> <tr> <td>RCLM &amp; RL</td> <td>400m</td> <td>300m</td> </tr> <tr> <td>RCLM &amp; CL</td> <td>150m</td> <td>150m</td> </tr> <tr> <td>RCLM &amp; CL &lt;15m &amp; RL&lt;60m</td> <td>125m</td> <td>125m</td> </tr> </tbody> </table>	Facilities	lowest allowed RVR		day	night	RCLM	300m	Not Allowed	RCLM & RL	400m	300m	RCLM & CL	150m	150m	RCLM & CL <15m & RL<60m	125m	125m
Facilities	lowest allowed RVR																	
	day	night																
RCLM	300m	Not Allowed																
RCLM & RL	400m	300m																
RCLM & CL	150m	150m																
RCLM & CL <15m & RL<60m	125m	125m																
response	Partially accepted																	



The table has been amended to remove 'additionally' and to match the requirements of the current table. The proposed reference to 400 m RVR has not been included because this is not relevant to Part-SPA (approval not required).

comment

834

comment by: *Germanwings*

AMC1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits

NPA text

Table 1.A: LVTO – aeroplanes: RVR vs facilities.

Requested change

Retain the table format from currently valid regulation (i.e. list all required facilities per RVR, iso using 'Additionally').

Justification

Table 1A is ambiguous.

response

Partially accepted

The table has been amended to remove 'additionally' and to match the requirements of the current table.

comment

835

comment by: *Germanwings*

AMC1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits

NPA text

Table 1.A: LVTO – aeroplanes: RVR vs facilities.

Requested change

Simplify by merging line 3 & 4.

Justification

The necessity to subdivide <150m and <125m is barely comprehensive.

response

Not accepted

The subdivision is required because LVTO < 150 m requires 15 m centreline light spacing.

comment

864

comment by: *Lufthansa Cargo*

NPA text

Table 1.A: LVTO – aeroplanes: RVR vs facilities.

Requested change



	<p>Simplify by merging line 3 &amp; 4</p> <p>Justification The necessity to subdivide &lt;150m and &lt;125m is barely comprehensive.</p>
response	<p>Not accepted</p> <p>The subdivision is required because LVTO &lt; 150 m requires 15 m centreline light spacing.</p>
comment	<p>890                      comment by: Lufthansa Cargo</p> <p>NPA text Table 1.A: LVTO – aeroplanes: RVR vs facilities.</p> <p>Requested change Lufthansa Cargo requests EASA to retain the table format from currently valid regulation (i.e. list all required facilities per RVR, iso using ‘Additionally’).</p> <p>Justification Table 1A is ambiguous.</p>
response	<p>Partially accepted</p> <p>The table has been amended to remove ‘additionally’ and to match the requirements of the current table.</p>

AMC2 SPA.LVO.100(a) Low-visibility operations and operations with operational credits    p. 106
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comment	<p>454                      comment by: <i>EUROCONTROL</i></p> <p>AMC2 SPA.LVO.110</p> <p>ILS specific please consider other Low visibility guidance capability such as GBAS.</p>
response	<p>Noted</p> <p>The review group has performed a full revision of the draft regulatory text in order to make sure that GBAS rules are comprehensive and are incorporated in the draft opinion.</p>
comment	<p>645                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (a) FNAM agrees with EASA that LVTO should be conducted with a specific approval. Nevertheless, this requirement is non-consistent with proposed LVTO definition in Annex I which limits the RVR at 550m only. Thus, in order to reduce unnecessary</p>



	complexity in this regulation, FNAM suggests to harmonize LVTO definition by keeping current LVTO definition, which is furthermore consistent with ICAO definition. Indeed, it is confusing to have several different definitions in the whole regulation.
response	Not accepted  Consistency with the Aerodrome Regulation.

AMC2 SPA.LVO.100(a) Low-visibility operations and operations with operational credits	p. 106
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comment	10      comment by: Civil Aviation Authority Czech Republic  page 106, Table 3: CAT II operation minima: RVR (m) vs DH (ft), and page 111, Table 7: SA CAT II operation minima: RVR (m) vs DH (ft)  There are no supporting meteorological measurements for DH of 120, 140, 160 (ft) (ref- ICAO Annex 3, Appendix 3, Par. 4.5.4.2).The closest values of cloud base reported are 100, 150, or 200 (ft) only.
response	Noted  The measurement of cloud ceiling is not relevant to the determination of decision height.
comment	646      comment by: FNAM  AGREEMENT FNAM thanks for removing visual aids that should be available to operate in CAT II. This allows more flexibilities
response	Noted  The visual aids required for CAT II operations are not changed in the proposed regulation. These now appear in AMC3 SPA.LVO.110.

AMC2 SPA.LVO.100(b) Low-visibility operations and operations with operational credits	p. 106-107
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comment	405      comment by: DGAC France  Page 106 AMC1 SPA.LVO.100(b) Low-visibility operations and operations with operational credits CAT II OPERATIONS  Comment:
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response	<p>For CAT II operations, in the condition to establish DH, it is specified “the minimum <b>DH for CAT II</b> specified in the AFM, if stated”; whereas for the other operations (CAT III page 106, SA CAT I page 109, SA CAT II page 110) it is only mentioned "the minimum DH specified in the AFM, if stated".</p> <p>Suggestion : align AMC1 SPA.LVO.100(b) with the others and suppress “for CAT II” in “the minimum DH for CAT II”</p> <p>Accepted</p> <p>The text has been updated as proposed.</p>
comment	<p>647 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>FNAM thanks EASA for allowing more flexibilities in terms of RVR. Indeed, for DH between 50ft and 99ft, the RVR is allowed to be 175m although it is 200m in the current regulation. Nevertheless, the possibility to perform operation with DH between 50ft and 99ft with RVR not less than 150m is removed from the proposed disposal. The justification provided is not acceptable.</p> <p>Indeed, EASA explains that some existing requirements are not transposed in these proposed disposals but that they could be applicable thanks to AltMoc. Thus, FNAM wonders why these kinds of requirements are not transposed since EASA already informally agrees to authorize them <i>via</i> AltMoc.</p> <p>If such a disposal is not transposed, FNAM fears that operators would have to ask for an AltMoc to their Member States. This may have administrative and economic impacts on operators although this disposal is already tacitly or previously accepted by the European Regulation.</p> <p>If the previous disposal cannot be transposed because it is not the same philosophy than the new proposed disposal, FNAM proposes to create 2 different options in 2 separate AMC or GM to apply one IR requirement. In that way, both solutions could be applied without asking for an AltMoc and add administrative burden.</p> <p>Plus, since one of the main objective of this NPA is to introduce new possibilities on a voluntary basis without impacting all operators, the current requirement (IR, AMC and GM) should remain intact.</p>
response	<p>Accepted</p> <p>The comment has led to an assessment of possible CAT III minima as proposed in the NPA through AMC2 SPA.LVO.100(b) Table 4. It has been identified that the use of specific landing or rollout system combination had not been adequately reflected in the CAT III minima table.</p> <p>It is proposed to introduce a more performance-based approach to establishing CAT III operating minima. Table 4 is proposed to be amended.</p> <p>The AFM would need to state lower RVR if demonstrated during the certification process.</p> <p>A lower RVR may now be applied, if the AFM contains an RVR statement avoiding – in this case – the need to approve the minimum by way of an AltMoC procedure.</p>



Nonetheless, the operator may still choose an AltMoC procedure, if the AFM might not contain an applicable statement.

AMC7 AMC3SPA.LVO.100(b) Low-visibility operations and operations with operational credits p. 107-109

comment	<p>18 comment by: DFS Deutsche Flugsicherung GmbH</p> <p>According to AMC3 SPA.LVO.100(b) Table 5: in case of failure of ILS standby transmitter, an approach according to CAT II or CAT III with DH <math>\geq</math> 50 ft may still be flown.</p> <p>In case SA operations is supported by an airport/Member State, these new provisions would require an alternative indication to the ATCO for the related information to the pilot. If such info is given at a point in time when the OM is already passed, this also may be disruptive for the approach and landing phase. In some cases, a go-around might be a better alternative.</p> <p>We want to highlight that these provisions will have effect on ANS-provision. Investments in new systems are required and local procedures may be changed or additionally established. We ask EASA to take note of this.</p>
response	<p>Noted</p> <p>The NPA does not propose any change to the operating minima in the event of a failed or downgraded ILS/MLS standby transmitter.</p>
comment	<p>19 comment by: DFS Deutsche Flugsicherung GmbH</p> <p>Table 5 RVR</p> <p>When the RVR assessment systems fail and the condition is CAT III without DH, there needs to be at least one RVR value available <b>on the aerodrome</b> - according to table 5.</p> <p>This implies that at aerodromes with more than one runway, <u>a</u> RVR value must be available.</p> <p>Imagine this at large airports CDG, MUC, LHR ... this may be risky.</p> <p>For more clarity we suggest to change the wording of the field to the right of "RVR assessment systems" into:          "At least one RVR value to be available on the <del>aerodrome</del> <b>runway intended to use</b>"</p>
response	<p>Not accepted</p> <p>The text to which the commentator refers is unchanged from that currently included in Table 7, AMC7 SPA.LVO.100 Low-visibility operations. The philosophy behind the requirement is that, for a Cat III operation without DH, there is no requirement for the flight crew to see any visual reference in order to continue the approach to a</p>



landing. Such an operation could be conducted, safely, in zero visibility. The requirement only to have one RVR reading, from somewhere on the airfield, is, rather, a measure designed to provide reassurance that the flight crew will have sufficient visual reference to taxi the aircraft clear of the runway.

comment

66 comment by: British Airways Flight Operations

The inclusion of separate entries for edge lights, threshold lights and end lights is very helpful

response

Noted

comment

312 comment by: DFS Deutsche Flugsicherung GmbH

Table 5: "Outer marker – No effect if replaced by height check at 1000 ft"

It is not clear in which distance this "height check" shall be made. ICAO describes this "height check" as "glide path verification check".

The Outer Marker position (or the corresponding DME position fix) is described in ICAO Annex 10, Vol. I, Ch. 3.1.7.3 to 3.1.7.6.4 at a typical distance of around 4 NM (corresponding to a height of 2000 ft). According to ICAO DOC 8168 PANS OPS Vol II., Part II, Section 1, Chapter 1, 1.4.4 this is necessary to support the glide path verification check.

This means that the statement in Table 5 "Outer Marker - No effect if replaced by height check at 1 000 ft" seems to be too late in the precision approach or at least not harmonized with ICAO standards and Recommended Practices. This was not the case in the former version which can be found in Commission Regulation (EC) No. 859/2008, Subpart E, Appendix 1 (New) to OPS 1.430, Table 6a: "Outer Marker - No effect if replaced by published equivalent position"

response

Noted

The European practice has always been to check at 1 000 ft.

comment

334 comment by: KLM

AMC3 SPA.LVO.100(b) Effect on CAT ii/iii landing minima of temp failed or downgraded equipment. Page 108

Comment: Acceptable. Separation on lights (edge, threshold end runway) acceptable.

response

Noted

comment

371 comment by: J.Woehrlin/DLH

AMC3 SPA.LVO.100(b) Low-visibility operations and operations with operational credits



	<p>NPA text Table 5:Failed or downgraded equipment- effect on landing minima CAT II/III operation</p> <p>Requested change Line: threshold lights row CATIII DH&gt;=50ft and row CAT II Remove “as edge lights” and fill in current requirements</p> <p>Justification The comparison “as edge lights” is not clear.</p> <p>Requested change Line: runway lights Define impact if RCLL are NOT serviceable.</p> <p>Justification not clear</p>
response	<p>Partially accepted</p> <p>In Table 5, the line for threshold lights has been updated as proposed.</p> <p>The impact of runway centreline lights not serviceable is already included in the table.</p>
comment	<p>403                      comment by: <i>DGAC France</i></p> <p>Page 107 AMC3 SPA.LVO.100(b) Low-visibility operations and operations with operational credits EFFECT ON CAT II/CAT III LANDING MINIMA OF TEMPORARILY FAILED OR DOWNGRADED EQUIPMENT (b)(4) and table 5</p> <p>Comment: Is there any condition on GBAS ground system ? Same comment for Part-CAT and Part-NCC (see specific comments pages 72 and 169)</p>
response	<p>Noted</p> <p>The review group has reviewed this AMC and provided additional information for GBAS.</p>
comment	<p>404                      comment by: <i>DGAC France</i></p> <p>Page 108 AMC3 SPA.LVO.100(b) Low-visibility operations and operations with operational credits</p>

	<p>EFFECT ON CAT II/CAT III LANDING MINIMA OF TEMPORARILY FAILED OR DOWNGRADED EQUIPMENT</p> <p>Table 5</p> <p>Comment: RVR assessments system: CAT III no DH should be harmonized with CAT III with DH and CAT II.</p>
response	<p>Not accepted</p> <p>The text to which the commentator refers is unchanged from that currently included in Table 7, AMC7 SPA.LVO.100 Low-visibility operations. The philosophy behind the requirement is that, for a Cat III operation without DH, there is no requirement for the flight crew to see any visual reference in order to continue the approach to a landing. Such an operation could be conducted, safely, in zero visibility. The requirement only to have one RVR reading, from somewhere on the airfield, is, rather, a measure designed to provide reassurance that the flight crew will have sufficient visual reference to taxi the aircraft clear of the runway.</p>
comment	<p>451                      comment by: <i>EUROCONTROL</i></p> <p>AMC3 SPA.LVO.100(b)</p> <p>Contains only ILS and MLS</p> <p>Resolution proposal: Add GLS in (b)(4) and table 5</p>
response	<p>Noted</p> <p>The review group has reviewed this AMC and provided additional information for GBAS.</p>
comment	<p>648                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (a)</p> <p>The current introduction of this AMC is removed. However, this introduction explains the scope and the condition of this AMC requirements applicability. By removing this introduction, proposed requirements are applicable for all phases of flight. For example, in current regulation, same requirements are applicable only after passing 1000ft above the aerodrome although in proposed regulation, it is applicable in all phases. These measures are therefore more restrictive than the current ones. This is against this NPA main objective which is to introduce new possibilities without providing more restrictive measures which would be applicable for all operators. Thus, FNAM suggests to keep this AMC introduction.</p>
response	<p>Not accepted</p> <p>The introduction has not been removed, it has been transposed to GM4 SPA.LVO.100(b). In the current regulation the requirements <i>are</i> applicable in all</p>



phases of flight, but it is not expected that the pilot would consult the table after passing 1 000 ft on an approach. The proposal is not more restrictive than the current AMC.

comment

649

comment by: *FNAM*

ISSUE – Table 5

Table 5 transposes current requirements of Table 7. FNAM welcomes table modifications on equipment malfunctions vs effect on operational minima for CAT II and CAT III operations.

Nevertheless, these requirements are applicable in particular for CATIIIA, CATIIIB and CATIIIC. Since these subcategories are removed from this proposed disposal, this Table differentiates these three subcategories thanks to different DH limitations.

However, this differentiation does not correspond to current definition of CATIIIA, CATIIIB and CATIIIC. The consequence is that this Table presents therefore new measures which may be more restrictive.

Plus, current AMC5 SPA.LVO.100 ensures that RVR limitation should apply first rather than DH limitation. This is not the case of Table 5 which prioritizes DH limitations.

Therefore, FNAM suggests to review the equivalency for current subcategories CATIIIA, CATIIIB and CATIIIC.

response

Not accepted

The modification from Table 7 to Table 5 simply replaces Cat III A, B and B (No DH) with III (DH  $\geq$  50ft), III (DH  $<$  50 ft) and No DH. Otherwise, except for references to runway edge, threshold and end lights, which are now each considered separately, there is no change.

The change from the text in AMC5 SPA.LVO.100 to the new AMC2 SPA.LVO.100(b), which removes the existing point (a) to which the commentator refers, is deliberate.

comment

865

comment by: *Lufthansa Cargo*

NPA text

Table 5:Failed or downgraded equipment- effect on landing minima CAT II/III operation

Requested change

Line: threshold lights row CATIII DH $\geq$ 50ft and row CAT II  
Remove “as edge lights” and fill in current requirements

Justification

The comparison “as edge lights” is not clear.

Requested change

Line: runway lights  
Define impact if RCLL are NOT serviceable.



response	Justification not clear
	Partially accepted  In Table 5, the line for threshold lights has been updated as proposed.  The impact of runway centreline lights not serviceable is already included in the table.

AMC1 SPA.LVO.100(c) Low-visibility operations and operations with operational credits	p. 109-110
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comment	43      comment by: Wideroe Flyveselskap AS  AMC1 SPA.LVO.100(c): P109  Question: Is it expected that the ILS CAT I procedure will be published with a OCA/DA of 200 ft but operated to 150 ft? Is the pilot's approach chart expected to show a DA of 150 ft?
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response	Noted  The DH used cannot be less than the OCH published for the applicable category of aeroplane. SA CAT I operations will only be conducted using a CAT I IAP that includes an OCH based on radio altimeter (see AMC1 SPA.LVO.110).
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comment	76      comment by: ERAA  SA CAT I: Is it expected that the ILS CAT I procedure will be published with a OCA/DA of 200 ft but operated to 150 ft? Is the pilot's approach chart expected to show a DA of 150 ft?
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response	Noted  The DH used cannot be less than the OCH published for the applicable category of aeroplane. SA CAT I operations will only be conducted using a CAT I IAP that includes an OCH based on radio altimeter (see AMC1 SPA.LVO.110).
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comment	281      comment by: EUROCONTROL  p. 109 - AMC1 SPA.LVO.100(c) Why are lighting requirements in GM and not in AMC?  Move to AMC the lighting requirements for SA CAT I.
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response	Noted
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	The lighting requirements for SA CAT I are in AMC3 SPA.LVO.110 (c)(5).
comment	<p>406 comment by: <i>DGAC France</i></p> <p>Pages 109-110  AMC1 SPA.LVO.100(c) Low-visibility operations and operations with operational credits  OPERATIONAL CREDIT: SPECIAL AUTHORISATION CATEGORY 1 (SA CAT I)</p> <p>Comment:  For both operations SA CAT 1 and SA CAT 2 there is no associated “Failed or downgraded equipment table”.  Suggestion: add such table based on the CAT and SPA ones.</p>
response	<p>Noted</p> <p>The review group has reviewed this AMC and provided additional information for SA CAT I and II.</p>
comment	<p>408 comment by: <i>DGAC France</i></p> <p>Pages 109-110  AMC1 SPA.LVO.100(c) Low-visibility operations and operations with operational credits  OPERATIONAL CREDIT: SPECIAL AUTHORISATION CATEGORY 1 (SA CAT I)  Table 6</p> <p>Comment:  Table 7 of AMC 2 SPA.LVO.100(c) and table 6 of AMC 1 SAP.LVO.100(c) don't have the same structure. Table 6 should also consider the cases NALS and BALS.</p>
response	<p>Accepted</p> <p>Table 6 has been amended to match Table 7.</p>
comment	<p>650 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL  In order to ensure the understanding of these proposals, FNAM suggests to define SA CAT I operations in Annex I or to add SA acronym in GM2 of Annex I.</p>
response	<p>Noted</p> <p>The review group has reviewed the draft regulatory proposal and provided additional information for GBAS.</p>
comment	<p>651 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p>



	SA CAT I is more restrictive than LTS CAT I in particular by forbidding operations in BALS and NALS conditions (see current requirements for LTS CAT I in AMC3 SPA.LVO.100). This is against the NPA main objective which is to introduce new possibilities only on a voluntary basis without impacting all operators. Thus, FNAM suggests to modify SA CAT I requirement in order to align them with LTS CAT I.
response	Noted  SA CAT I is not equivalent to LTS CAT I. Operators will not be obliged to implement SA CAT I.
comment	652 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL The subpart E is currently dedicated to LVO operations. It is confusing to add operations with operational credits requirements in this subpart. Indeed, since requirement names are SPA.LVO and since operations with operational credits have different requirements and conditions and cannot be associated with LVO operations, FNAM suggests to separate these two concepts in the future regulation. Indeed, it is the case for SA CAT I operations. SA CAT I cannot be considered as LVO operations since its limitation in terms of DH and RVR are different than the ones for LVO operations.
response	Not accepted  Annex V is applicable to both LVOs and operations with operational credits (see Article 5).

AMC2 SPA.LVO.100(c) Low-visibility operations and operations with operational credits

p. 110-111

comment	10 ❖ comment by: Civil Aviation Authority Czech Republic  page 106, Table 3: CAT II operation minima: RVR (m) vs DH (ft), and page 111, Table 7: SA CAT II operation minima: RVR (m) vs DH (ft)  There are no supporting meteorological measurements for DH of 120, 140, 160 (ft) (ref- ICAO Annex 3, Appendix 3, Par. 4.5.4.2). The closest values of cloud base reported are 100, 150, or 200 (ft) only.
response	Not accepted  The measurement of cloud ceiling is not relevant to determination of decision height.
comment	134 comment by: Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)  Proposal: Change table 6 as follows:



150 – <del>170</del> <b>160</b>	400	450	<b>500</b>
161 – <del>199</del> <b>200</b>	450	500	<b>550</b>
<del>200</del> <b>201</b> – 210	450	500	<b>550</b>
211 – 220	500	550	
221 – 230	500	600	
<del>230</del> <b>231</b> - 240	500	650	
241 – 249	550	700	

**Rationale:** It is necessary that this table is coordinated with the RVR minima for CAT I, SA CAT II and CAT II

response Accepted  
Table 6 has been amended as proposed.

comment 407 comment by: *DGAC France*  
Pages 110-111  
AMC2 SPA.LVO.100(c) Low-visibility operations and operations with operational credits  
OPERATIONAL CREDIT: SPECIAL AUTHORISATION CATEGORY 2 (SA CAT II)

Comment:  
For both operations SA CAT 1 and SA CAT 2 there is no associated “Failed or downgraded equipment table”.  
Suggestion: add such table based on the CAT and SPA ones.

response Noted.  
The review group has reviewed the regulatory proposal and provided additional information to address the comment.

comment 653 comment by: *FNAM*  
ISSUE AND PROPOSAL  
In order to ensure the understanding of these proposals, FNAM suggests to define SA CAT II operations in Annex I or to add SA acronym in GM2 of Annex I.

response Accepted

AMC3 SPA.LVO.100(c) Low-visibility operations and operations with operational credits	p. 111-112
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comment	<p>4                      comment by: <i>ATR</i></p> <p>It is mentioned in this NPA that harmonisation with FAA's rules is one of the objective. FAA mentions that RVR can be reduced down to 1000 ft with the use of EFVS. Our understanding is that 1000 ft is converted into 350 m in Table 8 compared to the advised 300 m mentioned as an acceptable operational correspondence meter/feet by ICAO. Why this not corresponding?</p>
response	<p>Noted</p> <p>Table 8 has been transposed from the existing Table 6 in AMC6 SPA.LVO.100. This table is only applied if the criteria for determination of RVR are not specified in the AFM. There is no prohibition on the use of EFVS in RVR of less than 350 m; this would depend on the capability of the particular system as described in the AFM.</p>
comment	<p>115                      comment by: <i>Dassault-Aviation</i></p> <p>Text: AMC3 SPA.LVO.100(c) Low-visibility operations and operations with operational credits OPERATIONAL CREDIT: EFVS OPERATIONS page 111</p> <p>Comment: (c) page 111 and (e) page 112 are redundant</p> <p>Proposed change: (e) to be removed</p>
response	<p>Accepted</p> <p>Point (e) has been deleted as proposed.</p>
comment	<p>146                      comment by: <i>US FAA</i></p> <p>(d) CVS. Ongoing research may inform about the potential for operation credits for SVS beyond those authorized for EFVS. Specifically excluding SVS may be shortsighted as this technology is evolving rapidly.</p>
response	<p>Noted</p> <p>SVS is defined at ICAO (and in this rule) as a system providing only improved situational awareness, but no operational credits. There are only airworthiness requirements for SVGS (in Subpart B, the only mention of SVS is in the definition of SVGS) . The introductory text in Subpart C clarifies that credit for SVGS is part of a future activity and not within the current scope:</p> <p>The new GM5 SPA.LVO.100(c) 'Combined vision systems' clarifies that, in the proposed rule set, there is no operational credit in the visual segment for CVSs other</p>



than that available for EFVSs. A CVS consisting of an EFVS and an SVS could be approved for EFVS operations if it met all the certification requirements of an EFVS. It is anticipated that, in the future, synthetic vision guidance systems (SVGS) and CVSs may be used for LVOs and other operations with operational credits. When such systems are available and certified, then operators could apply for an AltMoC to allow operations with operational credits and EASA could develop additional AMC.

comment

187 comment by: *UK CAA*

Page No: 112

**Paragraph No:** AMC3 SPA.LVO.100(c) paragraph (e)**Comment:** Paragraph (e) appears to be a repetition of paragraph AMC3 SPA.LVO.100(c) paragraph (c) . We suggest it is deleted.**Justification:** Suspected editorial error

response

Accepted

Point (e) has been deleted as proposed.

comment

282 comment by: *EUROCONTROL*

p.112 - AMC3 SPA.LVO.100 (e )

Text obsolete and incorrect - already replaced by (c)

Remove (e) item

response

Accepted

Point (e) has been deleted as proposed.

comment

409 comment by: *DGAC France*

Page 111

AMC3 SPA.LVO.100(c) Low-visibility operations and operations with operational credits

OPERATIONAL CREDIT: EFVS OPERATIONS

(c) Where the lowest RVR to be used, determined in accordance with (b), is less than 550 m, then this should be increased to 550 m unless low-visibility procedures (LVPs) are established at the aerodrome of intended landing

(e) Where the lowest RVR to be used, determined in accordance with (c), is less than 550 m, then this should be increased to 550 m unless LVPs are established at the aerodrome of intended landing.

Comments:

- The provision (c) should be placed on the chapter dedicated to aerodrome eligibility (that is AMC5 SPA.LVO.110).



response	<p>- Moreover, provision (c) is duplicated in (e). Provision (e) should be removed.</p> <p>Partially accepted</p> <p>Point (e) has been deleted as proposed.</p> <p>Point (c) is retained because it is not mandatory to have LVPs in order to conduct EFVS operations, but LVPs affect the RVR required.</p>
comment	<p>423                      comment by: Dassault-Aviation</p> <p>Text: AMC3 SPA.LVO.100(c) page 111 SUBPART E: LOW-VISIBILITY OPERATIONS (LVOs) AND LOW-VISIBILITY OPERATIONS (LVOs) WITH OPERATIONAL CREDITS Every section of part SPA entitled with "operations with operational credit" are possibly impacted.</p> <p>Comment: EFVS200 is part of EVS operations with operational credit, but is not part of the part SPA. Current text is misleading and should be changed.</p> <p>Proposed change: OPERATIONAL CREDIT: EFVS OPERATIONS <b>with visibility conditions less than 550 m RVR</b> The following provisions should apply to EFVS operations. <b>It should not apply to EFVS 200 operations</b></p>
response	<p>Noted.</p> <p>A consistency check between EFVS and EFVS 200 has been performed.</p>
comment	<p>654                      comment by: FNAM</p> <p>ISSUE AND PROPOSAL – (c) &amp; (e) The proposed disposals in (c) and (e) introduce precision on EFVS operations. First, these disposals present conditions for EFVS depending on LVP establishment. Since LVP concept is removed from Annex I and is replaced by LVO, FNAM suggests to keep the definition of LVP in Annex I. Then, the current LVP for helicopter operations is defined with and RVR lower than 500m. However, the proposed RVR for LVO operations for all type of aircraft is proposed lower than 550m. Since the proposed disposal applies for all helicopter operations, this modification would impact them. Since one of this NPA main objective is to introduce new possibilities only on a voluntary basis without impacting all operators, FNAM suggests to remove this new RVR limitation and keep the current LVO definition. Therefore, disposals (c) and (e) introduce complexity and non-consistency to the current applicable requirements. This would lead to divergent interpretation and potential wrong implementation. Fight safety and level-playing-field objectives may be impacted.</p>



response	<p>Consequently, considering previous comments, FNAM suggests to harmonize (c) and (e) with Annex I definitions and to keep current LVP RVR limitation for aeroplane and helicopter operations.</p> <p>Partially accepted</p> <p>LVPs have not been replaced by LVOs. The two terms refer to different things. A definition of LVPs has been added to GM16 to Annex I.</p>
comment	<p>655 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – Table 8</p> <p>Table 8 transposes current EVS requirements. Since one of this NPA objective is to introduce flexibility in particular for EFVS operations, FNAM wonders why current EVS requirements are the same than proposed EFVS disposals.</p> <p>Thus, FNAM suggests to alleviate requirements for EFVS operations through Table 8.</p>
response	<p>Noted</p> <p>The proposed requirement allows that the RVR required may be determined by using information published in the AFM. Table 8 will be applied only if such information is not published. If aircraft/equipment manufacturers are able to demonstrate better performance during certification of the equipment, then operators will be able to take advantage of the better performance, which is not possible under the current requirements.</p>
comment	<p>836 comment by: <i>Germanwings</i></p> <p>AMC3 SPA.LVO.100(b) Low-visibility operations and operations with operational credits</p> <p>NPA text</p> <p>Table 5: Failed or downgraded equipment- effect on landing minima CAT II/III operation</p> <p>Requested change</p> <p>Line: threshold lights row CATIII DH&gt;=50ft and row CAT II Remove “as edge lights” and fill in current requirements.</p> <p>Justification</p> <p>The comparison “as edge lights” is not clear.</p> <p><u>Requested change</u> Line: runway lights</p> <p>Define impact if RCLL are NOT serviceable.</p> <p>Justification</p> <p>Not clear.</p>

response

Partially accepted

In Table 5, the line for threshold lights has been updated as proposed.

The impact of runway centreline lights not serviceable is already included in the table.

GM1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits p. 112

comment

410

comment by: *DGAC France*

Page 112

GM1 SPA.LVO.100(a) Low-visibility operations and operations with operational credits

CLASSIFICATION OF LOW-VISIBILITY TAKE-OFF OPERATIONS

Comment:

This GM1 would be useless if the LVTO definition did not change.

response

Noted

comment

656

comment by: *FNAM*

ISSUE AND PROPOSAL

The definition of LVTO operations is really confusing.

One on hand, LVTO RVR limitation is defined in Annex I and in this GM at 550m, which would modify and provide more restrictive measures than current LVTO RVR limitation. On the other hand, this GM provides another LVTO RVR limitation at 400m which is the limit where a specific approval is required.

This differentiation is really confusing. Plus, this is against this NPA main objective which is to not introduce more restrictive measure for all operators. Since this disposal would impact all operators performing LVTO operations, FNAM suggests to simplify and to harmonize LVTO definition by keeping current LVTO definition with the same RVR limitation.

response

Noted

GM2 SPA.LVO.100(a) Low-visibility operations and operations with operational credits p. 112

comment

67

comment by: *British Airways Flight Operations*

The clarification about the intent of the 90m visual segment is very helpful

response

Noted

GM1 SPA.LVO.100(b) Low-visibility operations and operations with operational credits p. 113



comment	<p>188                      comment by: <i>UK CAA</i></p> <p>Page No: 113</p> <p><b>Paragraph No:</b> GM1 SPA.LVO.100(b)</p> <p><b>Comment:</b> ICAO has proposed the removal of definitions for Category (Cat) III A/B/C; ICAO Ref.: AN 11/1.1.33-18/80. An amendment to the text is proposed below to reflect this.</p> <p><b>Justification:</b> Alignment with ICAO</p> <p><b>Proposed Text:</b> Amend to read as follows: Differently from ICAO, the classification in the European regulations does not subdivide CAT III operations into CAT IIIA, IIIB, and IIIC. The actual minima applicable to any operation depends on the aircraft equipment and the specific LVO approval held by the air operator... The AFM for aircraft certificated for CAT III operations will state the lowest usable DH, or no DH. Some AFMs may refer to <b>the obsolete</b> ICAO classifications.</p>
response	<p>Partially accepted</p> <p>The reference to ICAO classifications has been amended to refer to 'obsolete' ICAO definitions. Whilst the ICAO State Letter process does indeed propose the removal of the sub-categories of Cat III, those categories will not in fact be formally obsolete until Annex 6 is formally amended. Therefore, it may be the case that the EU regulatory material is published and enters into force before the changes to Annex 6 are enacted.</p>
comment	<p>283                      comment by: <i>EUROCONTROL</i></p> <p>p. 113 - GM1 SPA.LVO.100(b) This GM concerns Low Visibility and operations with operational credits. They are all to be conducted as 3D operations. Reference to 2D operations is confusing.</p> <p>Ensure that GM text is fully aligned with Low Visibility and operational credit operations requirements.</p>
response	<p>Accepted</p> <p>The description of Type A, Type B. etc. has been deleted because it duplicates information in Annex I and is not relevant to LVOs.</p>
comment	<p>284                      comment by: <i>EUROCONTROL</i></p> <p>p. 113 - GM1 SPA.LVO.100(b) "differently from ICAO". ICAO provisions may change on this aspect. Having this in the GM may lead to future changes. Such information could be limited to part A of the NPA.</p>

response	<p>Remove that paragraph.</p> <p>Partially accepted</p> <p>The reference to ICAO classifications has been amended to refer to obsolete ICAO classifications. See the response to UK CAA comment number 188.</p>
comment	<p>285                      comment by: <i>EUROCONTROL</i></p> <p>p. 113 - GM1 SPA.LVO.100(b) Table 9 Table 9 concerns 3D operations only as dealing with operational credit operations.</p> <p>Please clarify in the title of Table 9 that this concerns only 3D operations (although this can be a 2D operation flown with CDFA).</p>
response	<p>Not accepted</p> <p>The table is applicable to both 2D and 3D operations. See ICAO Annex 6 Vol I 4.2.8.3.</p>
comment	<p>313                      comment by: <i>DFS Deutsche Flugsicherung GmbH</i></p> <p>„Differently from ICAO, the classification in the European regulations does not subdivide CAT III operations into CAT IIIA, IIIB, and IIIC.“</p> <p>check the statement against: “COMMISSION REGULATION (EU) 2018/401 of 14 March 2018 amending Regulation (EU) No 139/2014 as regards the classification of runways” just included CAT IIIA to CAT IIIC into Regulation (EU) No 139/2014, e.g. new definition (47b).</p>
response	<p>Noted</p>
comment	<p>335                      comment by: <i>KLM</i></p> <p>GM1 SPA.LVO.100 (b) Low vis operations and operations with operational credits. Pge 113 Comment: Preference is not to deviate from ICAO classification.</p>
response	<p>Not accepted</p> <p>ICAO has already signalled its intention to remove the subcategorisation of CAT II by means of a State letter. The proposal will ensure that European rules remain aligned with ICAO standards.</p>
comment	<p>946                      comment by: <i>THALES</i></p> <p>Classification of standard approach operations. None of this categories seems to fit for LPV 200.</p> <p>Thales proposal:</p>

response	To indicate in which category LPV 200 has to be classified
	Noted LPV 200 is a Type B CAT I operation.

GM2 SPA.LVO.100(b) Low-visibility operations and operations with operational credits p. 113-114
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comment	<p>135 comment by: Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</p> <p><b>Proposal:</b> The list of lowest usable DH should be changed to read:</p> <p>A lowest usable DH of:</p> <ul style="list-style-type: none"> <li>• Less than 100 ft <b>but not less than 50 ft</b></li> <li>• Less than 50 ft.</li> </ul> <p><b>Rationale:</b> As in CS AWO.B.CATIII.101</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>

comment	<p>286 comment by: EUROCONTROL</p> <p>p. 114 - GM2 SPA.LVO.100(b) "Certification specifications (CS-AWO) allow for ... for SA CAT I, CAT II...."</p> <p>Clarify that CS AWO CAT II criteria cover the SA CAT II operations.</p>
response	<p>Noted</p> <p>For SA CAT II, the aircraft should be certified for CAT II operations and HUDLS or fail-passive autoland or better. For more information, see AMC1 SPA.LVO.105(a).</p>

comment	<p>411 comment by: DGAC France</p> <p>Page 113 GM2 SPA.LVO.100(b) Low-visibility operations and operations with operational credits EQUIPMENT CERTIFICATION FOR LOW-VISIBILITY APPROACH OPERATIONS</p>
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	<p>"Certification specifications (CS-AWO) allow for systems to be certificated for SA CAT I, CAT II or CAT III operations."</p> <p>Comment: SA CAT II and EFVS should be added in this GM.</p>
response	<p>Partially accepted</p> <p>The title has been amended to 'EQUIPMENT CERTIFICATION FOR LOW-VISIBILITY APPROACH OPERATIONS OTHER THAN EFVS'. Equipment for EFVS is discussed in GM4 SPA.LVO.100(c).</p> <p>There will be no specific equipment certification for SA CAT II. For SA CAT II, the aircraft should be certified for CAT II operations and HUDLS or fail-passive autoland or better. For more information, see AMC1 SPA.LVO.105(a).</p>
comment	<p>432                      comment by: <i>THALES</i></p> <p>The text contains the following sentence : 'Operations to a DH of less than 50 ft will require a fail-passive landing system,.....'</p> <p>This requirement for fail-passive landing system for DH of less than 50ft is not in accordance with NPA (B) for CS-AWO which is requiring in CS AWO.B.CATIII.113 p53 which is requiring a fail-operational landing system for DH below 50ft.</p> <p>Thales proposal:</p> <p>To harmonize the two regulations (CS-AWO and Air ops) for the DH of less than 50ft by requiring a fail-operational landing system. Thus to modify GM2 SPA.LVO.100(b).</p>
response	<p>Accepted</p> <p>GM2 SPA.LVO.100(b) has been amended to align with CS-AWO.</p>
comment	<p>658                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>FNAM thanks EASA for insisting on the purely informative nature of GM. Nevertheless, since the content of this GM is only CS-AWO regulation transposition, the propose guidance is not necessary and add complexity to this regulation. Indeed, European regulation should be considered as a whole and not separately. Plus, this guidance refers to CAT3A and CAT3B but their transposed definitions are not similar to current CATIIIA and CATIIIB definitions.</p> <p>Before operating, all operators make sure they comply with all European Regulations. It is therefore not necessary to repeat requirements from CS-AWO in this regulation.</p>
response	<p>Not accepted</p>

The GM is purely informative and is aimed at aircraft operators that may not be familiar with CS-AWO which is aimed at aircraft designers.

**GM4 SPA.LVO.100(b) Low-visibility operations and operations with operational credits p. 115**

comment	659 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL – Linked to AMC3 SPA.LVO.100(b) Current introduction of AMC3 SPA.LVO.100(b) is removed. However, this introduction explains the scope and the condition of this AMC requirements applicability. By removing this introduction, proposed requirements are applicable for all phases of flight. For example, in the current regulation, the same requirements are applicable only after passing 1000ft above the aerodrome although in the proposed regulation, it is applicable in all phases. These measures are therefore more restrictive than current ones. This is against this NPA main objective which is to introduce new possibilities without providing more restrictive measures which would be applicable for all operators. Thus, FNAM suggests to keep this AMC introduction.
response	Not accepted  The introduction is not removed, it has been transposed to GM4 SPA.LVO.100(b). In the current regulation the requirements <i>are</i> applicable in all phases of flight, but it is not expected that the pilot would consult the table after passing 1 000 ft on an approach. The proposal is not more restrictive than the current AMC.

**GM1 SPA.LVO.100(c) Low-visibility operationsand operations with operational credits p. 115**

comment	68 comment by: British Airways Flight Operations  The guidance provided in this paragraph is very helpful
response	Noted

**GM2 SPA.LVO.100(c) Low-visibility operationsand operations with operational credits p. 115**

comment	287 comment by: <i>EUROCONTROL</i>  p. 115 - GM2 SPA.LVO.100(c) "SA CAT I is not a separate approach classification, it is an operational credit applied to a CAT I operation"  There may be a disconnect between description of SA CAT I as a CAT Operation and the need for specific approval - discuss in context.
response	Noted



All operations with operational credits require a specific approval. See the proposed Article 5.

comment

412 comment by: *DGAC France*

Page 115

GM2 SPA.LVO.100(c) Low-visibility operations and operations with operational credits

## SPECIAL AUTHORISATION CATEGORY 1 (SA CAT I) OPERATIONS

Comment:

Regarding the activity to do at the aerodrome level and ANSP level to make a CAT 1 be a SA CAT 1 (cf. CS-ADR + dedicated OCH based on radio altimeter, dedicated missed approach procedure), it will certainly require a new publication. As a consequence from an OPS point of view a SA CAT 1 is closer to a new category of approach (between CAT 1 and CAT2) than an "operational credit" operation. EFVS is a real operational credit compared to SA CAT 1. Trying to fit SA CAT 1 in the same "category" than EFVS operations may be confusing for the operators since the impact on ground is not the same.

Without definition of SA CAT I, it is difficult to understand at the aerodrome level whether it needs a dedicated publication. Once again taken into account the SA CAT 1 requirements it seems obvious to publish such approach procedure.

response

Not accepted

SA CAT I is an operational credit that extends to the instrument approach segment of a CAT II approach (see GM2 SPA.LVO.100(c)). Requirements for the ANSP and aerodrome operator are not included in the Air OPS Regulation. The operator will ensure that an IAP is suitable for SA CAT I operations in accordance with AMC1 SPA.LVO.110 (This provision includes an OCH based on radio altimeter.).

GM3 SPA.LVO.100(c) Low-visibility operations and operations with operational credits p. 116

comment

288 comment by: *EUROCONTROL*

p. 116 - GM3 SPA.LVO.100 ( c )

SA CAT II ... suitably certified system : as there is no SA CAT II certification criteria , " certified system" needs clarification.

Please clarify that the system is to be CAT II + HUDLS or fail passive autoland certified (see AMCS1 SPA.LVO.105(a)).

response

Accepted

The GM has been updated to mention that a 'suitably certified HUDLS or autoland system' is required.



comment	<p>289 comment by: <i>EUROCONTROL</i></p> <p>p. 116 - GM3 SPA.LVO.100 ( c )</p> <p>It should be clarified that this is a CAT II operation.</p>
response	<p>Accepted</p> <p>A sentence has been added to clarify that SA CAT II is not a separate approach classification.</p>

GM4 SPA.LVO.100(c) Low-visibility operations and operations with operational credits p. 116-119
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comment	<p>5 comment by: <i>ATR</i></p> <p>Are approaches without vertical guidance not compatible with EFVS operations ? A doubt remains as NPA procedures are mentioned. According to ICAO approach classification , NPA includes conventional approaches without vertical guidance such as VOR/DME/NDB.</p> <p>Furthermore FAA 91.176 rule permits the use of EFVS on approaches without vertical guidance (Chapter (b) "EFVS operations to 100 feet above the touchdown zone elevation" as MDA are declared).</p> <p>Could we obtain a clear table declaring which concepts (EFVS 200 operations - EFVS-A - EFVS-L) are compatible with which kind of approaches ?</p>
response	<p>Noted</p> <p>See GM4 SPA.LVO.100(c).</p> <p>EFVS operations may be used for 3D approach operations. This may include operations based on non-precision approach (NPA) procedures, approach procedures with vertical guidance and PA procedures including approach operations requiring specific approvals, provided that the operator holds the necessary approvals.</p> <p>An NPA procedure flown using vertical guidance from computer-generated navigation data from ground-based, space-based, self-contained navigation aids, or a combination of them, may be considered a 3D instrument approach operation, so EFVS may be used for NPA procedures provided that vertical guidance is available to the pilot.</p>
comment	<p>53 comment by: <i>Volkswagen AirService GmbH</i></p> <p>Clarify and confirm, that approach procedures designed according to PANS-OPS ensure that the approach can be used for EFVS operations as obstacle clearance in the visual segment is ensured.</p>
response	<p>Noted</p>



See GM4 SPA.LVO.100(c) (h): 'Approach procedures designed in accordance with PANS-OPS criteria will ensure that the visual segment is protected for obstacles.'

comment

86

comment by: AIRBUS

GM4 SPA.LVO.100(c) Equipment for EFVS operations:

Paragraph (c) requires a certified EFVS and additional requirements that are already required by certification or by the definition section. This seems redundant.

To avoid duplicate requirements, Airbus suggests removing the following items that are required by certification:

c) Equipment for EFVS operations

(1) In order to conduct EFVS operations, a certified EFVS is used. An EFVS is an enhanced vision system (EVS) that also incorporates a flight guidance system and displays the image on a HUD or an equivalent display. The flight guidance system will incorporate aircraft flight information and flight symbology.

(2) For operations for which a minimum flight crew of more than one pilot is required, the aircraft will also be equipped with a head-down view of the EVS image or another means of easily displaying EFVS-derived information to the pilot monitoring the progress of the approach.

(3) Legacy systems may be certificated as 'EVS with an operational credit'. Such a system may be considered an EFVS used for approach (EFVS-A). *Such systems if operated a minimum flight crew of more than one pilot, the aircraft should be equipped with a head-down view of the EVS image-or another means of easily displaying EFVS-derived information to the pilot monitoring the progress of the approach*

(4) Aircraft holding a type certificate issued by a third country may be certificated for operations equivalent to EFVS operations. Specific approval for an operational credit for EFVS operations will be available only if the operator can demonstrate that the equipment meets all the requirements for certification in accordance with CS-AWO.

(5) For approaches for which natural visual reference is not required prior to touchdown, the EFVS (EFVS used for landing (EFVS-L)) will additionally display:

- (i) flare prompt or flare guidance information; and
- (ii) height AGL.

response

Not accepted

GM4 SPA.LVO.100(c) is guidance material. It does not introduce any requirement. The purpose of the GM is to explain the items that are required by certification specifications because pilots and aircraft operators are unlikely to refer to certification specifications. There are no 'duplicate requirements'.

comment

87

comment by: AIRBUS



In "GM4 SPA.LVO.100(c) Low-visibility operations and operations with operational credits EFVS OPERATIONS (j)", the use of EFVS to touchdown includes the following statement:

*"In order for the use of EFVS to touchdown to be approved, the EFVS will provide flare cueing and guidance (EFVS-L). This mitigates the fact that a 2D image and a narrow FOV displayed by the EFVS may cause erroneous perceptions of depth or height. The EFVS will also display height above the runway by the use of a radio altimeter or other device capable of providing equivalent performance. Unless the operator has verified that the terrain ahead of the threshold is suitable for the use of a radio altimeter, such a system should not be relied upon to provide accurate information about the height of the aircraft above the runway threshold until the aircraft is over the runway surface."*

Flare guidance may also be affected by landing area slope. In addition AMC AWO.A.EFVS.103 EFVS wording used is Flare cue (The flare cue, whether a flare prompt or flare guidance). Airbus suggests the following modification:

*"In order for the use of EFVS to touchdown to be approved, the EFVS will provide flare cueing ~~and guidance~~ (EFVS-L). This mitigates the fact that a 2D image and a narrow FOV displayed by the EFVS may cause erroneous perceptions of depth or height. The EFVS will also display height above the runway by the use of a radio altimeter or other device capable of providing equivalent performance. Unless the operator has verified that the terrain ahead of the threshold **and landing area slope** is suitable for the use of a radio altimeter, such a system should not be relied upon to provide accurate information about the height of the aircraft above the runway threshold until the aircraft is over the runway surface."*

response

Partially accepted

The reference to 'flare guidance' has been amended to 'flare prompt or flare guidance and the proposal for 'landing area slope' has been included.

comment

116 comment by: Dassault-Aviation

Text:

GM4 SPA.LVO.100(c) Low-visibility operations and operations with operational credits

EFVS OPERATIONS page 116

"c) (2) For operations for which **a minimum flight crew of more than one pilot** is required, the aircraft

will also be equipped with a head-down view of the EVS image or another means of easily

displaying EFVS-derived information to the pilot monitoring the progress of the approach."

Comments:

Wording used should be improved to avoid possible confusion with AFM.

Proposed change:



response	<p>"c) (2) For <b>multi pilot operations</b> for which a minimum flight crew of more than one pilot is required, the aircraft will also be equipped with a head-down view of the EVS image or another means of easily displaying EFVS-derived information to the pilot monitoring the progress of the approach."</p> <p>Not accepted</p> <p>The GM provides information about certified EFVS systems. The secondary display is required for aircraft certified for operation with more than one pilot.</p>
comment	<p>117 comment by: Dassault-Aviation</p> <p>Text: GM4 SPA.LVO.100(c) Low-visibility operations and operations with operational credits EFVS OPERATIONS page 119 "(j) Use of EFVS to touchdown In order for the use of EFVS to touchdown to be approved, the EFVS will provide flare cueing <b>and guidance</b> (EFVS-L)."</p> <p>Comment: Guidance is not requested. In CS AWO, it is mentioned Flare prompt or flare guidance.</p> <p>Proposed change: "(j) Use of EFVS to touchdown In order for the use of EFVS to touchdown to be approved, the EFVS will provide flare cueing <b>prompt</b> or <b>and</b> flare guidance (EFVS-L)."</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>
comment	<p>165 ❖ comment by: UK CAA</p> <p><b>Page No:</b> 50 and 117</p> <p><b>Paragraph No:</b> GM18 Annex I Definitions paragraph (a)(2) and GM4 SPA.LVO.100 (c) paragraph (d)(1)</p> <p><b>Comment:</b> Some grammatical corrections are proposed below.</p> <p>Justification: Grammar</p> <p><b>Proposed Text:</b> Amend to read as follows:</p>

response	<p>... computer-generated navigation data from ground-based, space-based,<u>or</u> self-contained navigation aids<del>2</del>, or a combination of <del>them</del><u>these</u>.</p> <p>Accepted</p> <p>The text has been updated as proposed.</p>
comment	<p>183 ❖ comment by: <i>UK CAA</i></p> <p><b>Page No:</b> 89 / 117 / 176</p> <p><b>Paragraph No:</b> CAT.OP.MPA.305 paragraph (a)(2) / GM4 SPA.LVO.100(c) paragraph (f) / NCC.OP.230 paragraph (a)(2)</p> <p><b>Comment:</b> Some amendments are suggested for easier reading.</p> <p>Justification: Clarity</p> <p>Proposed Text: Page 89, CAT.OP.MPA.305, paragraph (a)(2): '(a) If the reported visibility or controlling RVR for the runway to be used for landing is less than the applicable minimum, then an instrument approach operation shall not be continued: (1) past a point at which the aircraft is 1 000 ft above the aerodrome elevation; or (2) <b>into the final approach segment (FAS)</b> if the DH or MDH is higher than 1 000 ft, <del>in the final approach segment (FAS).</del></p> <p>Page 117: GM4 SPA.LVO.100(c) paragraph (f): (f) Conditions for commencement and continuation of the approach are in accordance with CAT.OP.MPA.305. Pilots conducting EFVS operations may commence an approach and continue that approach below 1 000 ft above the aerodrome or <b>into</b> the final approach segment (FAS) if:</p> <p>Page 176: NCC.OP.230 paragraph (a)(2): (2) <b>into the FAS</b> if the DH or MDH is higher than 1 000 ft, <del>into the FAS.</del></p>
response	<p>Accepted</p> <p>The text has been updated as proposed.</p>
comment	<p>290 comment by: <i>EUROCONTROL</i></p> <p>p. 116 - GM4 SPA.LVO.100 ( c ) (b) Other EFVS operations; why not bring forward the term EFVS 200?</p> <p>Clarify this is EFVS 200</p>
response	<p>Accepted</p>



	EFVS200 has been added as an example.
comment	<p>291 comment by: <i>EUROCONTROL</i></p> <p>p. 116 - GM4 SPA.LVO.100 (c) (c) (3) Reference is made to "EVS with an operational credit" but EVS with an operational credit is not in CS AWO.</p> <p>Please clarify legacy case in CS AWO for EVS with an operational credit.</p>
response	Noted
comment	<p>324 comment by: <i>Elbit Systems</i></p> <p>" For operations for which a minimum flight crew of more than one pilot is required, the aircraft will also be equipped with a head-down view of the <b>EVS image or another means of easily displaying EFVS-derived information</b> to the pilot monitoring the progress of the approach. "</p> <p>The wording can be bit misleading and it is not inline with same directives in other places (e.g. GM1 CAT.OP.MPA.312 (b),(2) and other places)</p> <p>it may change to:</p> <p>"For operations for which a minimum flight crew of more than one pilot is required, the aircraft will also be equipped with <b>a suitable display of EFVS sensory imagery</b> to the pilot monitoring the progress of the approach"</p>
response	<p>Accepted</p> <p>The text has been updated to be consistent with the proposed text in CS-AWO, as proposed.</p>
comment	<p>413 comment by: <i>DGAC France</i></p> <p>Page 116 GM4 SPA.LVO.100(c) Low-visibility operations and operations with operational credits EFVS OPERATIONS (c)(4) Aircraft holding a type certificate issued by a third country may be certificated for operations equivalent to EFVS operations. Specific approval for an operational credit for EFVS operations will be available only if the operator can demonstrate</p>



response	<p>that the equipment meets all the requirements for certification in accordance with CS-AWO.</p> <p>Comment: The requirement is understood, but it seems impracticable. Is an operator demonstration equivalent to a certification exercise? It does not imply the same skill. A flight test for instance cannot be performed by an operator. If there is no harmonization at the airworthiness level for the EFVS function, a validation will certainly have to be carried out (that is a new STC).</p>
comment	<p>414                      comment by: <i>DGAC France</i></p> <p>Page 119 GM4 SPA.LVO.100(c) Low-visibility operations and operations with operational credits EFVS OPERATIONS k) Missed approach (...) Where an OFZ is not provided for a Category I PA, this will be indicated on the approach chart.</p> <p>Comment: Replace “will be indicated” by “may be indicated”. Indeed, a few states are indicating that OFZ are not provided on a CAT I approach. OFZ is not required if the procedure is defined with a DH not less than 200ft (CS.ADR-DSN.J480). Same comment for Part-CAT and Part-NCC (see specific comments pages 94 and 181)</p>
response	<p>Accepted</p> <p>The text has been updated as proposed.</p>
comment	<p>660                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL - (c) (4) These EASA proposed disposals ensure that specific approval for EFVS operations will be available only if third-country operators can demonstrate that their equipment meets all requirements for certification. FNAM agrees that third-country operators should provide demonstrations in order to benefit of the same privileges than European operators. Nevertheless, this disposal is non-consistent with proposed disposal SPA.GEN.100 which requires specific approvals for third-country only for LVO operations. EFVS operations are operations with operational credits and not LVO operations. If requirements for third-country operators are alleviated compared to European operators requirements, the risk is that European would continue to loss aircraft matriculation. Indeed, it would be easier to operate in Europe with aircraft registered N rather than F.</p>



	Thus, FNAM agrees that third country operators should provide same approvals than European operators and these requirements should be harmonized and proposed in the entire regulation.
response	<p>Noted</p> <p>The text does not refer to third-country operators; there is no proposal to alleviate requirements for third-country operators.</p>
comment	<p>661 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL - (d) (1)          FNAM agrees that NPA operations may be included in 3D operations. Nevertheless, this definition is non-consistent with Part-DEF NPA definitions.          In order to ensure the efficient interpretation and thus, implementation of this regulation, FNAM suggests to harmonize NPA definitions and characteristics in the whole regulation.</p>
response	<p>Noted</p> <p>The text has been reviewed and found to be compatible with definitions in Annex I; specifically GM18 Annex I clarifies that ‘A non-precision approach procedure flown as CDF A with vertical path guidance calculated by on-board equipment is considered to be a 3D instrument approach operation.’</p>
comment	<p>662 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL - (e)          FNAM does not understand the purpose of (e) in this GM. This explanation of the creation of Table 8 is not a guidance to implement proposed guidance and requirements. This explanation should be introduced in rationale but not in proposed regulatory changes. In order to reduce the complexity of these EASA proposed disposals, FNAM suggests to remove (e).</p>
response	<p>Not accepted</p> <p>The purpose of point (e) is to explain the origin of the requirement to use either criteria in the AFM or Table 8. The information about Table 8 is transposed from GM1 SPA.LVO.100(f) in the current regulation.</p>
comment	<p>744 comment by: <i>Volkswagen AirService GmbH</i></p> <p>(g): The performance of displayed IR EVS image should be viewed in combination with other onboard indicators of a fully stabilized approach. This should include the relationship between aircraft flight path and approach trajectory reference as well as any additional virtual information, such as a displayed runway.</p>
response	<p>Noted</p>

comment	745      comment by: Volkswagen AirService GmbH  (h) Clarify and support, that if a correct approach trajectory can be ensured based on onboard systems (path indicators, reference lines, additional synthetic information), obstacle clearance is automatically ensured (=straight line along nominal approach glide path)
response	Noted  See GM4 SPA.LVO.100(c) point (h).

GM5 SPA.LVO.100(c) Low-visibility operations and operations with operational credits	p. 119
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comment	292      comment by: EUROCONTROL  p.119 - GM4 SPA.LVO.100 (c) (k) Missed approach "where an OFZ is not provided for a CAT I PA" This should not be the case as OFZ are required for Type B approach operations according to CS ADR-DSN.H.445.  Align OPS rule and CS ADR regarding OFZ requirement.
response	Not Accepted  Although an OFZ is required by CS-ADR-DSN, this does not guarantee that an OFZ is available for all CAT I IAP / runway combinations.

SPA.LVO.105LVO approval	p. 119
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comment	663      comment by: FNAM  ISSUE AND PROPOSAL EASA proposed disposal is really complex by its structure and its writing. SPA.LVO.105 is a good example of this remark : SA CAT I and SA CAT II, which are operations with operational credits are described in LVO requirement, although, LVO operations are differentiated with operations with operational credits. FNAM suggests to clarify and to separate LVO and operations with operational credits since they cannot be compared.
response	Not accepted  Annex V (Part-SPA) is applicable to both LVOs and operations with operational credits (see Article 5).
comment	664      comment by: FNAM  ISSUE AND PROPOSAL - (a)



These EASA proposed disposals transpose some LVTO characteristics. FNAM does not understand why the current AMC1 SPA LVO 100 is not transposed unaltered since it gathers all LVTO characteristics and requirements clearly. Indeed proposed LVTO definitions and characteristics are dispatched from the four corners of the proposed regulation: proposed AMC2 SPA.LVO.110, AMC2 SPA.LVO.100(a), SPA.LVO.105, AMC1 SPA.LVO.105(a), GM1 SPA.LVO.105(a). Moreover, they are not harmonized in the whole regulation. The complexity of these EASA proposed disposals may lead to inefficient interpretations and implementations. Thus, FNAM suggests to reduce the complexity of these EASA proposed disposals and to gather all characteristics and requirements on LVTO in a unique AMC. This AMC should provide the same level of measures than current one to avoid any charges on “non-voluntary” operators.

response

Not accepted

The different requirements for LVTO (equipment, operating procedures, approval, etc.) appear in different AMC because they relate to different rules.

comment

665 comment by: *FNAM*

ISSUE AND PROPOSAL - (b)  
 FNAM would like to highlight that the wording ‘relevant personnel involved in the flight preparation’ is not appropriate for this EASA proposed disposal. EASA proposed requirement suggests that operators should demonstrate that training and checking program is established to obtain specific approval. FNAM asks EASA that this program is established only for flight crew members. Indeed, flight crew members are the only ones competent to conduct these operations. It would be a non-sense to extend this training to cabin crew or personnel on the ground who are not flying an aircraft. Since the wording ‘relevant personnel involved in the flight preparation’ may include flight crew members, cabin crew members and all other personnel on the ground, FNAM suggests to remove this wording and only keep flight crew members for the training and checking program demonstration requirement.

response

Not accepted

It is important that other personnel involved in selection of aerodromes, flight planning, determination of operating minima, etc. are familiar with the requirements. Clearly, cabin crew will not be ‘relevant personnel’.

SPA.LVO.105 Specific approval criteria p. 119

comment

144 comment by: *US FAA*

(k) Missed Approach. Please provide the data which supports the statements that it is considered more likely that an EFVS operation will result in a missed approach than an operation without EFVS. In addition, the documentation you are



	<p>requesting is unlikely to provide statistically significant data due to the wide variations in weather conditions, sensor types, airframe types, and location.</p>
<p>response</p>	<p>Noted</p> <p>There is a finite probability that an equipment failure could occur below DH on an EFVS operation before the pilot has obtained ‘natural’ visual reference. In this situation, a go-around should be conducted. EASA has not quantified this probability but the experts took the view that, because the probability of a go-around is greater during EFVS operations than during other operations, operators should take account of the obstacle clearance in the event of a baulked landing.</p>
<p>comment</p>	<p>866                      comment by: Lufthansa Cargo</p> <p>NPA text To obtain a specific approval required by SPA.LVO.100, the operator shall demonstrate for the intended operations that: (a) for low-visibility approach operations, LVTO operations in an RVR of less than 125 m, and operations with operational credits, the aircraft is certified for the intended operations; AMC3 SPA.LVO.100(a) Low-visibility operations and operations with operational credits</p> <p>Requested change How does SPA.LVO.100 requirement LVTO &lt;400m need approval match with SPA.LVO.105 requirement LVTO &lt;125m need specific approval</p> <p>Justification not clear.</p>
<p>response</p>	<p>Noted</p> <p>LVTO in RVR between 125 and 400 m do not require any additional equipment or certification of the aircraft. LVTO in RVR of less than 125 m require the aircraft to be equipped with (for example) para-visual displays and be appropriately certified.</p>

AMC1 SPA.LVO.105 LVO approval	p. 120
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<p>comment</p>	<p>442                      comment by: EUROCONTROL</p> <p>AMC1 SPA.LVO.105(a)</p> <p>Signal quality of ILS necessitating cert for SA CAT I</p> <p>resolution proposal This is specific to ILS - for GLS will there be a separate certification as well? New text possibly required.</p>
<p>response</p>	<p>Not accepted</p>



SA CATI airworthiness certification is not prescriptive with regard to the navigation beam. It is up to the applicant to certify SA CATI under ILS or GBAS or other as convenient. The rule allows both possibilities.

AMC5 SPA.LVO.105 LVO approval

p. 120

comment

293 comment by: *EUROCONTROL*

p. 120 - after GM5 SPA.LVO.100 (c)

Mention that GM1 SPA.LVO.100(f) is deleted.

response

Accepted

The text has been updated to include a statement that GM1 SPA.LVO.100(f) has been deleted.

GM1 SPA.LVO.105 Specific approval criteria

p. 120-121

comment

336 comment by: *KLM*

GM1 SPA.LVO.105 criteria for a successful approach and automatic landing page 120

Comment: Acceptable. Additional info on item an approach may be considered to be successful if from 500ft to start of the flare speed is maintained within +/- 5kt of the intended speed, disregarding rapid fluctuations due to turbulence.

response

Noted

comment

374 comment by: *J.Woehrlin/DLH*

GM1 SPA.LVO.105 Specific approval criteria

NPA text

(c) An automatic landing may be considered to be successful if:

(4) longitudinal touchdown is beyond a point on the runway 60 m after the threshold and before the end of the touchdown zone TDZ light (900 m from the threshold);

(5) lateral touchdown with the outboard landing gear is not outside the touchdown zone TDZ light edge



response	<p>Requested change</p> <p>(4)(5) proposal to change wording “touchdown in lateral/ longitudinal direction”</p> <p>Justification</p> <p>The phrase touchdown cannot be divided in a lateral/ longitudinal part.</p> <p>Not accepted</p> <p>There is no proposal to amend the wording of this section in the NPA. The existing wording has been in use for a significant period of time and there is no evidence that it has been misunderstood or that there would be any safety or operational benefit from amending the GM as proposed.</p>
comment	<p>666 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>The scope of this EASA proposed guidance is not clear and may lead to misunderstanding.</p> <p>Specific approval scope could apply for all type of operations such as CAT II, SA CAT II, EVFS, etc. FNAM wonders if all specific operations are covered by this guidance since it is currently applicable only for CAT II, OTS CAT II and CAT III. Thus, in order to ensure the proper interpretation and implementation of these EASA proposed requirements, FNAM suggests to precise the scope in the guidance title.</p>
response	<p>Noted</p> <p>The guidance is applicable to low-visibility approach operations and approach operations with operational credits, i.e. all operations within the scope of SPA.LVO.</p>
comment	<p>837 comment by: <i>Germanwings</i></p> <p>GM1 SPA.LVO.105 Specific approval criteria</p> <p>NPA text</p> <p>(b) An automatic landing may be considered to be successful if:</p> <p>(4) longitudinal touchdown is beyond a point on the runway 60 m after the threshold and before the end of the touchdown zone TDZ light (900 m from the threshold);</p> <p>(5) lateral touchdown with the outboard landing gear is not outside the touchdown zone TDZ light edge</p> <p>Requested change</p> <p>(4)(5) proposal to change wording “touchdown in lateral/ longitudinal direction”</p>

response	<p>Justification The phrase touchdown cannot be divided in a lateral/ longitudinal part.</p> <p>Not accepted</p> <p>There is no proposal to amend the wording of this section in the NPA. The existing wording has been in use for a significant period of time and there is no evidence that it has been misunderstood or that there would be any safety or operational benefit from amending the GM as proposed.</p>
comment	<p>867                      comment by: Lufthansa Cargo</p> <p>NPA text (c) An automatic landing may be considered to be successful if: (4) longitudinal touchdown is beyond a point on the runway 60 m after the threshold and before the end of the touchdown zone TDZ light (900 m from the threshold); (5) lateral touchdown with the outboard landing gear is not outside the touchdown zone TDZ light edge</p> <p>Requested change (4)(5) proposal to change wording “touchdown in lateral/ longitudinal direction”</p> <p>Justification The phrase touchdown cannot be divided in a lateral/ longitudinal part.</p>
response	<p>Not accepted</p> <p>There is no proposal to amend the wording of this section in the NPA. The existing wording has been in use for a significant period of time and there is no evidence that it has been misunderstood or that there would be any safety or operational benefit from amending the GM as proposed.</p>

AMC1 SPA.LVO.105(a) Specific approval criteria

comment	<p>136                      comment by: Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</p> <p><b>Suggest</b> the following additions: (3) For SA CAT I, the aircraft should be certified for SA CAT I operations and <b>equipped with an appropriately certified</b> HUDLS or fail-passive or better autoland <b>system.</b></p> <p>(4) For SA CAT II, the aircraft should be certified for CAT II operations and <b>equipped with an appropriately certified</b> HUDLS or fail-passive <b>Rationale:</b> SA CAT I requires HUDLS or autoland. SA CAT II – editorial change</p>
response	<p>Partially accepted</p>



Point (b)(3) has not been changed because this will be a requirement for certification of the equipment. Point (b)(4) has been changed because this is an additional requirement for SA CAT II.

comment 294 comment by: *EUROCONTROL*

p. 121 - AMC1 SPA.LVO.105(a)  
(b) (5)  
"for the intended operation"

Please clarify as for the other cases above.

response

Accepted

The text has been updated to state that certified EFVS-Approach or EFVS-Landing is required.

GM1 SPA.LVO.105(a) Specific approval criteria

p. 121

comment 6 comment by: *ATR*

Does EASA believe that future operational credits thanks to the use of EFVS could be granted during take-off even if no ILS CAT III lateral guidance is provided ?

response

Noted

The intention has been to draft rules that facilitate technological innovation and, therefore, the types of technology that could be used for LVTO are not mentioned in the rule text. It is expected that EFVSs will be certified for take-off guidance in the future, but the understanding of the experts on the rulemaking group is that this is not within the capabilities of currently available technologies.

comment 77 comment by: *ERAA*

AMC1 SPA.LVO.105(a) - (b)(3): What does the required 'certification' mean? How should it be verified and documented that the aircraft is 'certified' for SA CAT I operations?

response

Noted

Aircraft will be certified for SA CAT I in accordance with the applicable airworthiness requirements. This will be documented in the type certificate data sheet (TDCS) and aircraft flight manual (AFM).

comment 145 comment by: *US FAA*



response	<p>(b)(3) US operators presently authorized SA CAT I operations do not have SA CAT I certified aircraft. The equipment on the aircraft (HUD, SVGS) is certified for the intended function. How will this difference be harmonized?</p> <p>Noted</p> <p>The proposed SA CAT I is different to SA CAT I under US regulations.</p>
comment	<p>667 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>These EASA proposed disposals transpose some LVTO characteristics. FNAM does not understand why the current AMC1 SPA LVO 100 is not transposed unaltered since it gathers all LVTO characteristics and requirements clearly. Indeed proposed LVTO definitions and characteristics are dispatched from the four corners of the proposed regulation: proposed AMC2 SPA.LVO.110, AMC2 SPA LVO 100(a), SPA.LVO.105, AMC1 SPA.LVO.105(a), GM1 SPA.LVO.105(a). Moreover, they are not harmonized in the whole regulation. The complexity of these EASA proposed disposals may lead to inefficient interpretations and implementations. Thus, FNAM suggests to reduce the complexity of EASA proposed disposals and to gather all characteristics and requirements on LVTO in a unique AMC. This AMC should provide the same level of measures than the current one to avoid any charges on “non-voluntary” operators.</p>
response	<p>Not accepted</p> <p>See the response to comment # 664.</p>
comment	<p>668 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>This EASA proposed guidance describes the future of EFVS: ‘it is expected that EFVSs will be certified for take-off guidance in the future.’ FNAM thanks EASA for anticipating EFVS evolution. Nevertheless, since no requirement nor guidance ensue for this anticipation, FNAM wonders what is the purpose of this sentence. Since it is not justified and no concrete disposals ensue for this anticipation, FNAM suggests to remove this sentence.</p>
response	<p>Noted</p> <p>The sentence is included to clarify that other systems may be certified for LVTO and, when they are so certified, they may be used. One objective of the RMT was to facilitate the implementation of new technology without the need to amend the operating rules.</p>
comment	<p>669 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>This EASA proposed guidance transposes part of current LVTO characteristics.</p>

	<p>However, it presents conditions for LVTO depending on LVP establishment. Since LVP concept is removed from Annex I and is replaced by LVO, FNAM suggests to keep the definition of LVP in Annex I. FNAM suggests to harmonize Annex I with this guidance.</p>
response	<p>Not accepted</p> <p>LVPs have not been replaced by LVO. The two terms refer to different things.</p>

AMC1 SPA.LVO.105(c) Specific approval criteria

p. 121

comment	<p>375 comment by: J.Woehrlin/DLH</p> <p>AMC1 SPA.LVO.105(c) Specific approval criteria OPERATING PROCEDURES FOR LVOs</p> <p>NPA text Prior to commencing an LVO, the pilot-in-command/commander should be satisfied that:</p> <p>Requested change Change wording “should be satisfied” to “should verify”</p> <p>Justification Analogous to CAT.OP.MPA.265&amp; 300</p> <p>NPA text (b) LVPs are in effect; and</p> <p>Requested change Clarify by which means</p> <p>Justification Is approach clearance “cleared RWY XY CATII/III” satisfying.</p>
response	<p>Not accepted</p> <p>There are a number of different means by which the commander may satisfy himself or herself that LVPs are in effect. It would not be practical to list all of these in the AMC. Individual operators may choose to stipulate the means by which the commander is satisfied for particular airports, regions or types of operation; otherwise, it is left to the discretion of the commander.</p>

comment	<p>415 comment by: DGAC France</p> <p>Page 121 AMC1 SPA.LVO.105(c) Specific approval criteria</p>
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	<p>OPERATING PROCEDURES FOR LVOs                  Prior to commencing an LVO, the pilot-in-command/commander should be satisfied that:                  (a) the status of visual and non-visual facilities is as required;                  (b) LVPs are in effect; and                  (c) the flight crew members are appropriately qualified</p> <p>Comment:                  This AMC 1 is ambiguous. The issue comes from the terminology proposed in the NPA.                  Do LVO operations exclude operations with operational credits or not ? This should be clarified in the overall text.                  Suggestions:                  Option 1 : No proposed modification if operations with operational credits are included in LVO operations when the RVR is less than 550m or DH is less than 200ft.                  Option 2 : If operation with operational credits in LVP conditions are not LVO operations then, it is suggested to replace “LVO” by “LVO or operations with RVR below 550m or DH below 200ft” to make this chapter applicable also for operations with operational credit. However, this distinction will no simplify the understanding of the overall changes.</p>
response	<p>Not accepted</p> <p>The definition of LVOs is separate from the definition of operations with operational credits. This AMC is applicable to all LVOs whether or not they are operations with operational credits.</p>
comment	<p>670                      comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL                  This EASA proposed guidance introduces LVO characteristics.                  However, it presents conditions for LVO depending on LVP establishment. Since LVP concept is removed from Annex I and is replaced by LVO, FNAM suggests to keep the definition of LVP in Annex I. FNAM suggests to harmonize Annex I with this guidance.</p>
response	<p>Not accepted</p> <p>LVPs have not been replaced by LVO. The two terms refer to different things. A definition of LVPs has been included in GM to Annex I.</p>
comment	<p>838                      comment by: <i>Germanwings</i></p> <p>AMC1 SPA.LVO.105(c) Specific approval criteria OPERATING PROCEDURES FOR LVOs</p> <p>NPA text                  Prior to commencing an LVO, the pilot-in-command/commander should be satisfied that: [...]</p>



	<p>Requested change Change wording “should be satisfied” to “should verify”.</p> <p>Justification Analogous to CAT.OP.MPA.265 &amp; 300.</p>
response	<p>Not Accepted</p> <p>The experts in the RMG have reviewed the use of ‘be satisfied’ and ‘verify’ throughout the NPA according to the following definitions:</p> <p>Satisfy – Meet the expectations, needs or desires / adequately meet or comply with (a condition, obligation, or demand)</p> <p>Verify – Make sure or demonstrate that (something) is true, accurate, or justified</p> <p>Based on this, the wording will remain ‘be satisfied’. Changing to ‘verify’ could be interpreted as mandating the pilot to check each of these items even though he or she is already satisfied. This would increase workload without any safety benefit.</p>
comment	<p>839                      comment by: <i>Germanwings</i></p> <p>AMC1 SPA.LVO.105(c) Specific approval criteria OPERATING PROCEDURES FOR LVOs</p> <p>NPA text (b) LVPs are in effect; and [...]</p> <p>Requested change Clarify by which means.</p> <p>Justification Is approach clearance “cleared RWY XY CATII/III” satisfying.</p>
response	<p>Noted</p> <p>See the response to comment # 375.</p>
comment	<p>868                      comment by: <i>Lufthansa Cargo</i></p> <p>NPA text Prior to commencing an LVO, the pilot-in-command/commander should be satisfied that:</p> <p>Requested change Change wording “should be satisfied” to “should verify”</p> <p>Justification Analogous to CAT.OP.MPA.265&amp; 300</p> <p>NPA text</p>

response	(b) LVPs are in effect; and  Requested change Clarify by which means  Justification Is approach clearance "cleared RWY XY CATII/III" satisfying.
	Not accepted  See the response to comment # 868.

AMC2 SPA.LVO.105(c) Specific approval criteria

p. 122

comment	118                      comment by: Dassault-Aviation  Text: AMC2 SPA.LVO.105(c) Specific approval criteria OPERATING PROCEDURES: GENERAL page 122 "(b) (9) the requirement for height call-outs below 200 ft <b>to be based on the use of a radio altimeter</b> or other device capable of providing equivalent performance, if applicable;"  Comment: The requirement for radio altimeter for callout below 200ft should not apply to EFVS operations as they are intended to be performed at other than CATII/III aerodromes where pre threshold area may be irregular. This requirement should be removed from that general part. It is properly mentioned in CATII, CAT III, SA CATI, SA CAT II sections.  Proposed change: requirement to be removed from this "operating procedure: general" section.
response	Not accepted  The AMC does not establish a requirement for a radio altimeter or for height call-outs below 200 ft. It specifies that if height call-outs are made below 200 ft, then these should be based on radio altimeter.
comment	189                      comment by: UK CAA  Page No: 122  <b>Paragraph No:</b> AMC2 SPA.LVO.105(c) paragraph (b)(8)  <b>Comment:</b> An amendment is proposed below to correct a spelling error  Justification: Grammar



response	<p>Proposed Text: (8) a requirement for a call-out approaching minima to prevent inadvertent descent below the DA/H;</p> <p>Accepted</p> <p>The text has been amended as proposed.</p>
comment	<p>671 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>FNAM thanks EASA for describing precisely the general specific approval criteria. Indeed, this AMC is clear and therefore is easy to understand and to implement. Nevertheless, FNAM wonders what would become current approvals and what are the measures for operators for the transition period. Can operators use their current approvals, for example LTS CAT I and OTS CAT II, in order to obtain new approvals and demonstrate only new requirements proposed in this disposal? FNAM suggests that current demonstrations and approvals could remain applicable and could be reused for further demonstrations. For example, it should be the case for an operator performing OTS CAT II operations willing to perform SA CAT II operations.</p> <p>The first step: AMC2 SPA.LVO.105(f) allows demonstrations for an approval by using data of other approvals with other aircraft, other categories of operations or similar operations. It would reduce the administrative burden for operators. This disposal should be globalized.</p>
response	<p>Not accepted</p> <p>The criteria for SA CAT I and SA CAT II are different from LTS CAT I / OTS CAT II, thus a new demonstration of compliance will be required. Each operator will determine whether data gathered from previous LVOs will be relevant.</p>
comment	<p>672 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (b)</p> <p>This EASA proposed guidance introduces LVO characteristics. However, it presents conditions for LVO depending on LVP establishment. Since LVP concept is removed from Annex I and is replaced with LVO, FNAM suggests to keep LVP definition of in Annex I. FNAM suggests to harmonize Annex I with this guidance.</p> <p>Additionally, the scope of these proposed EASA disposals are not clear. EASA proposed disposals in (a) are applicable for all type of LVO operations without any doubts, but, the scope of (b) disposals is not defined. Is it all type of LVO operations ? Is it SA CAT I, SA CAT II and EFVS? Is it only SA CAT I and SA CAT II ? In all cases, LVTO operations should not be included in the scope of (b) since it deals with approaches procedures and not take-off procedures.</p> <p>FNAM suggests to clarify the scope of (b) in order to ensure efficient interpretations and implementations of these EASA proposed disposals.</p>



response	Moreover, LVP requirements cannot be applied for all specific approval operations. For example, operations with operational credits such as SA CAT I and SA CAT II cannot rely, by definition, on LVP requirements.
	Partially accepted  (a) has been amended to include 'operations with operational credits'.

AMC3 SPA.LVO.105(c) Specific approval criteria

p. 122-123

comment	190                      comment by: <i>UK CAA</i>  Page No: 123  <b>Paragraph No:</b> AMC3 SPA.LVO.105(c) paragraph (f)  <b>Comment:</b> Some re-wording is proposed below to align with ICAO Doc 9365 and to include centreline lights which appear to have been omitted.  <b>Justification:</b> Accuracy, readability  Proposed Text: (f) <del>At DH the following visual references should be distinctly visible and identifiable to the pilot:</del> A pilot may not continue an approach below the CAT II DH unless the following visual references are distinctly visible, identifiable and can be maintained: (1) a segment of at least three consecutive lights, which are the centreline of the approach lights or TDZ lights <b>or runway centreline lights</b> or runway edge lights, or a combination of <del>them</del> <b>these</b> ; and (2) <del>the visual reference should include</del> a lateral element of the ground pattern, such as an approach <b>lighting</b> crossbar, or the landing threshold, or a barrette of the TDZ <b>lighting</b> unless the operation is conducted using a HUD or an equivalent system to touchdown.
	response

AMC4 SPA.LVO.105(c) Specific approval criteria

p. 123

comment	191                      comment by: <i>UK CAA</i>  Page No: 123  <b>Paragraph No:</b> AMC4 SPA.LVO.105(c) paragraph (e)  <b>Comment:</b> Some re-wording is proposed below to improve readability.



**Justification:** Accuracy, clarity

Proposed Text:

~~(e) At DH the following visual references should be distinctly visible and identifiable to the pilot:~~ A pilot may not continue an approach below the CAT III DH unless the following visual references are distinctly visible, identifiable and can be maintained:

(1) for operations conducted either with fail-passive flight control systems or with the use of an approved HUD or equivalent display system: a segment of at least three consecutive lights, which are the centreline of the approach lights, or TDZ lights, or runway centreline lights, or runway edge lights, or a combination of them **these to be attained and maintained by the pilot;** and

(2) for operations conducted either with fail-operational flight control systems or with a fail-operational hybrid landing system using a DH: at least one centreline light, ~~to be attained and maintained by the pilot.~~

response Accepted

The text has been amended as proposed.

MC5 SPA.LVO.105(c) Specific approval criteria

p. 123-124

comment 11 comment by: Civil Aviation Authority Czech Republic

page 124, line 12: point (d)(2)

There are no supporting meteorological measurements for DH of 120 (ft) (ref- ICAO Annex 3, Appendix 3, Par. 4.5.4.2). The closest values of cloud base reported are 100, 150, or 200 (ft) only.

response Noted

The measurement of cloud base is not relevant to the determination of decision height.

comment 192 comment by: UK CAA

Page No: 124

**Paragraph No:** AMC5 SPA.LVO.105(c) paragraph (d)

**Comment:** Some re-wording is proposed below to improve readability.

**Justification:** Accuracy, clarity



	<p>Proposed Text:</p> <p>(d) <del>At DH the following visual references should be visible to the pilot:</del> A pilot may not continue an approach below the SA CAT I DH unless the following visual references are distinctly visible, and identifiable (and can be maintained):</p> <p>(1) a segment of at least three consecutive lights, which are the centreline of the approach lights, or TDZ lights, or runway centreline lights, or runway edge lights, or a combination of <del>them</del> <u>these</u>; and</p> <p>(2) <del>this visual reference should include</del> a lateral element of the ground pattern, such as an approach lighting crossbar, or the landing threshold, or a barrette of the TDZ lighting unless the operation is conducted utilising an approved HUD or an equivalent system usable down to 120 ft above the runway threshold.</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>

comment	<p>295 comment by: <i>EUROCONTROL</i></p> <p>p. 123-124 - AMC5 SPA.LVO.105(c)</p> <p>The fact that there are specific operating procedures, specific aircraft cert requirements and specific AD requirements seem to indicate that this in fact a separate operation and not an ops credit for CAT I.</p> <p>Review in context.</p>
response	<p>Not accepted</p> <p>SA CAT I uses a CAT I navigation bean. In this context, it can be said that it is an OPS credit.</p>

AMC6 SPA.LVO.105(c) Specific approval criteria	p. 124
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comment	<p>69 comment by: British Airways Flight Operations</p> <p>Is there any need for a different paragraph referring to SA Cat II, which is identical in content to that for Cat II? ie, apart from referring to SA Cat II, AMC 6 is identical in contents to AMC 3 to this rule. Should they not be combined?</p>
response	<p>Noted</p> <p>The proposed structure will be maintained.</p>

comment	<p>137 comment by: Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</p> <p>Proposal:</p> <p>The following provisions should apply to SA CAT II operations:</p>
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	<p>(b) The approach should be flown using a certificated system as identified in the AFM <b>including at least a HUDLS or an autoland system</b></p> <p><b>Rationale:</b> In case of SA CAT II not using HUDLS, autoland is a required equipment (cf AMC1 SPA.LVO.105(a), para (b)(4)). Current Part SPA.LVO requires HUDLS or autoland (cf Table 4 in AMC4 SPA.LVO.100). Hence para (c) should be deleted. HUDLS or autoland is the compensation for lack of lighting system and there is no evidence supporting the removal. The NPA text does not reflect these requirements.</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>
comment	<p>193 comment by: <i>UK CAA</i></p> <p>Page No: 124</p> <p><b>Paragraph No:</b> AMC6 SPA.LVO.105(c) paragraph (f)</p> <p><b>Comment:</b> Some re-wording is proposed below to improve readability and include centreline lights which appear to have been omitted.</p> <p><b>Justification:</b> Accuracy, clarity</p> <p>Proposed Text:  <del>(f) At DH the visual references should be distinctly visible and identifiable to the pilot:</del> A pilot may not continue an approach below the SA CAT II DH unless the following visual references are distinctly visible, identifiable and can be maintained:  (1) a segment of at least three consecutive lights, which are the centreline of the approach lights or TDZ lights <b>or runway centreline lights</b> or runway edge lights, or a combination of <del>them</del> <b>these</b>; and  (2) <del>the visual reference should include</del> a lateral element of the ground pattern, such as an approach <b>lighting</b> crossbar, or the landing threshold, or a barrette of the TDZ <b>lighting</b> unless the operation is conducted using a HUD or an equivalent system to touchdown.</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>
comment	<p>673 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL - (f)(1)  This EASA proposed disposal transposes current requirement for OTS CAT II operations to SA CAT II operations.  Since SA CAT II is similar to OTS CAT II, FNAM wonders why the possibility to use runway centerline lights is removed for SA CAT II operations. This measure would restrain current operations. This is against this NPA main objective which is to introduce new possibilities without providing more restrictive measures. Thus,</p>

	FNAM suggests to keep the current possibility to use runway centerline lights for SA CAT II operations.
response	<p>Not accepted</p> <p>The proposal for SA Cat II is designed to be more favourable than for the conventional Cat II, following the model used in the USA. It requires an advanced operational approval, specifically to cater for those situations where centreline lights may not be available, compared with the standard Cat II operation. Making the visual-reference requirements the same would mean that SA Cat II operation would be of little operational value.</p>

AMC7 SPA.LVO.105(c) Specific approval criteria

p. 124-125

comment	<p>54 comment by: Volkswagen AirService GmbH</p> <p>Clarify which elements of the approach lighting system need to be visible at DA/H to continue the approach on EFVS (i.e. lateral and longitudinal elements).</p>
response	<p>Noted</p> <p>EFVS image requirements at the DA/H are specified in AMC7 SPA.LVO.105(c).</p>
comment	<p>93 comment by: AIRBUS</p> <p>AMC7 SPA.LVO.105 (c) Specific approval criteria</p> <p>In (d):</p> <p>Please precise what is understood by "vertical flight path guidance". Does it relate to a vertical deviation indication (Vdev information)? Does it relate to a flight director providing vertical guidance?</p> <p>Between FAF and DA/DH, it is required to have a vertical flight path guidance. What is the means of this guidance?</p>
response	<p>Partially accepted</p> <p>Vertical flight path is used a few times in the AMC related to the Air OPS requirements proposed in Opinion No 02/2021; for example. in AMC7 SPA.LVO.105 in the context of enhanced flight vision system (EFVS). It is also used in the current SPA.LVO.110 General operating requirements (point (c)(4)) in the context of enhanced vision system (EVS).</p> <p>The word 'mode' is added to refer to flight director or autopilot.</p>
comment	<p>94 comment by: AIRBUS</p>



	<p>AMC7 SPA.LVO.105 (c) Specific approval criteria OPERATING PROCEDURES: EFVS OPERATIONS</p> <p>In (e)(2)(iii):</p> <p>If applicable, replace "runway light" by "runway edge light".</p> <p>Precise the scope of the "runway light". Does it relate to runway edge lights?</p>
response	Accepted
comment	<p>425 comment by: Dassault-Aviation</p> <p><u>Text:</u> page 125</p> <p>"e) The approach may be continued below the DA/H provided that the pilot can identify on the EFVS image either:</p> <p>(1) the approach light system; or</p> <p>(2) both of the following:</p> <p>(i) the runway threshold identified by the beginning of the runway landing surface, the threshold lights or the runway end identifier lights; and</p> <p>(iii) the TDZ identified by the TDZ lights, the TDZ runway markings or the runway lights.</p> <p>(f) Unless the aircraft is equipped with a certified EFVS-L, a missed approach should be executed promptly if the required visual reference is not distinctly visible and identifiable to the pilot without reliance on the EFVS by the following height above the threshold:</p> <p>(1) the height below which an approach should not be continued if natural visual reference is not acquired by the crew as stated in the AFM; or</p> <p>(2) if the AFM does not specify such a height, 100 ft."</p> <p>Comment:</p> <p>For EFVS approaches for which natural visual reference is not required prior to touchdown, the EFVS (EFVS used for landing (EFVS-L)), there is no other reference to be acquired through EFVS before touchdown.</p> <p>During recent FFS EFVS activities involving EASA TD and OSD, the check of the threshold in EFVS at 100ft has been found as an essential information for EFVS to land.</p> <p>The current NPA is not consistent with FAA regulation (threshold is required at 100ft in EFVS for EFVS to touchdown and rollout).</p> <p>Proposed change:</p> <p>AMC to be created for visual reference to be acquired in EFVS image for EFVS to land operation.</p>



response	<p>Not accepted</p> <p>A consistency check with the FAA regulations has been performed. There is no reason to be so prescriptive.</p>
comment	<p>746 comment by: Volkswagen AirService GmbH</p> <p>(e) The approach should only allowed to be continued if, in addition to positively identified EVS approach lights, onboard information indicates a correct approach path. This requires the constant cross-check of aircraft flight path indication against path reference indication and indicated runway (if available).</p>
response	<p>Noted</p>

AMC1 SPA.LVO.105(f) Specific approval criteria
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p. 125-126
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comment	<p>119 comment by: Dassault-Aviation</p> <p>Text: AMC1 SPA.LVO.105(f) Specific approval criteria page 125 in §(a), (b), (d)(2) et (e)(1)</p> <p>Comment: Typo</p> <p>Proposed change: « operation with an operational approval » should be replaced by “operation with an operational credits”</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>
comment	<p>138 comment by: Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</p> <p>Proposal:</p> <p>Subpara (e)(2) – reports of unsatisfactory approaches and/or landings, by <del>aerodrome</del> <b>runway</b> and aircraft registration ...</p> <p><b>Rationale:</b> Subpara (e) Problems are related to a specific runway.</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>



comment	<p>194                      comment by: <i>UK CAA</i></p> <p>Page No: 125</p> <p><b>Paragraph No:</b> AMC1 SPA.LVO.105(f)</p> <p><b>Comment:</b> We believe the title of this paragraph “SAFETY ASSESSMENT AND PERFORMANCE INDICATORS” should be revised to clarify the intention of the data collection.</p> <p><b>Justification:</b> The whole text of AMC1 SPA.LVO.105(f) seems to refer to a continuous and indefinite monitoring of the performance of LVO operations. This understanding is reinforced by the requirement to retain the data for a period of 5 years (which should be interpreted as a moving time window, where data is discarded as it becomes older than 5 years). It is also reinforced by the fact that it’s different from the data expected to support the initial safety assessment as described in GM1 and GM2</p> <p>Proposed Text: AMC1 SPA.LVO.105(f) Specific approval criteria CONTINUOUS SAFETY ASSURANCE</p>
response	<p>Not accepted</p> <p>Nevertheless, some improvements in the wording were made.</p>
comment	<p>195                      comment by: <i>UK CAA</i></p> <p>Page No: 126</p> <p><b>Paragraph No:</b> AMC1 SPA.LVO.105(f) paragraphs (c), (d) and (e)</p> <p><b>Comment:</b> Many of the parameters required in paragraphs (c), (d) and (e) are not available via FDM. Information may have to be obtained from alternative sources of data (e.g. air safety reports, flight logs). A suggested amendment is proposed below for paragraph(c)</p> <p><b>Justification:</b> Practical application</p> <p>Proposed text:</p> <p>(a) Data about LVOs should be collected by means of the operator’s flight data monitoring programme <b>wherever possible</b>; or, for operators not required to implement a flight data monitoring programme, by means of reports submitted by flight crew.</p> <p>OR</p> <p>(c) Data about LVOs should be collected by means of the operator’s flight data monitoring programme or, for operators not required to implement a flight data monitoring programme, by means of reports submitted by flight crew. <b><u>management system.</u></b></p>



response	<p>Partially accepted</p> <p>AMC1 SPA.LVO.105(f) point (c) has been amended to clarify which data sources that should be used.</p>
comment	<p>196                      comment by: UK CAA</p> <p>Page No: 126</p> <p><b>Paragraph No:</b> AMC1 SPA.LVO.105(f) paragraph (d)(1)</p> <p><b>Comment:</b> Go-around events are routinely identified via FDM, as is the height for the manoeuvre. Disengagement of the autopilot during one approach is one means of doing so as well as manoeuvre following an unstable parameter such as airspeed, configuration (gear/flaps), glideslope etc.</p> <p>Additional context on the type of approach flown would be required through a separate system (weather logs). One would also need to measure the number of low visibility approaches flown. Most operators should be capable of doing so but may still primarily work with event-based analysis (which doesn't necessarily cover all flights flown). In addition, the recovery &amp; recording rate of those approaches would need to be representative as a sample if not 100%.</p> <p>We recommend that the text should define what pilot intervention is and clarify that measures of all flights should be taken as far as possible or a representative sample if not, in order to determine the rate of success or lack thereof.</p> <p><b>Justification:</b> Clarity, practical application</p>
response	<p>Not accepted</p> <p>The experts have taken the view that 'pilot intervention' is readily understood.</p>
comment	<p>197                      comment by: UK CAA</p> <p>Page No: 126</p> <p><b>Paragraph No:</b> AMC1 SPA.LVO.105(f) paragraph (d)(2)</p> <p><b>Comment:</b> This would be difficult to achieve via FDM because component health monitoring is usually outside the scope of this data collection.</p> <p>Certain system warnings may be available, but this will vary depending on mapping via individual data frames.</p> <p>We believe the text needs to clarify what equipment is expected to be monitored and what parameters are required.</p> <p><b>Justification:</b> Clarity, practical application</p>
response	<p>Not accepted</p>

	The AMC does not propose component health monitoring. (d)(2) specifies that the data should be analysed for individual aircraft as well as for the whole fleet.	
comment	198	comment by: <i>UK CAA</i>
	Page No: 126	
	<b>Paragraph No:</b> AMC1 SPA.LVO.105(f) paragraph (d)(2):	
	<b>Comment:</b> The intent of the requirement needs to be clarified with examples.	
	<b>Justification:</b> This could be interpreted as reliability analysis of the components required for these operations. However, component reliability is often not linked to specific aircraft, but rather to each component s/n or p/n.	
response	Not accepted	
	The proposed text does not include any requirement for component reliability analysis.	
comment	199	comment by: <i>UK CAA</i>
	Page No: 126	
	<b>Paragraph No:</b> AMC1 SPA.LVO.105(f) paragraph (e)	
	<b>Comment:</b> It is not clear if the 5-year retention period refers to a fixed period starting from the data collection exercise or a moving time window, where the last 5 years of operational experience are to be retained.	
	Some suggested amendments to the text are provided below.	
	Justification: Clarity	
	Proposed Text: "The following information should be retained for a period of 5 years continuously gathered over time. Records may be discarded once they are older than 5 years."	
response	Partially accepted	
	The text has been amended to 'retained for at least 5 years' to improve clarity and be consistent with requirements elsewhere in the regulation (e.g. ORO.MLR.115).	
comment	200	comment by: <i>UK CAA</i>
	Page No: 126	
	<b>Paragraph No:</b> AMC1 SPA.LVO.105(f) paragraph (e)(1)	



response	<p><b>Comment:</b> We suggest clarifying the sources of data to be used (e.g. flight logs) as this information is not available via FDM unless paired with other data.</p> <p><b>Justification:</b> Clarity, practical application</p> <p>Partially accepted</p> <p>AMC1 SPA.LVO.105(f) point (c) has been amended to clarify the data sources that should be used.</p>
comment	<p>201                      comment by: <i>UK CAA</i></p> <p>Page No: 126</p> <p><b>Paragraph No:</b> AMC1 SPA.LVO.105(f) paragraph (e)(2)</p> <p><b>Comment:</b> Operators will need to combine events that they believe are relevant to this requirement; and the number of events covering such aspects will be variable.</p> <p>It is unclear what events will define an unsatisfactory approach to enable operators to define a useful metric</p> <p>The lack of a universally acceptable standard will cause problems in assessing comparable levels of performance.</p> <p>Justification: Clarity</p>
response	<p>Not accepted</p> <p>Guidance on criteria for a successful approach is provided in GM1 SPA.LVO.105. Each operator will conduct safety assessments using their own performance indicators, so there is no requirement for a ‘universally acceptable standard’.</p>
comment	<p>202                      comment by: <i>UK CAA</i></p> <p>Page No: 126</p> <p><b>Paragraph No:</b> AMC1 SPA.LVO.105(f) paragraph (e)(2)</p> <p><b>Comment:</b> FDM cannot supply the information in paragraph (e)(2), unless paired with other data.</p> <p><b>Justification:</b> Practical application</p> <p>Proposed text:</p> <p>(e) The following information should be retained for a period of 5 years...</p> <p>(2) <b>flight crew</b> reports of unsatisfactory approaches and/or landings, by aerodrome and aircraft registration, in the following categories...</p>
response	<p>Partially accepted</p>

AMC1 SPA.LVO.105(f) point (c) has been amended to clarify the data sources that should be used. Reports should be retained regardless of whether they were derived from flight crew reports or other data sources.

comment

203 comment by: UK CAA

Page No: 126

**Paragraph No:** AMC1 SPA.LVO.105(f) paragraph (e)(2)(ii)**Comment:** Not all operators necessarily have a specific FDM event to capture this.

Outside of ILS signal interruption drawn via inference from glideslope and localiser signal interception, 'ground facility difficulties' may not be obtained from FDM.

Information about 'ground facility difficulties' would have to come from the safety reporting system or other sources of information.

**Justification:** Clarity, practical application

response

Partially accepted

AMC1 SPA.LVO.105(f) point (c) has been amended to clarify the data sources that should be used.

comment

204 comment by: UK CAA

Page No: 126

**Paragraph No:** AMC1 SPA.LVO.105(f) paragraph (e)(2)(iii)**Comment:** This information is not available via FDM unless paired with other data and will probably need to be obtained from air safety report data in combination with FDM.

Information about 'missed approach because of ATC instructions' would have to come from the safety reporting system or other sources of information.

**Justification:** Clarity, practical application

response

Partially accepted

AMC1 SPA.LVO.105(f) point (c) has been amended to clarify the data sources that should be used.

comment

372 comment by: J.Woehrlin/DLH

AMC1 SPA.LVO.105(f) Specific approval criteria

GM1 SPA.LVO.105(f) Specific approval criteria



	<p>NPA text</p> <p>Requested change Continuous Monitoring (Safety Performance Monitoring) for operators conducting LVOs only (i.e. not using operation with operational credits) should be retained from current regulations in line with a risk-based approach to regulation. Data collection by means of the operator's flight data monitoring programme for operators conducting LVOs only (i.e. not using operation with operational credits) should be limited to safety assessment prior to obtaining an approval.</p> <p>Justification The current continuous monitoring for operators conducting LVOs only (i.e. not using operation with operational credit) has proven its effectivity in meeting the safety objectives and performance standards and in achieving the same level of safety as operation other than LVOs. Additional monitoring requirements will not improve the effectivity in meeting the safety objectives and performance standards.</p>
response	<p>Not accepted</p> <p>The proposal has been developed in order to implement a risk-based approach to the regulation. There is already a provision for operators to continuously monitor low-visibility operations to detect undesirable trends (AMC3 SPA.LVO.105). The revised wording reflects the provision for operators to identify hazards, conduct risk assessment and measure safety performance (AMC1 ORO.GEN.200(a)(3)). The use of FDM is only mandated for operators that are required to have an FDM programme and such operators will already be automatically collecting the data required. The proposed AMC does not introduce an additional monitoring requirement for operators, rather it clarifies the operator's safety management responsibilities in relation to LVOs.</p>
comment	<p>483      comment by: Swiss International Air Lines Ltd.</p> <p>Requested change SWISS requests EASA to retain the Continuous Monitoring (Safety Performance Monitoring) for operators conducting LVOs only (i.e. not using operation with operational credits) from current regulation.</p> <p>Justification The current regulation regarding continuous monitoring has proven its effectiveness by meeting the safety objectives and performance standards and by achieving the same level of safety as operation other than LVOs. Additional monitoring requirements will not improve the effectiveness of meeting the safety objectives and performance standards. The introduction of operation with operational credits demands additional monitoring requirements. These additional requirements should not be applicable for operators conducting LVOs only (i.e. not</p>

response	<p>using operation with operational credit). This request is in line with a risk-based approach to regulation.</p> <p>Not accepted</p> <p>The proposal has been developed in order to implement a risk-based approach to the regulation. There is already a provision for operators to continuously monitor low-visibility operations to detect undesirable trends (AMC3 SPA.LVO.105). The revised wording reflects the provision for operators to identify hazards, conduct risk assessment and measure safety performance (AMC1 ORO.GEN.200(a)(3)). The use of FDM is only mandated for operators that are required to have an FDM programme and such operators will already be automatically collecting the data required. The proposed AMC does not introduce an additional monitoring requirement for operators, rather it clarifies the operator's safety management responsibilities in relation to LVOs.</p>
comment	<p>526                      comment by: Austrian Airlines</p> <p>AMC1 SPA.LVO.105(f) Specific approval criteria</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to retain the Continuous Monitoring (Safety Performance Monitoring) for operators conducting LVOs only (i.e. not using operation with operational credits) from current regulation.</p> <p>Justification The current regulation regarding continuous monitoring has proven its effectiveness by meeting the safety objectives and performance standards and by achieving the same level of safety as operation other than LVOs. Additional monitoring requirements will not improve the effectiveness of meeting the safety objectives and performance standards. The introduction of operation with operational credits demands additional monitoring requirements. These additional requirements should not be applicable for operators conducting LVOs only (i.e. not using operation with operational credit). This request is in line with a risk-based approach to regulation.</p>
response	<p>Not Accepted</p> <p>The proposal has been developed in order to implement a risk-based approach to the regulation. There is already a provision for operators to continuously monitor low-visibility operations to detect undesirable trends (AMC3 SPA.LVO.105). The revised wording reflects the provision for operators to identify hazards, conduct risk assessment and measure safety performance (AMC1 ORO.GEN.200(a)(3)). The use of FDM is only mandated for operators that are required to have an FDM programme and such operators will already be automatically collecting the data required. The proposed AMC does not introduce an additional monitoring requirement for operators, rather it clarifies the operator's safety management responsibilities in relation to LVOs.</p>



comment

674

comment by: *FNAM*

## ISSUE AND PROPOSAL

Collection and analysis of data are currently required for CAT II and CAT III operations only. The proposed disposal requires data collection and analysis for all LVO operations, *i.e.* SA CAT I, SA CAT II, EFVS, etc. FNAM fears that it would imply additional works for operators. Economic impacts may be significant for them, in particular for SME. FNAM wonders what would become current approvals and what are the measures for operators for the transition period. Can operators use their current approvals, for example LTS CAT I and OTS CAT II, in order to obtain new approvals and demonstrate only new requirements proposed in this disposal? FNAM suggests that current demonstrations and approvals could remain applicable and could be reused for further demonstrations. For example, it should be the case for an operator performing OTS CAT II operations willing to perform SA CAT II operations.

response

Not accepted

SA CAT I and SA CAT II are new operational credits and operators will need to demonstrate compliance with the applicable requirements in order to be granted an approval. Implementation of SA CAT I and SA CAT II are not mandatory, so there is no negative economic impact on operators who choose not to apply for an approval.

comment

675

comment by: *FNAM*

## ISSUE AND PROPOSAL – (3)

An additional data to collect is added : ‘occasions when system abnormalities required pilot intervention to ensure a continued approach or safe landing’. This additional data may have a significant impact on operators. Indeed, procedures should be modified, flight crew should be sensitized, additional personnel resources should be allocated to this new data analysis, etc. Therefore, FNAM suggests to ensure a smooth transition period allowing operators to adapt their activities to this new requirement. Plus, some demonstrations could take benefit of current and approved quality systems of operators. This would reduce the administrative burden for operators but also for NAA.

response

Not accepted

In order to align with ICAO standards (Annex 6 6.24.1), SPA.LVO.105 includes a requirement for the operator to conduct a safety risk assessment. This safety risk assessment will require data gathering, but as the existing rules require operations to be continuously monitored by the operator to detect undesirable trends (AMC3 SPA.LVO.105), the required data will already be available. Most of the data can be gathered through an operator’s flight data monitoring programme.

comment

676

comment by: *FNAM*

## ISSUE AND PROPOSAL – (d)



	<p>An additional data to collect is added: the performance indicators. This additional data may have a significant impact on operators. Indeed, procedures should be modified, flight crew should be sensitized, additional personnel resources should be allocated to this new data analysis, etc. Therefore, FNAM suggests to ensure a smooth transition period allowing operators to adapt their activities to this new requirement. Plus, some demonstrations could take benefit from current and approved quality systems of operators. This would reduce the administrative burden for operators but also for NAA.</p>
response	<p>Not accepted</p> <p>In order to align with ICAO standards (Annex 6 6.24.1), SPA.LVO.105 includes a requirement for the operator to conduct a safety risk assessment.</p>
comment	<p>677                      comment by: <i>FNAM</i></p> <p>AGREEMENT</p> <p>Requirements on data analysis are removed. In that way, operators would be able to adapt the analysis depending on their activities and their resources, which should be more proportionate and adapted to operational reality.</p>
response	<p>Noted</p>
comment	<p>747                      comment by: Volkswagen AirService GmbH</p> <p>(a) Clarify, that only approach operations have to be monitored. If takeoff operations (also considered LVO) also need to be monitored, the requirements need to be clearly defined.</p>
response	<p>Noted</p> <p>Further to AMC1 SPA.LVO.105(f), the operator should monitor LVOs and operations with operational credit. The scope is not restricted to approach operations, but detailed requirements are included for approach operations.</p>
comment	<p>840                      comment by: <i>Germanwings</i></p> <p>AMC1 SPA.LVO.105(f) Specific approval criteria GM1 SPA.LVO.105(f) Specific approval criteria</p> <p>NPA text ./.</p> <p>Requested change Continuous Monitoring (Safety Performance Monitoring) for operators conducting LVOs only (i.e. not using operation with operational credits) should be retained from current regulations in line with a risk-based approach to regulation. Data collection by means of the operator's flight data monitoring programme for operators conducting LVOs only (i.e. not using operation with operational credits) should be limited to safety assessment prior to obtaining an approval.</p>

	<p>Justification</p> <p>The current continuous monitoring for operators conducting LVOs only (i.e. not using operation with operational credit) has proven its effectivity in meeting the safety objectives and performance standards and in achieving the same level of safety as operation other than LVOs. Additional monitoring requirements will not improve the effectivity in meeting the safety objectives and performance standards.</p>
response	<p>Not accepted</p> <p>The proposal has been developed in order to implement a risk-based approach to the regulation. There is already a provision for operators to continuously monitor low-visibility operations to detect undesirable trends (AMC3 SPA.LVO.105). The revised wording reflects the provision for operators to identify hazards, conduct risk assessment and measure safety performance (AMC1 ORO.GEN.200(a)(3)). The use of FDM is only mandated for operators that are required to have an FDM programme and such operators will already be automatically collecting the data required. The proposed AMC does not introduce an additional monitoring requirement for operators, rather it clarifies the operator's safety management responsibilities in relation to LVOs.</p>
comment	<p>891                      comment by: Lufthansa Cargo</p> <p>Requested change</p> <p>Lufthansa Cargo requests EASA to retain the Continuous Monitoring (Safety Performance Monitoring) for operators conducting LVOs only (i.e. not using operation with operational credits) from current regulation.</p> <p>Justification</p> <p>The current regulation regarding continuous monitoring has proven its effectiveness by meeting the safety objectives and performance standards and by achieving the same level of safety as operation other than LVOs. Additional monitoring requirements will not improve the effectiveness of meeting the safety objectives and performance standards. The introduction of operation with operational credits demands additional monitoring requirements. These additional requirements should not be applicable for operators conducting LVOs only (i.e. not using operation with operational credit). This request is in line with a risk-based approach to regulation.</p>
response	<p>Not accepted</p> <p>The proposal has been developed in order to implement a risk-based approach to the regulation. There is already a provision for operators to continuously monitor low-visibility operations to detect undesirable trends (AMC3 SPA.LVO.105). The revised wording reflects the provision for operators to identify hazards, conduct risk assessment and measure safety performance (AMC1 ORO.GEN.200(a)(3)). The use of FDM is only mandated for operators that are required to have an FDM programme and such operators will already be automatically collecting the data required. The</p>



proposed AMC does not introduce an additional monitoring requirement for operators, rather it clarifies the operator's safety management responsibilities in relation to LVOs.

AMC2 SPA.LVO.105(f) Specific approval criteria

p. 126-127

comment

376

comment by: J.Woehrlin/DLH

AMC2 SPA.LVO.105(f) Specific approval criteria

NPA text

(b) The operator applying for the approval of low-visibility approach operations should determine the minimum number of approaches required to gather sufficient data to demonstrate an acceptable level of safety and the time period over which such data should be gathered.

LH supports this risk-based AMC and associated GM2 SPA.LVO.105(f).

response

Noted

comment

485

comment by: Swiss International Air Lines Ltd.

SWISS supports the risk-based approach of (b) in this AMC and associated GM2 SPA.LVO.105(f).

response

Noted

comment

528

comment by: Austrian Airlines

AMC2 SPA.LVO.105(f) Specific approval criteria

AUSTRIAN AIRLINES supports the risk-based approach of (b) in this AMC and associated GM2 SPA.LVO.105(f).

response

Noted

comment

678

comment by: FNAM

AGREEMENT – (b)

FNAM agrees and thanks EASA for providing the responsibility to operators to determine the number of approach for gathering sufficient data in order to evaluate the flight safety level. In that way, the requirement is more proportionate to operator activities.

response

Noted



comment	679	comment by: <i>FNAM</i>
	<p>AGREEMENT</p> <p>FNAM thanks EASA for allowing the demonstration for an approval by using data of other approvals with other aircraft, other categories of operations or similar operations. It would reduce the administrative burden for operators.</p>	
response	Noted	

comment	841	comment by: <i>Germanwings</i>
	<p>AMC2 SPA.LVO.105(f) Specific approval criteria</p> <p>NPA text</p> <p>(b) The operator applying for the approval of low-visibility approach operations should determine the minimum number of approaches required to gather sufficient data to demonstrate an acceptable level of safety and the time period over which such data should be gathered.</p> <p>Comment</p> <p>BDL supports this risk-based AMC and associated GM2 SPA.LVO.105(f).</p>	
response	Noted	

GM1 SPA.LVO.105(f) Specific approval criteria

p. 128-130

comment	95	comment by: <i>AIRBUS</i>
	<p>GM2 SPA.LVO.105(f) Specific approval criteria</p> <p>In (c), it is stated:</p> <p><i>“The operator will need to demonstrate that the rate of successful low-visibility approaches is not low-er than that anticipated by CS-AWO (i.e. 95 %)”</i></p> <p>Please clarify that this Guidance Material is not applicable to EFVS operation. Consider adding a dedicated guidance material applicable to EFVS operations.</p> <p><u>Rationale:</u> This guidance material seems rather CATII/CATTIII oriented. In particular the criteria of 95% rate of success seems not really applicable to the EFVS approaches.</p>	
response	<p>Partially accepted</p> <p>The guidance in point (c) is intended to be relevant to low-visibility approach operations with a DH below 200 ft (e.g. CAT II/III). The heading of this section has been amended to make this clear.</p>	



comment	<p>139 comment by: Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</p> <p>This comment refers to GM2 SPA.LVO.105(f), which is not included in the list of segments although the text is new:</p> <p>So for GM2 SPA.LVO.105(f) we <b>propose</b>:</p> <p>(b) Data gathering for safety assessment: low-visibility take-off</p> <p>If the procedures used for LVTO are not significantly different from those used for standard take-off, it may be sufficient for operators to conduct only a small number of take-offs using the procedures established for LVTO for the purpose of data gathering. The following could be considered as minimum:</p> <p>(1) For LVTO in an RVR of 125 m or more, <b>using similar procedures for all LVTO</b>: 1 take-off;</p> <p>(2) For LVTO in an RVR of less than 125 m <b>or any other LVTO using specific procedures</b>: 10 take-offs;</p> <p><b>Rationale:</b> LVTO in RVR &lt; 125 m requires equipment, which is likely to result in different procedures. What applies if the LVTO procedures are significantly different? Our proposal covers both cases.</p> <p><b>Comment:</b> Does one take-off really provide sufficient data, both for rejected take-off (for various reasons) and continued take-off? Requiring at least two take-offs should not be very onerous since data could be collected during simulator training.</p>
response	Accepted
comment	<p>205 comment by: UK CAA</p> <p>Page No: 126</p> <p><b>Paragraph No:</b> AMC1 SPA.LVO.105(f) paragraph (e)(2)(iii)</p> <p><b>Comment:</b> This information is not available via FDM unless paired with other data and will probably need to be obtained from air safety report data in combination with FDM.</p> <p>Information about ‘missed approach because of ATC instructions’ would have to come from the safety reporting system or other sources of information.</p> <p><b>Justification:</b> Clarity, practical application</p>
response	Partially accepted



AMC1 SPA.LVO.105(f) point (c) has been amended to clarify the data sources that should be used.

comment

206 comment by: UK CAA

Page No: 128

**Paragraph No:** GM1 SPA.LVO.105(f) paragraphs (b) and (c)

**Comment:** We believe the distinction of data collection via FDM or safety reports in paragraphs (b) and (c) is incorrect and unnecessary. We recommend that they be combined into a single paragraph.

**Justification:** The data mentioned in points (8) through to (13) of paragraph (b) are expected to be recorded by the crew and reported in safety reports. This seems to be unrealistic and impractical. These indicators are better captured via FDM.

Proposed Text:

(b) ~~Where data is collected by means of flight crew reports, each report may include~~ For each approach, the following data should be gathered via flight crew reports, flight data monitoring or other means, as appropriate:

- (1) Date and time
  - (2) Aircraft details
  - (3) ...
- (continue until item 15)

(c) Where data is gathered as part of the operator's flight data monitoring programme, procedures should be established to ensure that information that is only available directly from the flight crew or other sources (e.g. weather information) is captured.

response

Partially accepted

The text has been amended to clarify that the information listed in (b) may be collected via flight crew reports, flight data monitoring or other means, as appropriate.

comment

207 comment by: UK CAA

Page No: 128

**Paragraph No:** GM1 SPA.LVO.105(f) paragraph (b) and (c)

**Comment:** In light of the UK CAA's previous comment to delete the current text in paragraph (c), we recommend it should be replaced with guidance for monitoring take-offs in LVO.

**Justification:** There is no guidance for which SPIs are relevant for take-off.



response	<p>Not accepted</p> <p>Point (c) has not been deleted.</p>
comment	<p>208                      comment by: <i>UK CAA</i></p> <p>Page No: 129</p> <p><b>Paragraph No:</b> GM1 SPA.LVO.105(f) paragraph (e)(3)</p> <p><b>Comment:</b> We believe it is not reasonable to expect a continuously improving safety performance beyond a certain point in time. While the safety performance levels may improve in the beginning, it is inevitable that these will converge and stabilize to a given level after some time. This is the natural result of achieving the optimal level of performance that any given “system” can deliver. To improve safety levels beyond “maturity” a step change in the system must be introduced via new technology, new procedures, new regulation, etc.</p> <p><b>Justification:</b> A more realistic and practical long-term objective is required.</p> <p>Proposed Text:  <del>(3) have a continuously improving safety performance.</del> The safety performance should achieve or exceed the acceptable level of safety. Degradations on this level should be promptly detected and corrected as part of the operator’s management system.</p>
response	<p>Not accepted</p> <p>Continuous improvement is an important element of an effective safety management system, as described in AMC1 ORO.GEN.200(a)(3).</p>
comment	<p>211                      comment by: <i>UK CAA</i></p> <p>Page No: 128</p> <p><b>Paragraph No:</b> GM1 SPA.LVO.105(f)</p> <p><b>Comment:</b> We suggest rewording the title of this paragraph to better reflect its intent and differentiate it from GM2 SPA.LVO.105(f).</p> <p>Justification: Clarity.</p> <p>Proposed Text:  SPECIFICATION OF SAFETY PERFORMANCE INDICATORS</p>
response	<p>Not accepted</p> <p>The GM contains information on data gathering, hazard identification and unacceptable safety outcomes. It is not limited to safety performance indicators</p>



(SPI). There is no specification for SPI in the guidance. Each operator will establish their own SPIs.

comment

373

comment by: J.Woehrlin/DLH

AMC1 SPA.LVO.105(f) Specific approval criteria  
GM1 SPA.LVO.105(f) Specific approval criteria

NPA text

## Requested change

Continuous Monitoring (Safety Performance Monitoring) for operators conducting LVOs only (i.e. not using operation with operational credits) should be retained from current regulations in line with a risk-based approach to regulation. Data collection by means of the operator's flight data monitoring programme for operators conducting LVOs only (i.e. not using operation with operational credits) should be limited to safety assessment prior to obtaining an approval.

## Justification

The current continuous monitoring for operators conducting LVOs only (i.e. not using operation with operational credit) has proven its effectivity in meeting the safety objectives and performance standards and in achieving the same level of safety as operation other than LVOs. Additional monitoring requirements will not improve the effectivity in meeting the safety objectives and performance standards.

response

Not accepted

The proposal has been developed in order to implement a risk-based approach to the regulation. There is already a provision for operators to continuously monitor low-visibility operations to detect undesirable trends (AMC3 SPA.LVO.105). The revised wording reflects the provision for operators to identify hazards, conduct risk assessment and measure safety performance (AMC1 ORO.GEN.200(a)(3)). The use of FDM is only mandated for operators that are required to have an FDM programme and such operators will already be automatically collecting the data required. The proposed AMC does not introduce an additional monitoring requirement for operators, rather it clarifies the operator's safety management responsibilities in relation to LVOs.

comment

377

comment by: J.Woehrlin/DLH

GM2 SPA.LVO.105(f) Specific approval criteria

NPA text



	<p>(c) [...] Approaches conducted for the purpose of gathering data [...]. Approaches may also be conducted in an FSTD if the operator is satisfied that this would be representative of the operation.</p> <p>The data gathered from these approaches will only be representative if all required elements of the total system for LVOs are in place. [...]. If the operator chooses to collect data from approaches conducted without all required elements in place, then the data analysis should take into account the effect of at least the following: [...]</p> <p>Requested change</p> <p>Use separate paragraphs for:</p> <ol style="list-style-type: none"> <li>1. required considerations for data gathering in an FSTD, and</li> <li>2. required considerations for data gathering during actual flight operations without all required elements in place</li> </ol> <p>Justification</p> <p>Required considerations for data gathering in an FSTD and for data gathering during actual flight operations (without all required elements in place) are not clear from the proposed amendment due to missing distinction.</p>
response	<p>Not accepted</p> <p>The text is in GM and is therefore not binding on an operator. The text presents information about data gathering during flight operations or in an FSTD. The considerations for data gathering without all elements of the total system are equally applicable to flight operations and FSTD operations. It is for the operator to determine the extent to which the data is representative or relevant.</p>
comment	<p>453                      comment by: <i>EUROCONTROL</i></p> <p>GM2 SPA.LVO.105(f) (3)</p> <p>This is ILS specific. MLS , GBAS specific elements should be added. Also there is no considerations regarding EFVS operations with operational credit based on non xLS guidance.</p> <p>Please consider MLS and GBAS inclusion.</p>
response	<p>Not accepted</p> <p>The GM contains some guidance on ILS approaches. This is because there are specific hazards related to the use for ILS, for example, interference with the ILS signal; other parts of the GM are applicable to all approach types.</p>
comment	<p>484                      comment by: <i>Swiss International Air Lines Ltd.</i></p> <p>Requested change</p>

	<p>SWISS requests EASA to retain the Continuous Monitoring (Safety Performance Monitoring) for operators conducting LVOs only (i.e. not using operation with operational credits) from current regulation.</p> <p>Justification</p> <p>The current regulation regarding continuous monitoring has proven its effectiveness by meeting the safety objectives and performance standards and by achieving the same level of safety as operation other than LVOs. Additional monitoring requirements will not improve the effectiveness of meeting the safety objectives and performance standards. The introduction of operation with operational credits demands additional monitoring requirements. These additional requirements should not be applicable for operators conducting LVOs only (i.e. not using operation with operational credit). This request is in line with a risk-based approach to regulation.</p>
response	<p>Not accepted</p> <p>The proposal has been developed in order to implement a risk-based approach to the regulation. There is already a provision for operators to continuously monitor low-visibility operations to detect undesirable trends (AMC3 SPA.LVO.105). The revised wording reflects the provision for operators to identify hazards, conduct risk assessment and measure safety performance (AMC1 ORO.GEN.200(a)(3)). The use of FDM is only mandated for operators that are required to have an FDM programme and such operators will already be automatically collecting the data required. The proposed AMC does not introduce an additional monitoring requirement for operators, rather it clarifies the operator's safety management responsibilities in relation to LVOs.</p>
comment	<p>486      comment by: Swiss International Air Lines Ltd.</p> <p>GM2 SPA.LVO.105(f) Specific approval criteria</p> <p>NPA text</p> <p>(c) [...] Approaches conducted for the purpose of gathering data [...]. Approaches may also be conducted in an FSTD if the operator is satisfied that this would be representative of the operation.</p> <p>The data gathered from these approaches will only be representative if all required elements of the total system for LVOs are in place. [...]. If the operator chooses to collect data from approaches conducted without all required elements in place, then the data analysis should take into account the effect of at least the following: [...]</p> <p>Requested change</p> <p>SWISS requests EASA to separate the following into two distinct paragraphs:</p> <ol style="list-style-type: none"> <li>1. the required considerations for data gathering in an FSTD, and</li> <li>2. the required considerations for data gathering during actual flight operations without all required elements in place</li> </ol> <p>Justification</p>

	<p>The required considerations for data gathering in an FSTD and for data gathering during actual flight operations (without all required elements in place) are not clear from the proposed amendment due to missing distinction.</p>
response	<p>Not accepted</p> <p>The text is in GM and is therefore not binding on an operator. The text presents information about data gathering during flight operations or in an FSTD. The considerations for data gathering without all elements of the total system are equally applicable to flight operations and FSTD operations. It is for the operator to determine the extent to which the data is representative or relevant.</p>
comment	<p>527                      comment by: Austrian Airlines</p> <p>GM1 SPA.LVO.105(f) Specific approval criteria</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to retain the Continuous Monitoring (Safety Performance Monitoring) for operators conducting LVOs only (i.e. not using operation with operational credits) from current regulation.</p> <p>Justification The current regulation regarding continuous monitoring has proven its effectiveness by meeting the safety objectives and performance standards and by achieving the same level of safety as operation other than LVOs. Additional monitoring requirements will not improve the effectiveness of meeting the safety objectives and performance standards. The introduction of operation with operational credits demands additional monitoring requirements. These additional requirements should not be applicable for operators conducting LVOs only (i.e. not using operation with operational credit). This request is in line with a risk-based approach to regulation.</p>
response	<p>Not accepted</p> <p>The proposal has been developed in order to implement a risk-based approach to the regulation. There is already a provision for operators to continuously monitor low-visibility operations to detect undesirable trends (AMC3 SPA.LVO.105). The revised wording reflects the provision for operators to identify hazards, conduct risk assessment and measure safety performance (AMC1 ORO.GEN.200(a)(3)). The use of FDM is only mandated for operators that are required to have an FDM programme and such operators will already be automatically collecting the data required. The proposed AMC does not introduce an additional monitoring requirement for operators, rather it clarifies the operator's safety management responsibilities in relation to LVOs.</p>
comment	<p>529                      comment by: Austrian Airlines</p> <p>GM2 SPA.LVO.105(f) Specific approval criteria</p>

	<p>NPA text</p> <p>(c) [...] Approaches conducted for the purpose of gathering data [...]. Approaches may also be conducted in an FSTD if the operator is satisfied that this would be representative of the operation.</p> <p>The data gathered from these approaches will only be representative if all required elements of the total system for LVOs are in place. [...]. If the operator chooses to collect data from approaches conducted without all required elements in place, then the data analysis should take into account the effect of at least the following: [...]</p> <p>Requested change</p> <p>AUSTRIAN AIRLINES requests EASA to separate the following into two distinct paragraphs:</p> <ol style="list-style-type: none"> <li>1. the required considerations for data gathering in an FSTD, and</li> <li>2. the required considerations for data gathering during actual flight operations without all required elements in place</li> </ol> <p>Justification</p> <p>The required considerations for data gathering in an FSTD and for data gathering during actual flight operations (without all required elements in place) are not clear from the proposed amendment due to missing distinction.</p>
response	<p>Not accepted</p> <p>The text is in GM and is therefore not binding on an operator. The text presents information about data gathering during flight operations or in an FSTD. The considerations for data gathering without all elements of the total system are equally applicable to flight operations and FSTD operations. It is for the operator to determine the extent to which the data is representative or relevant.</p>
comment	<p>680 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>Additional data to collect are added. This additional data may have a significant impact on operators. Indeed, procedures should be modified, flight crew should be sensitized, additional personnel resources should be allocated to this new data analysis, etc. Therefore, FNAM suggests to ensure a smooth transition period for allowing operators to adapt their activities to this new requirement. Plus, some demonstrations could take benefit of current and approved quality systems of operators. This would reduce the administrative burden for operators but also for NAA.</p>
response	<p>Not accepted</p> <p>In order to align with ICAO standards (Annex 6 6.24.1) SPA.LVO.105 includes a requirement for the operator to conduct a safety risk assessment. Each operator will decide the extent to which the data from previous operations is relevant to this safety assessment.</p>

comment	<p>681 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (b)(11)</p> <p>This EASA proposed disposal introduces new requirements for the data to collect by means of flight crew reports. It transposes also current requirements. Nevertheless, proposed AMC does not differentiate helicopters requirements and aeroplanes requirements. Thus, more restrictive measures which are currently applicable only for helicopter, are now applicable for all type of operations. This is against this NPA main objective which is to introduce new possibilities without providing more restrictive measures which would be applicable for all operators. <i>FNAM</i> suggests to keep the current requirements and separate helicopters and aeroplanes operations distinctly.</p>
response	<p>Not accepted</p> <p>Proposals for helicopters have not been included in the current NPA.</p>
comment	<p>682 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (b) &amp; (c)</p> <p>This EASA proposed disposal precises the number of approaches in LVTO to ensure to gather enough data for safety assessment. This precision is not consistent with EASA philosophy of gathering data.</p> <p>On one hand, EASA ensures that only operators are able to judge the number of approaches and operations to have efficient data.</p> <p>On the other hand, EASA precises the exact number of approaches for operators to have efficient data.</p> <p>Since this non-consistency may lead to misunderstanding, <i>FNAM</i> suggests to remove the precision on the number of approaches. Indeed, only operators, depending on their activities, their fleet and their characteristics, would be able to judge how many operations are necessary to obtain efficient data.</p>
response	<p>Not accepted</p> <p>Whereas the existing AMC1 SPA.LVO.105 specifies the number of approaches to be conducted prior to grant of approval, the proposed AMC2 SPA.LVO.105(f) states that the operator should determine the number of approaches required. Similarly, an operator applying for LVTO approval will determine how to demonstrate to the competent authority that an acceptable level of safety will be achieved.</p> <p>GM2 SPA.LVO.105(f) provides guidance based on the number of approaches specified in the current AMC because this has been demonstrated, over many years, to provide an acceptable level of safety. There is no obligation on any operator to accept this guidance.</p>
comment	<p>683 comment by: <i>FNAM</i></p> <p>EDITORIAL ISSUE – (b)</p> <p>The numbering is not correct</p>

response	Accepted The point numbering has been amended.
comment	684 comment by: <i>FNAM</i>  AGREEMENT FNAM agrees and thanks EASA for transposing AMC requirements in GM. This precision are more guidance by nature than requirements.
response	Noted
comment	685 comment by: <i>FNAM</i>  AGREEMENT – (c) FNAM agrees and thanks EASA for introducing more flexibility to collect data : ‘approaches conducted for the purpose of gathering data...’. This EASA proposed disposal is more adapted to operational reality.
response	Noted
comment	691 comment by: <i>Dassault-Aviation</i>  Text: GM2 SPA.LVO.105(f) page 129 " (c) Data gathering...  The operator will need to demonstrate that the rate of successful low-visibility approaches is not lower than that anticipated by CS-AWO (i.e. 95 %)..."  Comment: To demonstrate a sucess rate of 95% for EFVS operation is well requested by CS AWO for SA CATI (CS AWO.B.SACATI.103), CATII (CS AWO.B.CATII.103) or CAT III (CS AWO.B.CATIII.103) but such a requirement does not exist for EFVS operations in CS AWO. On the other hand, the GM2.SPA.LVO.110 is related to all LVO operations including EFVS.  Proposed change: NPA 2018-06(C) and NPA 2018-06(B) should be made consistent.
response	Accepted The sentence has been deleted.
comment	842 comment by: <i>Germanwings</i>  GM2 SPA.LVO.105(f) Specific approval criteria



	<p>NPA text</p> <p>(c) [...] Approaches conducted for the purpose of gathering data [...]. Approaches may also be conducted in an FSTD if the operator is satisfied that this would be representative of the operation.</p> <p>The data gathered from these approaches will only be representative if all required elements of the total system for LVOs are in place. [...]. If the operator chooses to collect data from approaches conducted without all required elements in place, then the data analysis should take into account the effect of at least the following: [...]</p> <p>Requested change</p> <p>Use separate paragraphs for:</p> <ol style="list-style-type: none"> <li>1. required considerations for data gathering in an FSTD, and</li> <li>2. required considerations for data gathering during actual flight operations without all required elements in place</li> </ol> <p>Justification</p> <p>Required considerations for data gathering in an FSTD and for data gathering during actual flight operations (without all required elements in place) are not clear from the proposed amendment due to missing distinction.</p>
response	<p>Not accepted</p> <p>The text is in GM and is therefore not binding on an operator. The text presents information about data gathering during flight operations or in an FSTD. The considerations for data gathering without all elements of the total system are equally applicable to flight operations and FSTD operations. It is for the operator to determine the extent to which the data is representative or relevant.</p>
comment	<p>892                      comment by: Lufthansa Cargo</p> <p>Lufthansa Cargo supports the risk-based approach of (b) in this AMC and associated GM2 SPA.LVO.105(f).</p>
response	<p>Noted</p>
comment	<p>893                      comment by: Lufthansa Cargo</p> <p>NPA text</p> <p>(c) [...] Approaches conducted for the purpose of gathering data [...]. Approaches may also be conducted in an FSTD if the operator is satisfied that this would be representative of the operation.</p> <p>The data gathered from these approaches will only be representative if all required elements of the total system for LVOs are in place. [...]. If the operator chooses to collect data from approaches conducted without all required elements in place, then the data analysis should take into account the effect of at least the following: [...]</p> <p>Requested change</p>

	<p>Lufthansa Cargo requests EASA to separate the following into two distinct paragraphs:</p> <ol style="list-style-type: none"> <li>1. the required considerations for data gathering in an FSTD, and</li> <li>2. the required considerations for data gathering during actual flight operations without all required elements in place</li> </ol> <p>Justification</p> <p>The required considerations for data gathering in an FSTD and for data gathering during actual flight operations (without all required elements in place) are not clear from the proposed amendment due to missing distinction.</p>
<p>response</p>	<p>Not accepted</p> <p>The text is in GM and is therefore not binding on an operator. The text presents information about data gathering during flight operations or in an FSTD. The considerations for data gathering without all elements of the total system are equally applicable to flight operations and FSTD operations. It is for the operator to determine the extent to which the data is representative or relevant.</p>

SPA.LVO.110 ANS-and aerodrome related requirements

p. 130-131

<p>comment</p>	<p>48      comment by: German NSA (BAF)</p> <p>According to the changes introduced with the NPA, it is the responsibility of the operator to determine whether the instrument approach procedures (IAPs) are suitable for the EFVS and LVO operations. The NPA also does not propose any changes to the way the IAPs are designed (ICAO Doc 8168) and does not explicitly foresee any changes to the existing IAPs. However, reading AMC1 SPA.LVO.110, it seems that the IAPs designed according to ICAO Doc 8168 might not be suitable. Clarity would be needed, how the operator is supposed to decide whether or not an IAP is suitable and whether it will be necessary to change the IAPs or somehow indicate their suitability.</p> <p>s. CAT.OP.MPA 312 (b) and AMC1 CAT.OP.MPA 312 (b)</p>
<p>response</p>	<p>Partially accepted</p> <p>The criteria for determining the suitability of IAP for low-visibility approach procedures are detailed in AMC1 SPA.LVO.110.</p> <p>The criteria for EFVS are detailed in AMC5. The title of AMC5 has been amended to clarify that the content includes IAP as well as runways and the wording has been amended to clarify which types of IAP are suitable for EFVS operations, as well as those for which an operational assessment is required.</p> <p>SPA.LVO.110 does not include any suggestion that IAP designed in accordance with ICAO Doc 8168 would not be suitable for LVOs other than EFVS. There are additional considerations for EFVS that are not included in procedure design for NPA procedures and approach procedures with vertical guidance.</p>



comment	<p>99 comment by: DFS Deutsche Flugsicherung GmbH</p> <p>See also our comment #20: Laying down requirements on ANSP and ADR Operator within the AMC of this requirement is not a good solution, as regulation 965/2012 is not applicable to them.</p> <p>The renaming of SPA.LVO.110 as "ANS- and aerodrome-related requirements" is not supported. We suggest to keep the former title "general operating requirements" or even use "operator requirements" and put - if any - relevant requirements (including AMC/GM) on ANSP and ADR operator in the regulations applicable to them.</p>
response	<p>Not accepted</p> <p>SPA.LVO.110 does not include requirements for ANSP or ADR operators. The rule sets out the requirements for the conduct of LVOs and operations with operational credits in relation to air navigation services and aerodromes, hence the title.</p>
comment	<p>452 comment by: EUROCONTROL</p> <p>GM2 SPA.LVO.105(f)(c )</p> <p>ILS only used in text</p> <p>Resolution proposal</p> <p>GBAS Change: from "a flight conducting an ILS approach is vectored too close to the FAF for satisfactory localiser and glideslope capture" to "a flight conducting an approach is vectored too close to the FAF for satisfactory lateral and vertical path capture"</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>
comment	<p>686 comment by: FNAM</p> <p>AGREEMENT</p> <p>FNAM agrees and thanks EASA for focusing this proposed implementation rule only on the purpose of the rules and to describe means of compliance to this purpose in AMC. In that way, the proposed regulation structure and content are much easier to understand and to implement.</p>
response	<p>Noted</p>

AMC1SPA.LVO.110 ANS-and aerodrome-related requirements

p. 131-132

comment	<p>49 comment by: German NSA (BAF)</p>
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	<p>According to the changes introduced with the NPA, it is the responsibility of the operator to determine whether the instrument approach procedures (IAPs) are suitable for the EFVS and LVO operations. The NPA also does not propose any changes to the way the IAPs are designed (ICAO Doc 8168) and does not explicitly foresee any changes to the existing IAPs. However, reading AMC1 SPA.LVO.110, it seems that the IAPs designed according to ICAO Doc 8168 might not be suitable. Clarity would be needed, how the operator is supposed to decide whether or not an IAP is suitable and whether it will be necessary to change the IAPs or somehow indicate their suitability.</p> <p>s. CAT.OP.MPA 312 (b), AMC1 CAT.OP.MPA 312 (b) and SPA.LVO.110</p>
response	<p>Partially accepted</p> <p>The criteria for determining the suitability of IAP for low-visibility approach procedures are detailed in AMC1 SPA.LVO.110.</p> <p>The criteria for EFVS are detailed in AMC5. The title of AMC5 has been amended to clarify that the content includes IAP as well as runways and the wording has been amended to clarify which types of IAP are suitable for EFVS operations, as well as those for which an operational assessment is required.</p> <p>SPA.LVO.110 does not include any suggestion that IAP designed in accordance with ICAO Doc 8168 would not be suitable for LVOs other than EFVS. There are additional considerations for EFVS that are not included in procedure design for NPA procedures and approach procedures with vertical guidance.</p>
comment	<p>296                      comment by: <i>EUROCONTROL</i></p> <p>p. 131 - AMC1 SPA.LVO.110 (c) Is it required to allow equivalent means here? This could eliminate the need for radio altimeter operating area if those equivalent means are used.</p> <p>Review.</p>
response	<p>Not accepted</p> <p>Applying an AltMoC is an option in accordance with ORO.GEN.120</p>
comment	<p>378                      comment by: <i>J.Woehrlin/DLH</i></p> <p>AMC1 SPA.LVO.110 ANS- and aerodrome-related requirements</p> <p>NPA text (a) CAT II instrument approach operations should only be conducted using a CAT II IAP. (b) CAT III instrument approach operations should only be conducted using a CAT III IAP. [...]</p>

	<p>Requested change Rephrase (a) (b) (c) (d). Example for (a): 'CAT II instrument approach operations should only be conducted using a precision approach procedure with a DH lower than 200ft and an RVR lower than 550m'</p> <p>Justification The terms used in the NPA (CAT I IAP, CAT II IAP, CAT III IAP) are ambiguous due to missing definitions. According to Annex I, IAPs are divided into NPA, APV and PA. No further division is defined.</p>
response	<p>Not accepted</p> <p>The proposed definition is self-referential. The decision height and RVR are determined by the classification of operation. The intent of the AMC is to ensure that the operator uses approach procedures designed for the correct category of operation.</p>
comment	<p>487      comment by: Swiss International Air Lines Ltd.</p> <p>NPA text (a) CAT II instrument approach operations should only be conducted using a CAT II IAP. (b) CAT III instrument approach operations should only be conducted using a CAT III IAP. [...]</p> <p>Requested change SWISS requests EASA to rephrase (a) (b) (c) (d). Example for (a): 'CAT II instrument approach operations should only be conducted using a precision approach procedure with a DH lower than 200ft and an RVR lower than 550m'</p> <p>Justification The terms used in the NPA (CAT I IAP, CAT II IAP, CAT III IAP) are ambiguous due to missing definitions. According to Annex I, IAPs are divided into NPA, APV and PA. No further division is defined.</p>
response	<p>Not accepted</p> <p>The proposed definition is self-referential. The decision height and RVR are determined by the classification of operation. The intent of the AMC is to ensure that the operator uses approach procedures designed for the correct category of operation.</p>
comment	<p>533      comment by: Austrian Airlines</p> <p>AMC1 SPA.LVO.110 ANS- and aerodrome-related requirements</p>

	<p>NPA text  (a) CAT II instrument approach operations should only be conducted using a CAT II IAP.  (b) CAT III instrument approach operations should only be conducted using a CAT III IAP.  [...]</p> <p>Requested change  AUSTRIAN AIRLINES requests EASA to rephrase (a) (b) (c) (d).  Example for (a): ‘CAT II instrument approach operations should only be conducted using a precision approach procedure with a DH lower than 200ft and an RVR lower than 550m’</p> <p>Justification  The terms used in the NPA (CAT I IAP, CAT II IAP, CAT III IAP) are ambiguous due to missing definitions. According to Annex I, IAPs are divided into NPA, APV and PA. No further division is defined.</p>
response	<p>Not accepted</p> <p>The proposed definition is self-referential. The decision height and RVR are determined by the classification of operation. The intent of the AMC is to ensure that the operator uses approach procedures designed for the correct category of operation.</p>
comment	<p>843                      comment by: <i>Germanwings</i></p> <p>AMC1 SPA.LVO.110 ANS- and aerodrome-related requirements</p> <p>NPA text  (a) CAT II instrument approach operations should only be conducted using a CAT II IAP.  (b) CAT III instrument approach operations should only be conducted using a CAT III IAP.</p> <p><u>Requested change</u> Rephrase (a) (b) (c) (d).  Example for (a): ‘CAT II instrument approach operations should only be conducted using a precision approach procedure with a DH lower than 200ft and an RVR lower than 550m’.</p> <p>Justification  The terms used in the NPA (CAT I IAP, CAT II IAP, CAT III IAP) are ambiguous due to missing definitions. According to Annex I, IAPs are divided into NPA, APV and PA. No further division is defined.</p>
response	<p>Not accepted</p> <p>The proposed definition is self-referential. The decision height and RVR are determined by the classification of operation. The intent of the AMC is to ensure that</p>

the operator uses approach procedures designed for the correct category of operation.

comment

894 comment by: Lufthansa Cargo

NPA text

(a) CAT II instrument approach operations should only be conducted using a CAT II IAP.

(b) CAT III instrument approach operations should only be conducted using a CAT III IAP.

[...]

Requested change

Lufthansa Cargo requests EASA to rephrase (a) (b) (c) (d).

Example for (a): 'CAT II instrument approach operations should only be conducted using a precision approach procedure with a DH lower than 200ft and an RVR lower than 550m'

Justification

The terms used in the NPA (CAT I IAP, CAT II IAP, CAT III IAP) are ambiguous due to missing definitions. According to Annex I, IAPs are divided into NPA, APV and PA. No further division is defined.

response

Not accepted

The proposed definition is self-referential. The decision height and RVR are determined by the classification of operation. The intent of the AMC is to ensure that the operator uses approach procedures designed for the correct category of operation.

AMC2 SPA.LVO.110 ANS-and aerodrome-related requirements

p. 132

comment

687 comment by: FNAM

ISSUE AND PROPOSAL

This EASA proposed guidance transposes part of current LVTO characteristics. However, it presents conditions for LVTO depending on LVP establishment. Since LVP concept is removed from Annex I and is replaced by LVO, FNAM suggests to keep the definition of LVP in Annex I. FNAM suggests to harmonize Annex I with this guidance.

response

Partially accepted

LVPs have not been replaced by LVOs. The two terms have different meanings. A definition of LVPs has been included in GM to Annex I

AMC3 SPA.LVO.110 ANS-and aerodrome-related requirements

p. 132-133



comment	<p>23      comment by: Luftfahrt-Bundesamt</p> <p>With respect to LBA-Comment #22, we propose the following adjusted text for AMC3 SPA.LVO.110 (c) (4):</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>(4) the pre-threshold terrain should have been surveyed and assessed as suitable with regard to the usability of the radio altimeter or other device capable of providing equivalent performance and landing systems (e.g. autoland, HUDLS/HGS with flare prompt/guidance); and</p> </div>
response	Accepted
comment	<p>24      comment by: Luftfahrt-Bundesamt</p> <p>With respect to LBA-Comment #22, we propose the following adjusted text for AMC3 SPA.LVO.110 (d) (4):</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>(4) the pre-threshold terrain should have been surveyed and assessed as suitable with regard to the usability of the radio altimeter or other device capable of providing equivalent performance landing systems (e.g. autoland, HUDLS/HGS with flare prompt/guidance); and</p> </div>
response	Accepted
comment	<p>25      comment by: Luftfahrt-Bundesamt</p> <p>With respect to LBA-Comment #22, we propose the following adjusted text for AMC3 SPA.LVO.110 (f):</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>(f) Each aircraft type/equipment/runway combination should be verified by operations in CAT I or better conditions before authorising the use of landing systems (e.g. autoland, HUDLS/HGS with flare prompt/guidance) on any runway with irregular pre-threshold terrain or other foreseeable or known difficulties.</p> </div>
response	Accepted

comment	<p>31 comment by: Volkswagen AirService GmbH</p> <p>CAT II: Confirm and clarify, that this relates to auto-land operations only: Auto-coupled CAT II approaches with manual landing should be unaffected by this requirements (which replaces the old AMC6 SPA.LVO.105). This means, those kind of operations can continue as before and are not affected by irregular pre-threshold terrain. There is no reference to radio altimeter behavior (which is part of type certification and flight testing).</p>
response	<p>Noted</p> <p>AMC3 SPA.LVO.110 has been reviewed to clarify that operators should verify the suitability of runways and pre-threshold terrain before authorising the use of systems that may be affected by irregular pre-threshold terrain or other foreseeable or known difficulties. This is not a requirement for CAT II manual landing operations to a PA category II or PA category III runway.</p>
comment	<p>80 comment by: AIRBUS</p> <p>Slope change in landing zone is usually not considered in certification but allowed in Aerodrome design GM.</p> <p>Airbus suggests to add a new paragraph (g) with considerations on « irregular landing area » in AMC3 SPA.LVO.110 ANS- and aerodrome-related requirements (refer to comment 113 of part D):</p> <p>(g) if landing area presents significant longitudinal runway slopes change in excess of limits used to certify aircraft systems providing flare guidance, (refer to GM1 ADR.OPS.A.005 Aerodrome Data ) each aircraft type/equipment/runway combination should be verified by operations in CAT I or better condition (or landing system have demonstrated acceptable performance) before authorising the use of landing system on any runway with irregular landing area.</p>
response	<p>Accepted</p>
comment	<p>81 comment by: AIRBUS</p> <p>HUDLS and EVS-L requires flare cue, but no mention of landing area slope nor irregular pre-threshold ground profile to be considered in operational assessment.</p> <p>Airbus suggests to extend "autoland" to "Landing system" in AMC3 SPA.LVO.110 ANS-and aerodrome-related requirements and to add "irregular landing area" and "pre-threshold terrain" considerations in AMC5 SPA.LVO.110 ANS-and aerodrome-related requirements.</p> <p>AMC3 SPA.LVO.110 ANS- and aerodrome-related requirements SUITABLE AERODROMES – APPROACH OPERATIONS OTHER THAN EFVS OPERATIONS</p> <p>...</p>



	<p>(c) For SA CAT I operations:  (4) the pre-threshold terrain should have been surveyed and assessed as suitable with regard to the usability of the radio altimeter or other device capable of providing equivalent performance and <b>landing systems (e.g. autoland, HUDLS/HGS with flare cues)</b>; and</p> <p>(d) For SA CAT II operations:  (4) the pre-threshold terrain and landing area slope should have been surveyed and assessed as suitable with regard to the usability of the radio altimeter or other device capable of providing equivalent performance and <b>landing systems (e.g. autoland, HUDLS/HGS with flare cues)</b>; and</p> <p>(e) The operator should verify the suitability of a runway before authorising the use of <b>landing systems (e.g. autoland, HUDLS/HGS with flare cues)</b>; on any runway other than a PA runway category II or a PA runway category III.</p> <p>(f) Each aircraft type/equipment/runway combination should be verified by operations in CAT I or better conditions before authorising the use of <b>landing system (i.e. autoland, HUDLS, EFVS-L with flare cue)</b>, on any runway with irregular pre-threshold terrain, significant slope change in the landing area (refer to GM1 ADR.OPS.A.005 Aerodrome Data) or other foreseeable or known difficulties.</p> <p>AMC5 SPA.LVO.110 ANS- and aerodrome-related requirements  VERIFYING THE SUITABILITY OF RUNWAYS FOR EFVS OPERATIONS</p> <p>...</p> <p>(f) if the system used to perform EFVS operation contains a flare cues, Each aircraft type/equipment/runway combination should be verified by operations in CAT I or better conditions before authorising the use of EFVS-L system, on any runway with <b>irregular pre-threshold terrain</b>, if landing area presents significant slope change in the landing area, (refer to GM1 ADR.OPS.A.005 Aerodrome Data) or other foreseeable or known difficulties.</p>
response	Accepted

comment	<p>140 comment by: Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</p> <p><b>Suggest</b> change as follows:</p> <p>(c) For SA CAT I operations:  (3) the glide path angle is 3.0° unless the operator has assessed that a steeper glide path, not exceeding 3.5°, provides an equivalent level of safety;</p>
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	<p>(d) For SA CAT II operations: (3) the glide path angle is 3.0° unless the operator has assessed that a steeper glide path, not exceeding 3.5°, provides an equivalent level of safety;</p> <p><b>Rationale:</b> For LVO the GP angle should probably not exceed 3,0°, which is the optimum angle. FAA Order 8400.13E opens for steeper GPs based on authority approval. We should gain more experience or at least make a safety risk evaluation before opening for greater angles.</p> <p>An SA CAT II approach will use a CAT II IAP and those will not be designed with GP steeper than 3,0° in accordance with Pans-Ops. The reduced lighting associated with SA CAT II strongly talks against greater angles. FAA Order 8400.13E has the possibility for FAA to approve greater angles but in our case, Pans-Ops will not support this.</p>
response	Partially accepted
comment	<p>297 comment by: <i>EUROCONTROL</i></p> <p>p. 132 - AMC3 SPA.LVO.110 ILS class not specified for SA CAT I but is for SA CAT II.</p> <p>As AMC and SA CAT I is LVO consider to specify it for SA CAT I as well.</p>
response	<p>Not accepted</p> <p>The ILS performance required will depend on the characteristics of the aircraft. The ILS performance required is therefore to be specified in the AFM.</p>
comment	<p>299 comment by: <i>EUROCONTROL</i></p> <p>p. 132 - AMC3 SPA.LVO.110 (c) &amp; (d) No PA required although operations with DA below standard CAT I. Only lighting requirements.</p> <p>Need to add the non lighting requirements associated to precision approach.</p>
response	Noted
comment	<p>337 comment by: <i>KLM</i></p> <p>AMC3 SPA.LVO.110 ANS and aerodrome related requirements pge 132/133 Comment : Acceptable. Requirement of verification before authorization in CAT I or better conditions only applicable on any runway with irregular pre-treshold terrain or other foreseeable or known difficulties. Meaning no verification flight under standard conditions necessary any longer,</p>



response	Noted
comment	<p>380 comment by: J.Woehrlin/DLH</p> <p>AMC3 SPA.LVO.110 ANS- and aerodrome-related requirements</p> <p>NPA text</p> <p>(a) For CAT II instrument approach operations, a PA runway category II or category III should be used.</p> <p>(b) For CAT III instrument approach operations, a PA runway category III should be used.</p> <p>[...]</p> <p>(e) The operator should verify [...].</p> <p>(f) Each aircraft type/equipment/runway combination [...].</p> <p>Requested change</p> <p>Define the terms 'PA runway category II' and 'PA runway category III'.</p> <p>(e) and (f): This change is supported by LHG.</p> <p>Justification</p> <p>The terms used in the NPA (PA runway category II, PA runway category III) are ambiguous due to missing definitions.</p>
response	<p>Not accepted</p> <p>The specifications of various types of instrument runways is a matter for aerodrome operators and the definitions appear in Regulation (EU) No 139/2014. The responsibility of the aircraft operator is to ensure that suitable runways are used for LVOs.</p>
comment	<p>381 comment by: J.Woehrlin/DLH</p> <p>AMC3 SPA.LVO.110 ANS- and aerodrome-related requirements SUITABLE AERODROMES – APPROACH OPERATIONS OTHER THAN EFVS OPERATIONS</p> <p>NPA text</p> <p>(a) For CAT II instrument approach operations, a PA runway category II or category III should be used.</p> <p>(b) For CAT III instrument approach operations, a PA runway category III should be used.</p>



(e) The operator should verify the suitability of a runway before authorising the use of autoland on any runway other than a PA runway category II or a PA runway category III.

(f) Each aircraft type/equipment/runway combination should be verified by operations in CAT I or better conditions before authorising the use of autoland on any runway with irregular pre-threshold terrain or other foreseeable or known difficulties.

GM4 SPA.LVO.110 ANS- and aerodrome-related requirements USE OF AUTOLAND

NPA text

It may be assumed that category II and category III runways will support autoland systems unless the State of the aerodrome has published information indicating otherwise. Where other runways are to be authorised for autoland operations, the operator should consult the aircraft manufacturer to establish any requirements for satisfactory autoland performance and may conduct autoland in CAT I or better conditions before authorising other use of autoland.

Comment

LHG strongly appreciates the RMT expert's decision to consider the RWY's suitability for PA CATII/III and suitability for autoland separately acc. to AMC3 SPA.LVO.110.

It needs to be clearly pointed out in the regulation, that a suitable PA CATII/III RWY does support autoland function without any further restriction and therefore no additional assessment is necessary.

Only if a RWY has irregular pre-threshold terrain (IPTT), there might be the need to verify by different means, whether there IPTT could have an effect on the autoland performance on this specific runway.

For a necessary verification, there seem to be multiple options for analysis. Considering the AFM data it might be possible to perform a desktop analysis based on contour charts or radar altimeter readouts, as well as analysing flight data monitoring data.

However it must be ensured, that the national authority, in cooperation with the aerodrome operators, provide sufficient data concerning RWY suitability to enable the operators to perform the required assessment, whether a RWY does have reg. or irreg. pre-threshold terrain.



	<p>This is how GM4 SPA.LVO 110 need to be understood and should be clear, that deficiencies even concerning the pre-threshold terrain have to be announced by the NAA.</p>
response	<p>Noted</p> <p>EASA has organised a task force with the participation of LBA to address the issues related to pre-threshold terrain and the work resulted in a new set of AMC and GM to SPA.LVO.105 and mainly SPA.LVO.110.</p>
comment	<p>437                      comment by: <i>DGAC France</i></p> <p>Page 132  AMC3 SPA.LVO.110 ANS- and aerodrome-related requirements  SUITABLE AERODROMES – APPROACH OPERATIONS OTHER THAN EFVS OPERATIONS</p> <p>(c) For SA CAT I operations</p> <p>General Comment:  The development of such operations may be difficult. Indeed aerodrome operators need to have an idea on the number of operators which would be able to fly such procedures before investing time and money in establishing OCH RA, new missed approach, OFZ. The flexibility given to the operator in accordance with the level of performance of its aircraft demonstrated during the certification process may introduce complexity for aerodrome operators to identify the level of performance of aircrafts flying to their aerodrome.</p>
response	<p>Noted</p>
comment	<p>444                      comment by: <i>EUROCONTROL</i></p> <p>Formulation requires ILS: form requires ILS; replace by: "...operations, a radionavigation system performing to ..."; "...the worst-case performance..."; "...in terms of lateral path deviation..."; "...based on the facility performance..."; "... if the facility classification and performance..."</p>
response	<p>Not accepted</p> <p>The formulation 'requires ILS' is not used in the proposed text.</p>
comment	<p>445                      comment by: <i>EUROCONTROL</i></p> <p>AMC3 SPA.LVO.110  "On the requirement related to the ILS certification..."  To be reviewed with more experience on GLS CAT II/III</p>

response	<p>Noted</p> <p>The intention of this comment is not clear.</p>
comment	<p>455            comment by: <i>EUROCONTROL</i></p> <p>AMC3 SPA.LVO.110 AMC limited to ILS and MLS. Not clear why GBAS not included in this AMC. Consider the inclusion of GBAS.</p>
response	<p>Noted</p> <p>The review group has performed a revision of the proposed rules to include GBAS.</p>
comment	<p>456            comment by: <i>EUROCONTROL</i></p> <p>AMC3 SPA.LVO.110 (c ) (1) and (d)(1)</p> <p>ILS only in text.</p> <p>GBAS change: "where no restrictions affecting usability of the radionavigation system used have been promulgated and there is no offset of the lateral path from the extended centerline"</p>
response	<p>Partially accepted</p> <p>The review group has performed a revision of the proposed rules to include GBAS.</p>
comment	<p>457            comment by: <i>EUROCONTROL</i></p> <p>AMC3 SPA.LVO.110 (c ) (3) and (d) (3)</p> <p>ILS limitation, generalized.</p> <p>ILS-only limitation and determined by AFM, not operator evaluation, reformulate: ... the glide path angle is within the limits stated in the AFM.</p>
response	<p>Partially accepted</p> <p>The provision has been reformulated, but it does not follow the wording proposed in this comment.</p>
comment	<p>488            comment by: <i>Swiss International Air Lines Ltd.</i></p> <p>NPA text</p> <p>(a) For CAT II instrument approach operations, a PA runway category II or category III should be used.</p> <p>(b) For CAT III instrument approach operations, a PA runway category III should be used.</p>



response	<p>Requested change SWISS requests EASA to insert a definition of the terms 'PA runway category II' and 'PA runway category III'.</p> <p>Justification The terms 'PA runway category II' and 'PA runway category III' are ambiguous due to missing definitions.</p> <p>Not accepted</p> <p>The specifications of various types of instrument runways is a matter for aerodrome operators and the definitions appear in Regulation (EU) No 139/2014. The responsibility of the aircraft operator is to ensure that suitable runways are used for LVOs.</p>
comment	<p>489      comment by: Swiss International Air Lines Ltd.</p> <p>SWISS supports the change of (e) and (f) in this AMC.</p>
response	<p>Noted</p>
comment	<p>535      comment by: Austrian Airlines</p> <p>AMC3 SPA.LVO.110 ANS- and aerodrome-related requirements</p> <p>NPA text (a) For CAT II instrument approach operations, a PA runway category II or category III should be used. (b) For CAT III instrument approach operations, a PA runway category III should be used.</p> <p>Requested change AUSTRIAN AIRLINES requests EASA to insert a definition of the terms 'PA runway category II' and 'PA runway category III'.</p> <p>Justification The terms 'PA runway category II' and 'PA runway category III' are ambiguous due to missing definitions.</p>
response	<p>Not accepted</p> <p>The specifications of various types of instrument runways is a matter for aerodrome operators and the definitions appear in Regulation (EU) No 139/2014. The responsibility of the aircraft operator is to ensure that suitable runways are used for LVOs.</p>
comment	<p>537      comment by: Austrian Airlines</p> <p>AMC3 SPA.LVO.110 ANS- and aerodrome-related requirements</p>

response	<p>AUSTRIAN AIRLINES supports the change of (e) and (f) in this AMC.</p> <p>Noted</p>
comment	<p>845                      comment by: <i>Germanwings</i></p> <p>AMC3 SPA.LVO.110 ANS- and aerodrome-related requirements</p> <p>NPA text</p> <p>(a) For CAT II instrument approach operations, a PA runway category II or category III should be used.</p> <p>(b) For CAT III instrument approach operations, a PA runway category III should be used. [...]</p> <p>(e) The operator should verify [...].</p> <p>(f) Each aircraft type/equipment/runway combination [...].</p> <p>Requested change</p> <p>Define the terms ‘PA runway category II’ and ‘PA runway category III’. <b><u>Whether a runway is ‘PA runway category II’/ ‘PA runway category III’ or not must be officially announced by the NAA or the airport provider and must be clear to the operator. It must not be needed to be defined by the operator.</u></b></p> <p>(e) and (f): This change is supported by BDL.</p> <p>Justification</p> <p>The terms used in the NPA (PA runway category II, PA runway category III) are ambiguous due to missing definitions.</p>
response	<p>Not accepted</p> <p>The specifications of various types of instrument runways is a matter for aerodrome operators and the definitions appear in Regulation (EU) No 139/2014. The responsibility of the aircraft operator is to ensure that suitable runways are used for LVOs.</p>
comment	<p>871                      comment by: <i>Lufthansa Cargo</i></p> <p>NPA text</p> <p>(a) For CAT II instrument approach operations, a PA runway category II or category III should be used.</p> <p>(b) For CAT III instrument approach operations, a PA runway category III should be used.</p> <p>(e) The operator should verify the suitability of a runway before authorising the use of autoland on any runway other than a PA runway category II or a PA runway category III.</p> <p>(f) Each aircraft type/equipment/runway combination should be verified by operations in CAT I or better conditions before authorising the use of autoland on any runway with irregular pre-threshold terrain or other foreseeable or known difficulties.</p>



response	Noted
comment	<p>895 comment by: Lufthansa Cargo</p> <p>NPA text  (a) For CAT II instrument approach operations, a PA runway category II or category III should be used.  (b) For CAT III instrument approach operations, a PA runway category III should be used.</p> <p>Requested change  Lufthansa Cargo requests EASA to insert a definition of the terms 'PA runway category II' and 'PA runway category III'.</p> <p>Justification  The terms 'PA runway category II' and 'PA runway category III' are ambiguous due to missing definitions.</p>
response	<p>Not accepted</p> <p>The specifications of various types of instrument runways is a matter for aerodrome operators and the definitions appear in Regulation (EU) No 139/2014. The responsibility of the aircraft operator is to ensure that suitable runways are used for LVOs.</p>
comment	<p>896 comment by: Lufthansa Cargo</p> <p>Lufthansa Cargo supports the change of (e) and (f) in this AMC.</p>
response	Noted

AMC4 SPA.LVO.110 ANS-and aerodrome-related requirements

p. 133-134

comment	<p>26 comment by: Luftfahrt-Bundesamt</p> <p>With respect to LBA-Comment #22, we propose adding the following new AMC5 SPA.LVO.110 (f):</p> <p>(f) Each aircraft type/equipment/runway combination should be verified by operations in CAT I or better conditions before authorising the use of EFVS-L system, on any runway with irregular pre-threshold terrain or other foreseeable or known difficulties.</p>
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response	Accepted
comment	<p>32 comment by: Volkswagen AirService GmbH</p> <p>Clarify that it is the responsibility of the operator to assess the individual aerodrome for suitability and that no individual approval by the national authorities is required to use an airport for LVO.</p>
response	<p>Noted</p> <p>It is the responsibility of the operator to assess the individual aerodrome for suitability. Once an operator has approval for LVOs, no additional approval is required to use a particular airport, unless required by the state of the airport.</p>
comment	<p>300 comment by: EUROCONTROL</p> <p>p. 133 - AMC4 SPA LVO 110</p> <p>There is no definition of equivalent LVPs in this NPA Part C or Part D.</p> <p>..."equivalent LVP" : definition should be added or term removed.</p>
response	Not accepted
comment	<p>379 comment by: J.Woehrlin/DLH</p> <p>AMC4 SPA.LVO.110 ANS- and aerodrome-related requirements LOW-VISIBILITY PROCEDURES</p> <p>NPA text (2) suitable low-visibility procedures (LVPs) have been established and are in effect as verified by the commander before each approach.</p> <p>Requested change Change "suitable" to "corresponding"</p> <p>Justification It is defined which requirements need to correspond with.</p> <p>Requested change Clarify by which means</p> <p>Justification Is approach clearance "cleared RWY XY CATII/III" satisfying.</p>
response	Partially accepted

'Suitable' has been deleted. The details of LVPs is a matter for the aerodrome operator, not the aircraft operator. The responsibility of the aircraft operator is to confirm that LVPs are established rather than to review the detail of those procedures.

The requirement to verify that LVPs are in effect at the time of the approach has been deleted here because it is a duplication of AMC1 SPA.LVO.105(c) and this is an operating procedure not a requirement for selecting aerodromes suitable for LVOs.

comment

435

comment by: *DGAC France*

Page 133

AMC4 SPA.LVO.110 ANS- and aerodrome-related requirements

LOW-VISIBILITY PROCEDURES

(b) Notwithstanding (a), if an operator selects an aerodrome, where the term 'LVP' is not used, the operator should verify that suitable procedures are established to ensure an equivalent level of safety to that achieved at approved aerodromes. This situation should be clearly noted in the operations manual or procedures manual, including guidance to the flight crew on how to determine that the equivalent LVPs are in effect at the time of an actual operation.

Comment:

This provision should be clarified :

- Does the approbation refer to the aerodrome or the aircraft operator? If it refers to the aerodrome, it is not clear what the associated provision in PART-ADR is?
- The terminology "equivalent level of safety" (ELOS) usually refers to CS and a specific process. Is it voluntary?

Moreover, the flexibility offered by (b) (that is when LVP term is not used) should be offered also for operations with operational credit in LVO condition. At present, it is limited to CAT II and CAT III operations (cf. (a)(1)).

response

Noted

The regulation is applicable to aircraft operators. AMC4 SPA.LVO.110 refers to all low-visibility approach operations including operations with an operational credit (not only CAT II and III).

The term 'equivalent level of safety' has the same meaning as elsewhere in the regulation (e.g. AMC1 ORO.GEN.120). It does not refer to certification specifications.

comment

688

comment by: *FNAM*

ISSUE AND PROPOSAL

This EASA proposed guidance transposes part of current LVO characteristics. However, it presents conditions for LVO depending on LVP establishment. Since LVP concept is removed from Annex I and is replaced by LVO, FNAM suggests to keep the definition of LVP in Annex I. FNAM suggests to harmonize Annex I with this guidance.



response	<p>Partially accepted</p> <p>LVPs have not been replaced by LVOs. The two terms have different meanings. A definition of LVPs has been included in GM to Annex I.</p>
comment	<p>848                      comment by: <i>Germanwings</i></p> <p>AMC4 SPA.LVO.110 ANS- and aerodrome-related requirements LOW-VISIBILITY PROCEDURES</p> <p>NPA text (2) suitable low-visibility procedures (LVPs) have been established and are in effect as verified by the commander before each approach.</p> <p>Requested change Change “suitable” to “corresponding”.</p> <p>Justification It is defined which requirements need to correspond with.</p> <p>Requested change Clarify by which means.</p> <p>Justification Is approach clearance “cleared RWY XY CATII/III” satisfying.</p>
response	<p>Partially accepted</p> <p>‘Suitable’ has been deleted. The details of LVPs is a matter for the aerodrome operator, not the aircraft operator. The responsibility of the aircraft operator is to confirm that LVPs are established rather than to review the detail of those procedures.</p> <p>The requirement to verify that LVPs are in effect at the time of the approach has been deleted here because it is a duplication of AMC1 SPA.LVO.105(c) and this is an operating procedure not a requirement for selecting aerodromes suitable for LVOs.</p>
comment	<p>869                      comment by: <i>Lufthansa Cargo</i></p> <p>NPA text (2) suitable low-visibility procedures (LVPs) have been established and are in effect as verified by the commander before each approach.</p> <p>Requested change Change “suitable” to “corresponding”</p> <p>Justification It is defined which requirements need to correspond with.</p>



	<p>Requested change Clarify by which means</p> <p>Justification Is approach clearance “cleared RWY XY CATII/III” satisfying.</p>
response	<p>Partially accepted</p> <p>‘Suitable’ has been deleted. The details of LVPs is a matter for the aerodrome operator, not the aircraft operator. The responsibility of the aircraft operator is to confirm that LVPs are established rather than to review the detail of those procedures.</p> <p>The requirement to verify that LVPs are in effect at the time of the approach has been deleted here because it is a duplication of AMC1 SPA.LVO.105(c) and this is an operating procedure not a requirement for selecting aerodromes suitable for LVOs.</p>

AMC5 SPA.LVO.110 ANS-and aerodrome-related requirements

p. 133-135

comment	<p>33      comment by: Volkswagen AirService GmbH</p> <p>Clarify that it is the operators responsibility to allow EFVS operations at an aerodrome based on a previous operational assessment and that no individual approval by the antional authorities is required. Our CAA intends to issue EFVS approvals for individual runways only, which greatly reduces the benefit of EFVS operations - especially for on demand operations and safe destination/alternate planning.</p>
response	<p>Noted</p> <p>The proposed regulation places the obligation to select suitable runways for EFVS operations on the aircraft operator. The proposed ARO.OPS.200 has been amended to clarify that the competent authority should verify that an operator has a process to assess which runways are eligible for the LVOs/operations with operational credits rather than to approve each runway.</p>
comment	<p>81 ❖      comment by: AIRBUS</p> <p>HUDLS and EVS-L requires flare cue, but no mention of landing area slope nor irregular pre-threshold ground profile to be considered in operational assessment.</p> <p>Airbus suggests to extend "autoland" to "Landing system" in AMC3 SPA.LVO.110 ANS-and aerodrome-related requirements and to add "irregular landing area" and “pre-threshold terrain” considerations in AMC5 SPA.LVO.110 ANS-and aerodrome-related requirements.</p> <p>AMC3 SPA.LVO.110 ANS- and aerodrome-related requirements SUITABLE AERODROMES – APPROACH OPERATIONS OTHER THAN EFVS OPERATIONS</p>



...

(c) For SA CAT I operations:

(4) the pre-threshold terrain should have been surveyed and assessed as suitable with regard to the usability of the radio altimeter or other device capable of providing equivalent performance and **landing systems (e.g. autoland, HUDLS/HGS with flare cues)**; and

(d) For SA CAT II operations:

(4) the pre-threshold terrain and landing area slope should have been surveyed and assessed as suitable with regard to the usability of the radio altimeter or other device capable of providing equivalent performance and **landing systems (e.g. autoland, HUDLS/HGS with flare cues)**; and

(e) The operator should verify the suitability of a runway before authorising the use of **landing systems (e.g. autoland, HUDLS/HGS with flare cues)**; on any runway other than a PA runway category II or a PA runway category III.

(f) Each aircraft type/equipment/runway combination should be verified by operations in CAT I or better conditions before authorising the use of **landing system (i.e. autoland, HUDLS, EFVS-L with flare cue)**, on any runway with irregular pre-threshold terrain, significant slope change in the landing area (refer to GM1 ADR.OPS.A.005 Aerodrome Data) or other foreseeable or known difficulties.

AMC5 SPA.LVO.110 ANS- and aerodrome-related requirements  
VERIFYING THE SUITABILITY OF RUNWAYS FOR EFVS OPERATIONS

...

(f) if the system used to perform EFVS operation contains a flare cues, Each aircraft type/equipment/runway combination should be verified by operations in CAT I or better conditions before authorising the use of EFVS-L system, on any runway with **irregular pre-threshold terrain**, if landing area presents significant slope change in the landing area, (refer to GM1 ADR.OPS.A.005 Aerodrome Data) or other foreseeable or known difficulties.

response

Accepted

comment

89 comment by: AIRBUS

AMC5 SPA.LVO.110 ANS- and aerodrome-related requirements  
VERIFYING THE SUITABILITY OF RUNWAYS FOR EFVS OPERATIONS



response	<p>No guidance material is provided to operator on how to perform the landing system assessment on irregular terrain (Pre-threshold irregular or irregular landing area)</p> <p>We suggest creating guidance material on how to perform this assessment. This could be inspired from AC 120 xLS Appendix 4. Irregular Terrain Assessment § 2</p> <p>Rationale: The responsibility to perform this assessment is on the operator, but no pass / fail criteria is provided nor methodology to perform this assessment.</p>
comment	<p>120                      comment by: Dassault-Aviation</p> <p>Text: AMC5 SPA.LVO.110 ANS- and aerodrome-related requirements VERIFYING THE SUITABILITY OF RUNWAYS FOR EFVS OPERATIONS page 133 "(b) The operational assessment should identify whether obstacle clearance can be assured: (1) in the visual segment, without reliance on visual identification of obstacles (2) in the event of a balked landing."</p> <p>Comment: The explicit criteria mentioned for part NCC in AMC2 CAT.OP.MPA.312(b) (or AMC2 NCC.OP.235(b) EFVS 200 operations) should be copy paste in this section. This will serve as guideline for approval and will ensure harmonization.</p> <p>Proposed change: AMC2 CAT.OP.MPA.312(b) (or AMC2 NCC.OP.235(b) criteria to be added.</p>
response	<p>Not accepted</p> <p>Further to AMC5 SPA.LVO.110, operators should conduct an operational assessment. The operators to which this AMC applies have specific approval for EFVS operations. In order to be granted this approval, the operator has to demonstrate to the competent authority that it has procedures to ensure that only suitable runways and IAP are used for EFVS operations. These operators are to be allowed greater flexibility than operators conducting EFVS200 operations to determine how the operational assessment is conducted. Guidance is provided in GM3 SPA.LVO.110. Point (g) contains four suggestions for procedures that an operator could adopt if obstacle clearance is not assured in the case of a balked landing, whereas only one procedure is available for EFVS200.</p>
comment	<p>141                      comment by: Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</p> <p>Proposal:</p>

	<p>a) The operator should conduct an operational assessment before authorising the use of the following approach procedures for EFVS operations <b>on runways where the VSS is penetrated</b>:</p> <p>(1) NPA procedures and approach procedures with vertical guidance;</p> <p>(2) category I PA procedures on runways where an OFZ is not provided; <del>and</del> <b>or</b></p> <p>(3) approach procedures not designed in accordance with PANS-OPS <b>or equivalent</b> criteria.</p> <p>Rationale:</p> <p>(a) The VSS (Visual Segment Surface) should not be penetrated for straight-in NPA, APV and PA CAT I IAPs designed after March 2007. An unpenetrated VSS should ensure safe operations below DA/H or MDA/H. -</p> <p>(2) “or” is necessary to show that the criteria are not cumulative.</p> <p>(3) Insertion of “or equivalent” is necessary to allow use of IAP designed in accordance with US TERPS (which we traditionally accept) or with the ICAO Doc 9905 – RNP AR Procedure Design Manual.</p>
response	<p>Partially accepted</p> <p>‘And’ has been changed to ‘or’, as proposed. The clause ‘on runways where the VSS is penetrated’ has not been included because this is only one of the criteria that would necessitate an operational assessment. The other criterion is obstacle clearance in the event of a balked landing. This is explained in point (b). The types of approach listed in (a) are intended to be those where either criterion could apply.</p> <p>The phrase ‘or equivalent’ has been added, as proposed, and GM3 SPA.LVO.110 has been amended to clarify that TERPS and Doc 9905 may be considered equivalent to PANS-OPS.</p>
comment	<p>301                      comment by: <i>EUROCONTROL</i></p> <p>p.133 - AMC5 SPA.LVO.110 (a) (3) In other (EFVS200) sections, TERPS criteria are also allowed, is the difference intended?</p> <p>Verify.</p>
response	<p>Partially accepted</p> <p>The term is introduced at GM level.</p>
comment	<p>436                      comment by: <i>DGAC France</i></p> <p>Page 134 AMC5 SPA.LVO.110 ANS- and aerodrome-related requirements VERIFYING THE SUITABILITY OF RUNWAYS FOR EFVS OPERATIONS</p>



	<p>(c) If the operational assessment determines that obstacle clearance cannot be assured in the visual segment without reliance on visual identification of obstacles, the operator should not authorise EFVS operations to that runway or restrict the operation to the type and/or category of instrument approach operations where obstacle clearance is assured.</p> <p>Comment: In (c), it is suggested to add with “RVR credit” in “EFVS operations with RVR credit”. Rational: Use of EFVS should not be forbidden by the operator.</p> <p>Moroever, shouldn’t we limit such AMC for EFVS operations with RVR in LVO conditions? It seems very demanding compared to what was acceptable in the current regulation.</p>
<p>response</p>	<p>Not Accepted</p> <p>The definition of EFVS operation includes the provision that conditions require the use of EFVS instead of natural vision. The use of EFVS for situational awareness, without ‘RVR credit’ is outside the definition of ‘EFVS operation’ and is not prohibited.</p>

GM2 SPA.LVO.110 ANS-and aerodrome-related requirements	p. 134
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<p>comment</p>	<p>44 comment by: Wideroe Flyveselskap AS</p> <p><b>GM2 SPA.LVO.110, 4th text section: P134</b></p> <p>Questions: How does the use of RA for SA CAT I relate to PANS-OPS design criteria?</p>
<p>response</p>	<p>Noted</p> <p>PANS-OPS design criteria will not ensure that the pre-threshold terrain is suitable for the use of an RA to determine the decision height at a correct range for SA CAT I operations. There is, therefore, an obligation on the aircraft operator to ensure that the pre-threshold terrain has been surveyed and assessed (AMC3 SPA.LVO.110(c)(4)).</p>
<p>comment</p>	<p>50 comment by: German NSA (BAF)</p> <p>According to the changes introduced with the NPA, it is the responsibility of the operator to determine whether the instrument approach procedures (IAPs) are suitable for the EFVS and LVO operations. The NPA also does not propose any changes to the way the IAPs are designed (ICAO Doc 8168) and does not explicitly foresee any changes to the existing IAPs. However, reading AMC1 SPA.LVO.110, it seems that the IAPs designed according to ICAO Doc 8168 might not be suitable. Clarity would be needed, how the operator is supposed to decide whether or not</p>



	<p>an IAP is suitable and whether it will be necessary to change the IAPs or somehow indicate their suitability.</p> <p>s. CAT.OP.MPA 312 (b), AMC1 CAT.OP.MPA 312 (b), SPA.LVO.110 and AMC1 SPA.LVO.110</p>
response	<p>Partially accepted</p> <p>The criteria for determining the suitability of IAP for low-visibility approach procedures are detailed in AMC1 SPA.LVO.110.</p> <p>SPA.LVO.110 does not include any suggestion that IAP designed in accordance with ICAO Doc 8168 would not be suitable for LVO.</p> <p>The proposed requirements for EFVS take into account the need for obstacle protection below DH also in the event of a balked landing; hence, there are additional requirements to assess the suitability of individual runways for EFVS operations.</p>
comment	<p>78 comment by: <i>ERAA</i></p> <p>GM2 SPA.LVO.110, 4th text section:</p> <p>How does the use of RA for SA CAT I relate to PANS-OPS design criteria?</p>
response	<p>Noted</p> <p>PANS-OPS design criteria will not ensure that the pre-threshold terrain is suitable for the use of an RA to determine the decision height at a correct range for SA CAT I operations. There is, therefore, an obligation on the aircraft operator to ensure that the pre-threshold terrain has been surveyed and assessed (AMC3 SPA.LVO.110(c)(4)).</p>
comment	<p>302 comment by: <i>EUROCONTROL</i></p> <p>p.134 - GM2 SPA LVO 110 Last paragraph of page 134: please remove OTS CAT II.</p> <p>Clarify the intention of this paragraph.</p>
response	<p>Noted</p>
comment	<p>315 comment by: <i>EUROCONTROL</i></p> <p>p. 135 - GM2 SPA LVO 110</p> <p>Information is very confusing.</p> <p>Remove text after: CAT II procedures.</p>
response	<p>Noted</p>

GM2 has been redrafted.

GM3 SPA.LVO.110 ANS-and aerodrome-related requirements

p. 135-136

comment

45 comment by: Wideroe Flyveselskap AS

GM3 SPA.LVO.110 (c): P135

Comment: It is not clear how obstacle in a go-around below minima can be protected. The controlling obstacle for the DH may be far out in the missed approach segment.

response

Noted

GM3 SPA.LVO.110 point (g) describes operational procedures that an operator could use to ensure obstacle clearance in the event of a balked landing.

comment

79 comment by: ERAA

GM3 SPA.LVO.110 (c):

It is not clear how obstacle in a go-around below minima can be protected. The controlling obstacle for the DH may be far out in the missed approach segment. (This aspect is particularly important as it can be expected that there will be a higher proportion of go-arounds below minima with the new concept.)

response

Noted

GM3 SPA.LVO.110 point (g) describes operational procedures that an operator could use to ensure obstacle clearance in the event of a balked landing.

comment

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

**Suggest** change as follows:

Suggest change as follows:

(c) The purpose of the operational assessment of IAPs is to confirm that clearance from terrain and obstacles will be available at every stage of the approach including the visual segment and, in the event of a go-around initiated below the DH, the missed approach segment. **The assessment of the visual segment should be done with reference to the visual segment surface (VSS).**

**Comment:** The go-around probability is disputable but not suggested to be deleted.



response	<p><b>Rationale:</b> The assurance of obstacle clearance below MDH/DH until the THR is dependant on the VSS not being penetrated and is not related to the missed approach, which is not applicable below DH/MDH. Manoeuvres below DH/MDH are balked landings, for which the departure procedure is more relevant.</p>
	Partially accepted
comment	<p>707 comment by: Dassault-Aviation</p> <p>Text: Page 135 paragraph (b)</p> <p>"When operating below the DA/H, pilots rely on the EFVS and, for EFVS operations to touchdown, the pilot flying <b>must</b> acquire 'natural' visual reference at some point prior to touchdown...."</p> <p>Comment: As mentioned in NPA (see articles here below), natural vision may be not required to be acquired prior to touchdown for EFVS-L if it has been demonstrated during certification. "0ft" height is mentioned in AFM in that case. This possibility for the absence of transition to natural vision during is even a key benefit of the the EFVS-L operation compared to EFVS-A. According to GM16.Annex I definition and in CS AWO.A.EFVS.102 EFVS designation (b), 'An EFVS-Landing (EFVS-L) is a system that has been demonstrated to meet the criteria to be used for approach and landing operations that rely on sufficient visibility conditions to enable unaided roll-out and to mitigate for loss of EFVS function.' according to page 30,: 'EVFS-L' may require this 'natural' visual reference by a certain height, in which case the height will be indicated in the AFM. The new CS.AWO.A.EFVS is developed following a performance-based philosophy. This allows flexibility in the minimum height for which natural vision reference is required.The new CS.AWO.A.EFVS is developed following a performance-based philosophy. According to GM4 SPA.LVO.100(c) Low-visibility operations and operations with operational credits: (5) "For approaches for which natural visual reference is not required prior to touchdown, the EFVS (EFVS used for landing (EFVS-L)) will additionally display: - (i) flare prompt or flare guidance information; and - (ii) height AGL.</p> <p>Proposed change: " When operating below the DA/H, pilots rely on the EFVS and, for EFVS operations to touchdown, the pilot flying <b>may have to</b> acquire 'natural' visual reference at some point prior to touchdown <b>depending on what has been demonstrated in certification.</b></p>
response	Partially accepted



The text has been changed to 'the pilot flying will need to acquire 'natural' visual reference at some point prior to touchdown (except for some operations using EFVS-L)'.  
'.

GM4 SPA.LVO.110 ANS- and aerodrome-related requirements

p. 136

comment

27

comment by: Luftfahrt-Bundesamt

With respect to LBA-Comment #22, we propose the following adjusted text for GM4 SPA.LVO.110 ANS- and aerodrome-related requirements:

**USE OF LANDING SYSTEM TO TOUCHDOWN (AUTOLAND, HUDLS, HGS, EVS-L)**  
It may be assumed that category II and category III runways will support landing systems unless the State of the aerodrome has published information indicating otherwise or pre-threshold terrain characteristics conform with the criteria of the landing system certification specifications. Where other runways are to be authorised for use of landing system operations, the operator should consult the aircraft manufacturer to establish any requirements for satisfactory landing system performance and may conduct landing system test operations in CAT I or better conditions before authorising other use of landing system.  
If an operator is not aware of current CAT II/III operations at a particular runway by some other operator and similar aircraft type, it is a good practice for the operator to have conducted at least one approach using the Category II or III system and procedures and preferably with LVPs in effect, to each runway intended for Category II/III operations in weather better than that requiring the use of Category II minima.

response

Noted

It is neither required nor recommended, but it is good practice. Being GM, this text does not place any obligation on operators.

comment

28

comment by: Luftfahrt-Bundesamt

With respect to LBA-Comment #22, we propose adding a new **GM5 SPA.LVO.110** ANS- and aerodrome-related requirements **IRREGULAR PRE-THRESHOLD TERRAIN VERIFICATION**.

The contents of this all new GM should be harmonized with FAA AC 120-118 Appendix 4 to provide a level playing field for the operators. However, modifications need to be applied to the text because of the specific differences between the U.S. (FAA) and the EU (EASA, NAAs) regulatory and administrative systems.



	<p>FAA AC 120-118 Appendix 4 can be downloaded here:  <a href="https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1033312">https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1033312</a></p> <p>Therefore, the following differences should be analyzed and discussed by the members of the RMT.0379 OPS drafting group in the upcoming meetings:</p> <ol style="list-style-type: none"> <li>1. Who is responsible for establishing and maintaining the European database (equivalent to the FAA database of Restricted / Nonstandard Facilities Approved for CAT II / III Operations) containing the suitability data for aircraft type-runway-combinations that have been both positively and negatively verified and how is the communication process between all bodies / organizations involved (operator, NAA, aircraft / landing system manufacturer, EASA, etc.)? Maintaining a central database would facilitate LVO-operations to the extent that information on already verified aircraft type-runway-combinations were publicly available and redundant verification projects could thus be prevented (reduced operators' burden).</li> <li>2. Who should be the "Evaluator(s)" according to AC 120-118 Appendix 4 paragraph 2.a.(3)? Adequate AWO certification competences do not necessarily rest with the NAAs anymore as this is an EASA competence now. The role and the responsibility of the aircraft / landing system manufacturer to participate in the verification process should be discussed.</li> </ol>
response	<p>Noted</p> <p>EASA has organised a task force with the participation of LBA to address the issues related to pre-threshold terrain and the work resulted in a new set of AMC and GM to SPA.LVO.105 and mainly SPA.LVO.110.</p>
comment	<p>70      comment by: British Airways Flight Operations</p> <p>The following text in the GM: 'If an operator is not aware of current CAT II/III operations at a particular runway by some other operator and similar aircraft type, it is a good practice for the operator to have conducted at least one approach using the Category II or III system and procedures and preferably with LVPs in effect, to each runway intended for Category II/III operations in weather better than that requiring the use of Category II minima.'</p> <p>The discussion within the expert group was that this requirement, although only GM, was highly undesirable: operators should have confidence that the system will perform as desired unless the airport informs otherwise in the AIP. The requirement for an approach and landing in good weather can mean that it becomes nearly impossible to authorise Cat II or III minima at alternate airfields, which are not in themselves destinations. It is worth noting that there is no such requirement for pre-authorisation within the FAA system.</p>
response	<p>Noted</p> <p>It is neither required nor recommended, but it is good practice. Being GM, this text does not place any obligation on operators.</p>
comment	<p>88      comment by: AIRBUS</p>



	<p>GM1 SPA.LVO.105 and GM4 SPA.LVO.110 LVO approval Specific approval criteria is not only applicable to Autoland System, but also to all systems used up to landing.</p> <p>Airbus suggests to replace “Automatic Landing” by “Landing” in GM1 SPA.LVO.105 LVO approval Specific approval criteria:                  CRITERIA FOR A SUCCESSFUL APPROACH AND AUTOMATIC LANDING SYSTEMS</p> <p>And to reword GM4 SPA.LVO.110 to cope with any landing system:</p> <p><b>USE OF LANDING SYSTEM TO TOUCHDOWN (AUTOLAND, HUDLS, HGS, EVS-L)</b>                  It may be assumed that category II and category III runways will support <b>landing systems</b> unless the State of the aerodrome has published information indicating otherwise or pre-threshold terrain and landing area characteristics conform with the criteria of the <b>landing system</b> certification. Where other runways are to be authorised for the use of <b>landing system</b> operations, the operator should consult the aircraft manufacturer to establish any requirements for satisfactory landing system performance and may conduct landing system test in CAT I or better conditions before authorising other use of <b>landing system</b>.</p> <p>Rationale: The criteria of successful landing apply to HUD flare Guidance and not only to Automatic AP coupled landing.</p>
response	Accepted

	<p>314 comment by: DFS Deutsche Flugsicherung GmbH</p> <p>There may be a lack of necessary information in case of CAT I or CAT II operation of ILS classified with “III/E/4”. The ILS classification is only guaranteed if the full CAT III ILS protection areas are safeguarded by ATC. ICAO Annex 10, Vol. I, Att. Ch. 2.1.9 describes the criteria for the dimension of ILS protection areas (critical and sensitive areas, CSA). There are different CSAs depending on the actual category of operation I, II or III (and types of relevant taxiing A/C or ILS antenna types). In case of CAT I or CAT II operation ATC may only safeguard the corresponding CAT I or CAT II CSA whereas the full CAT III CSA may only be safeguarded during CAT III operation. This means that an ILS with the target ILS classification “III/E/4” has an actual ILS classification of only “I/C/2” or “II/T/4” during actual CAT I resp. CAT II operation which does not support autoland.                  Such circumstances are yet not published by ATC in form of NOTAM or ATIS.</p>
response	<p>Noted</p> <p>ICAO Annex 10 provides guidance on the establishment of CSA, which indeed depends on the category of operation, as well as aerodrome layout and traffic mix. Normally CAT II/III operations have the same CSA for practical reasons, while CAT I may have more relaxed requirements. In our view, the publication of a NOTAM or transmission through ATIS may not be the appropriate way, if the information is of a permanent nature. In this case, a relevant entry may be required in the AIP of the aerodrome in the ground procedures section.</p>



comment	<p>318 comment by: <i>EUROCONTROL</i></p> <p>p. 136 - GM4 SPA LVO 110</p> <p>Specification of the type of nav aids should be added.</p> <p>Add text to reflect the specificities of the various nav aids.</p>
response	<p>Not accepted</p>
comment	<p>383 comment by: J.Woehrlin/DLH</p> <p>AMC3 SPA.LVO.110 ANS- and aerodrome-related requirements SUITABLE AERODROMES – APPROACH OPERATIONS OTHER THAN EFVS OPERATIONS</p> <p>NPA text</p> <p>(a) For CAT II instrument approach operations, a PA runway category II or category III should be used.</p> <p>(b) For CAT III instrument approach operations, a PA runway category III should be used.</p> <p>(e) The operator should verify the suitability of a runway before authorising the use of autoland on any runway other than a PA runway category II or a PA runway category III.</p> <p>(f) Each aircraft type/equipment/runway combination should be verified by operations in CAT I or better conditions before authorising the use of autoland on any runway with irregular pre-threshold terrain or other foreseeable or known difficulties.</p> <p>GM4 SPA.LVO.110 ANS- and aerodrome-related requirements USE OF AUTOLAND</p> <p>NPA text</p> <p>It may be assumed that category II and category III runways will support autoland systems unless the State of the aerodrome has published information indicating otherwise. Where other runways are to be authorised for autoland operations, the operator should consult the aircraft manufacturer to establish any requirements for satisfactory autoland performance and may conduct autoland in CAT I or better conditions before authorising other use of autoland.</p> <p>Comment</p> <p>LHG strongly appreciates the RMT expert’s decision to consider the RWY’s suitability for PA CATII/III and suitability for autoland separately acc. to AMC3 SPA.LVO.110.</p> <p>It need to be clearly pointed out in the regulation, that a suitable PA CATII/III RWY does support autoland function without any further restriction and therefore no additional assessment is necessary.</p> <p>Only if a RWY has irregular pre-threshold terrain (IPTT), there might be the need to verify by different means, whether there IPTT could have an effect on the autoland performance on this specific runway.</p> <p>For a necessary verification, there seem to be multiple options for analysis.</p> <p>Considering the AFM data it might be possible to perform a desktop analysis based</p>

	<p>on counture charts or radar altimeter readouts, as well as analysing flight data monitoring data.</p> <p>However it must be ensured, that the national authority, in cooperation with the aerodrome operators, provide sufficient data concerning RWY suitability to enable the operators to perform the required assessment, whether a RWY does have reg. or irreg. pre-threshold terrain.</p> <p>This is how GM4 SPA.LVO 110 need to be understood and should be clear, that deficiencies even concerning the pre-threshold terrain have to be announced by the NAA.</p>
response	<p>Noted</p> <p>EASA has organised a task force with the participation of LBA to address the issues related to pre-threshold terrain and the work resulted in a new set of AMC and GM to SPA.LVO.105 and mainly SPA.LVO.110.</p>
comment	<p>689                      comment by: <i>FNAM</i></p> <p>AGREEMENT          FNAM thanks EASA for alleviating CAT III assessment which is an European specificity. This will allow operators not to be limited to CAT II operations for aerodromes where they are aware that similar aircraft are already performing CAT III operations.</p>
response	<p>Noted</p>
comment	<p>759                      comment by: <i>IATA</i></p> <p>The following text in the GM: ‘If an operator is not aware of current CAT II/III operations at a particular runway by some other operator and similar aircraft type, it is a good practice for the operator to have conducted at least one approach using the Category II or III system and procedures and preferably with LVPs in effect, to each runway intended for Category II/III operations in weather better than that requiring the use of Category II minima.’</p> <p>The discussion within the expert group was that this requirement, although only GM, was highly undesirable: operators should have confidence that the system will perform as desired unless the airport informs otherwise in the AIP. Flight testing of Cat II/III landing in the airports is performed by specialized organizations, there is no evidence that systems will work differently between flight tests and operational fleet. The requirement for an approach and landing in good weather can mean that it becomes nearly impossible to authorise Cat II or III minima at alternate airfields, which are not in themselves destinations.</p>
response	<p>Noted</p> <p>It is neither required nor recommended, but it is good practice. Being GM, this text does not place any obligation on operators.</p>
comment	<p>849                      comment by: <i>Germanwings</i></p>



	<p>GM4 SPA.LVO.110 ANS- and aerodrome-related requirements USE OF AUTOLAND</p> <p>NPA text If an operator is not aware of current CAT II/III operations at a particular runway by some other operator and similar aircraft type, it is a good practice for the operator to have conducted at least one approach using the Category II or III system and procedures and preferably with LVPs in effect, to each runway intended for Category II/III operations in weather better than that requiring the use of Category II minima.</p> <p>Requested change Clarify whether is required or recommended.</p> <p>Justification Phraseology does not make clear if it is required or not.</p>
response	<p>Noted</p> <p>Being GM, this text does not place any obligation on operators.</p>
	<p>856                      comment by: <i>Germanwings</i></p> <p>GM4 SPA.LVO.110 ANS- and aerodrome-related requirements USE OF AUTOLAND</p> <p>NPA text If an operator is not aware of current CAT II/III operations at a particular runway by some other operator and similar aircraft type, it is a good practice for the operator to have conducted at least one approach using the Category II or III system and procedures and preferably with LVPs in effect, to each runway intended for Category II/III operations in weather better than that requiring the use of Category II minima.</p> <p>Requested change Clarify whether is required or recommended.</p> <p>Justification Phraseology does not make clear if it is required or not.</p>
response	<p>Noted</p> <p>Being GM, this text does not place any obligation on operators.</p>
comment	<p>857                      comment by: <i>Germanwings</i></p> <p>GM4 SPA.LVO.110 ANS- and aerodrome-related requirements USE OF AUTOLAND</p> <p>NPA text It may be assumed that category II and category III runways will support autoland systems unless the State of the aerodrome has published information indicating otherwise. Where other runways are to be authorised for autoland operations, the operator should consult the aircraft manufacturer to establish any requirements for</p>

satisfactory autoland performance and may conduct autoland in CAT I or better conditions before authorising other use of autoland.

Comment

BDL strongly appreciates the RMT expert's decision to consider the RWY's suitability for PA CATII/III and suitability for autoland separately acc. to AMC3 SPA.LVO.110.

It needs to be clearly pointed out in the regulation, that a suitable PA CATII/III RWY does support autoland function without any further restriction and therefore no additional assessment is necessary.

Only if a RWY has irregular pre-threshold terrain (IPTT), there might be the need to verify by different means, whether there IPTT could have an effect on the autoland performance on this specific runway.

For a necessary verification, there seem to be multiple options for analysis.

Considering the AFM data it might be possible to perform a desktop analysis based on contour charts or radar altimeter readouts, as well as analysing flight data monitoring data.

**However it must be ensured, that the national authority, in cooperation with the aerodrome operators, provide sufficient data concerning RWY suitability to enable the operators to perform the required assessment, whether a RWY does have reg. or irreg. pre-threshold terrain.**

**This is how GM4 SPA.LVO 110 needs to be understood and should be clear, that deficiencies even concerning the pre-threshold terrain have to be announced by the NAA.**

response

Noted

EASA has organised a task force with the participation of LBA to address the issues related to pre-threshold terrain and the work resulted in a new set of AMC and GM to SPA.LVO.105 and mainly SPA.LVO.110.

comment

870 comment by: Lufthansa Cargo

NPA text

If an operator is not aware of current CAT II/III operations at a particular runway by some other operator and similar aircraft type, it is a good practice for the operator to have conducted at least one approach using the Category II or III system and procedures and preferably with LVPs in effect, to each runway intended for Category II/III operations in weather better than that requiring the use of Category II minima.

Requested change

Clarify whether is required or recommended.

Justification

Phraseology does not make clear if it is required or not.

response

Noted

Being GM, this text does not place any obligation on operators.



comment	<p>872                      comment by: Lufthansa Cargo</p> <p>NPA text It may be assumed that category II and category III runways will support autoland systems unless the State of the aerodrome has published information indicating otherwise. Where other runways are to be authorised for autoland operations, the operator should consult the aircraft manufacturer to establish any requirements for satisfactory autoland performance and may conduct autoland in CAT I or better conditions before authorising other use of autoland.</p> <p>Comment</p> <p>LHG strongly appreciates the RMT expert's decision to consider the RWY's suitability for PA CATII/III and suitability for autoland separately acc. to AMC3 SPA.LVO.110.</p> <p>It needs to be clearly pointed out in the regulation, that a suitable PA CATII/III RWY does support autoland function without any further restriction and therefore no additional assessment is necessary.</p> <p>Only if a RWY has irregular pre-threshold terrain (IPTT), there might be the need to verify by different means, whether there IPTT could have an effect on the autoland performance on this specific runway.</p> <p>For a necessary verification, there seem to be multiple options for analysis. Considering the AFM data it might be possible to perform a desktop analysis based on contour charts or radar altimeter readouts, as well as analysing flight data monitoring data.</p> <p>However it must be ensured, that the national authority, in cooperation with the aerodrome operators, provide sufficient data concerning RWY suitability to enable the operators to perform the required assessment, whether a RWY does have reg. or irreg. pre-threshold terrain.</p> <p>This is how GM4 SPA.LVO 110 needs to be understood and should be clear, that deficiencies even concerning the pre-threshold terrain have to be announced by the NAA.</p>
response	<p>Noted</p> <p>EASA has organised a task force with the participation of LBA to address the issues related to pre-threshold terrain and the work resulted in a new set of AMC and GM to SPA.LVO.105 and mainly SPA.LVO.110.</p>

SPA.LVO.120 Flight crew competence

p. 136-137

comment	<p>317                      comment by: EUROCONTROL</p> <p>p. 136 - SPA LVO 120(b)</p> <p>It should be limited to the operations that the operator is intending to conduct not all.</p> <p>Add for the intended operations.</p>
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response	Accepted  The text has been amended to read 'all types of LVOs and operations with operational credits for which the operator is approved'.
comment	544                      comment by: ERA Operations Group  The changes in these proposals will have to be included the changes into recurrent training programmes. Such programmes are designed to run on a six-month cycle. This lead time will have to be considered in the implementation period. In addition, 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.
response	Noted
comment	690                      comment by: <i>FNAM</i>  ISSUE AND PROPOSAL – (b) The wording is not adapted '...training and checking for all type of LVOs and operations with operational credits.'. Indeed, operators should ensure training and checking only for operations for which they obtain dedicated approval and not for all existing LVO and operations with operational credits. <i>FNAM</i> suggests to reword this sentence with '...training and checking for all LVO and operations with operational credit for which operator has an approval'. This would ensure efficient implementations and oversights of this EASA proposed disposal.
response	Accepted  The text has been amended to read 'all types of LVOs and operations with operational credits for which the operator is approved'.

AMC1 SPA.LVO.120(a) Flight crew competence

p. 137

comment	692                      comment by: <i>FNAM</i>  AGREEMENT <i>FNAM</i> agrees and thanks EASA for empowering operators about experience level. Indeed, it would better fit to operational reality if operators judge what is the minimum level of experience. Moreover, <i>FNAM</i> agrees that the precision of number of hours is transposed in GM rather than in AMC.
response	Noted



## AMC2 SPA.LVO.120(a) Flight crew competence

p. 137

comment

693 comment by: *FNAM*

## ISSUE AND PROPOSAL

EASA proposed guidance and requirements on the definition of recent experiences are confusing. They are split on the four corners of this proposed regulation and the scope of each and every AMC and GM is not precise. Some requirements and guidance seem to be redundant which introduces complexity on this proposed regulation.

response

Not accepted

comment

694 comment by: *FNAM*

## ISSUE AND PROPOSAL - (b)

Training for EFVS may be differentiated between pilot monitoring and pilot flying. In order to reduce redundancy and alleviate any supplemental burden for operators, FNAM suggests that any redundant items between pilots monitoring and flying should be avoided.

response

Not accepted

The duties of pilot monitoring and pilot flying during EFVS operations are different, so there are no redundant items.

## AMC1 SPA.LVO.120(b) Flight crew competence

p. 138-139

comment

319 comment by: *EUROCONTROL*

p. 139 - AMC1 SPA LVO 120 a (5), b &amp; c

Why 150m and not 125m? This does not match with AMC2 SPA LVO 110.

Ensure minimum is consistent.

response

Noted.

150 m is the existing requirement. No operational or safety reason has been identified to change this value and it has been transposed from the current rules. AMC2 SPA.LVO.110 refers to aerodrome requirements, whereas AMC1 SPA.LVO.120 refers to flight crew training requirements so there is no reason why the same values of RVR would apply.

comment

695 comment by: *FNAM*

## AGREEMENT – (a)(5)

FNAM thanks EASA for allowing more flexibilities for class D aircraft



response	<p>Noted</p> <p>There is no additional flexibility for class D aircraft proposed. Pilots of class D aircraft should receive training on additional procedures for take-off in RVRs of less than 200 m, whereas for other types the training should address procedures for take-off in less than 150 m RVR.</p>
comment	<p>696 comment by: <i>FNAM</i></p> <p>AGREEMENT FNAM thanks EASA for alleviating ground training requirements</p>
response	<p>Noted</p>
comment	<p>697 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (d)(1) This EASA proposed disposal describes precisely one mean to be compliant to ensure the check. Since, this is one example which may be restrictive for most of operators, FNAM suggests to move it in GM.</p>
response	<p>Noted</p> <p>This provision has been transposed from the current AMC1 SPA.LVO.120. It is not considered to be restrictive for operators. An operator that identifies another means to comply could apply for an alternative means of compliance (AltMoC). In the absence of an AltMoC, the proposal is that this remains the only means to demonstrate compliance.</p>

AMC2 SPA.LVO.120(b) Flight crew competence
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p. 139-144
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comment	<p>321 comment by: <i>EUROCONTROL</i></p> <p>p.140 - AMC2 SPA LVO 120(b) a 1) x)</p> <p>LVP training to be added for pilots to understand the full spectrum of options and their associated key operational features.</p>
response	<p>Not accepted</p>
comment	<p>326 comment by: <i>AIRBUS</i></p> <p>In initial training (AMC2 SPA.LVO.120(b) Flight crew competence INITIAL TRAINING AND CHECKING FOR SA CAT I, CAT II, SA CAT II AND CAT III APPROACH OPERATIONS) it is requested to perform the following failures:</p>



(iv) Phase two of the training should include the following exercises:  
 (A) approaches with engine failures at various stages on the approach;  
 (B) approaches with critical equipment failures, such as electrical systems, auto-flight systems, ground or airborne approach aids and status monitors;

In the EVFS case (AMC3 SPA.LVO.120(b) Flight crew competence INITIAL TRAINING AND CHECKING FOR EFVS OPERATIONS)

it is requested to perform the following failures:

(iii) Phase two (low-visibility approach operations with aircraft and equipment failures and degradations) — objectives:

(A) understand the effect of known aircraft unserviceabilities including use of the MEL;

(B) understand the effect on aerodrome operating minima of failed or downgraded equipment;

AIRBUS does not understand the difference of wording between both operations and in particular why focus is done on Engine failure for SA CAT I to CAT III operation and not for the EVFS case.

As per ICAO Annex 10 classification: Level 1 ILS can have MTBO that can be less than 1 000 hour and Level 2 ILS can have MTBO of at least 1 000 hour but can be as low at 2000 hours. Hence probability of having navigation means failure is far higher than having an engine failure during an approach.

AIRBUS suggest removing Engine failure due to it's low probability of occurrence compared to failure of navigation means.

More generally, AIRBUS would like to highlight the fact that failure profiles of supporting navigation means (monitoring threshold and Time to alert) depends on the supporting navigation mean class used for the operation. This aspect must be considered in crew training requirement. Current wording for training is quite vague on this matter. AIRBUS suggests including additional consideration for failure of navigation means in AMC and/or in GM related to initial and recurrent training.

response

Partially accepted

In both AMC2 and AMC3, point (a)(2)(iii) describes the objectives for the second phase of training and point (a)(2)(iv) describes the exercises that should be included. There was an error in the NPA in that AMC3 (a)(2)(iii) referred to 'low-visibility operations' whereas it should have referred to 'EFVS operations'. This has been corrected. Approaches with engine failures at various stages of the approach are required for EFVS training by AMC2 point (a)(2)(iv)(a).

Further to AMC2, phase 2 training should include ground or airborne approach aids and status monitors, which will expose the crew to failures of supporting navigational means. As EFVS relies on the same navigational means as operations not requiring a specific approval, there is no need for this to be included in training for EFVS operations. Instead, training for EFVS operations focuses on potential failures of the EFVS.



comment	698 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL – (a) In the proposed disposal, an additional item is required for ground training : ‘characteristics and limitations of different types of approach aid’. This additional data may have a significant impact on operators. Indeed, procedures should be modified, flight crew should be sensitized, additional personnel resources should be allocated to this new data analysis, etc. Therefore, FNAM suggests to ensure a smooth transition period allowing operators to adapt their activities to this new requirement. Plus, some demonstrations could take benefit from current and approved quality systems of operators. This would reduce administrative burden for operators but also for NAA.
response	Noted
comment	699 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL - (2)(ii) EASA proposed disposals (C), (D), (E) and (F) are applicable for all operations on the scope of this AMC: SA CAT I, SA CAT II, CAT II and CAT III. Since these measures are more restrictive than the current ones for LTS CAT I and OTS CAT II, FNAM suggests to remove these proposed measures or to move them in GM. This is against the NPA main objective which is to introduce new possibilities only on a voluntary basis without impacting all operators.
response	Noted  The training provisions have been transposed from the current AMC1 SPA.LVO.120. Under the current provisions, operators conducting LTS CAT I and OTS CAT II operations have to comply with the provisions applicable to CAT II operations (AMC1 SPA.LVO.120 (h)(1)). The proposed measures are not more restrictive.
comment	700 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL The scope of this EASA proposed disposal is confused. The title describes the AMC applicable for SA CAT I, SA CAT II, CAT II and CAT II approaches although LVO requirements are clearly described in this AMC. For example, in (2)(i) on Phase one (LVO with aircraft and all equipment requirement for LVO). Indeed, SA CAT I and SA CAT II operations are operations with operational credits which are differentiate from LVO operations. FNAM suggests to review the structure of this AMC in order to differentiate LVO requirements and operations with operational credits requirements in order to ensure efficient interpretations and implementations of these EASA proposed disposals.
response	Not accepted  SA CAT I, SA CAT II, CAT II and CAT III are all LVOs.

comment	701 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL - (2)(v)(A) This EASA proposed disposal describes the minimum number of approaches with FSTD with the use of HUD. These measures are more restrictive than current ones. Current measures allow to perform only 6 approaches instead of 8 with the use of hybrid system HUD and HUDLS operations. This is against the NPA main objective which is to introduce new possibilities only on a voluntary basis without impacting all operators. Since these measures are more restrictive and would impact all operators, FNAM suggests to remove this new measure and keep the current one.
response	Not accepted

## AMC3 SPA.LVO.120(b) Flight crew competence

p. 144-147

comment	322 comment by: <i>EUROCONTROL</i>  p. 144 - AMC3 SPA LVO 120(b) 1) xii)  LVP training should also include considerations regarding the landing aids specificities. EUROCONTROL has developed training material for that purpose that could be re-used as GM or AMC.  To consider a new GM for specific training material.
response	Not accepted  EFVS is an operational credit affecting the visual segment of the approach, so additional training on the specificities of landing aids is not relevant.
comment	326 ❖ comment by: <i>AIRBUS</i>  In initial training (AMC2 SPA.LVO.120(b) Flight crew competence INITIAL TRAINING AND CHECKING FOR SA CAT I, CAT II, SA CAT II AND CAT III APPROACH OPERATIONS) it is requested to perform the following failures:  (iv) Phase two of the training should include the following exercises: (A) approaches with engine failures at various stages on the approach; (B) approaches with critical equipment failures, such as electrical systems, auto-flight systems, ground or airborne approach aids and status monitors;  In the EVFS case (AMC3 SPA.LVO.120(b) Flight crew competence INITIAL TRAINING AND CHECKING FOR EFVS OPERATIONS) it is requested to perform the following failures:  (iii) Phase two (low-visibility approach operations with aircraft and equipment failures and degradations) — objectives: (A) understand the effect of known aircraft unserviceabilities including use of the



	<p>MEL; (B) understand the effect on aerodrome operating minima of failed or downgraded equipment;</p> <p>AIRBUS does not understand the difference of wording between both operations and in particular why focus is done on Engine failure for SA CAT I to CAT III operation and not for the EFVS case.</p> <p>As per ICAO Annex 10 classification: Level 1 ILS can have MTBO that can be less than 1 000 hour and Level 2 ILS can have MTBO of at least 1 000 hour but can be as low as 2000 hours. Hence probability of having navigation means failure is far higher than having an engine failure during an approach.</p> <p>AIRBUS suggest removing Engine failure due to it's low probability of occurrence compared to failure of navigation means. More generally, AIRBUS would like to highlight the fact that failure profiles of supporting navigation means (monitoring threshold and Time to alert) depends on the supporting navigation mean class used for the operation. This aspect must be considered in crew training requirement. Current wording for training is quite vague on this matter. AIRBUS suggests including additional consideration for failure of navigation means in AMC and/or in GM related to initial and recurrent training.</p>
response	<p>Partially accepted</p> <p>In both AMC2 and AMC3, point (a)(2)(iii) describes the objectives for the second phase of training and point (a)(2)(iv) describes the exercises that should be included. There was an error in the NPA in that AMC3 (a)(2)(iii) referred to 'low-visibility operations' whereas it should have referred to 'EFVS operations'. This has been corrected. Approaches with engine failures at various stages of the approach are required for EFVS training by AMC2 point (a)(2)(iv)(a).</p> <p>Further to AMC2, phase 2 training should include ground or airborne approach aids and status monitors, which will expose the crew to failures of supporting navigational means. As EFVS relies on the same navigational means as operations not requiring a specific approval, there is no need for this to be included in training for EFVS operations. Instead, training for EFVS operations focuses on potential failures of the EFVS.</p>

AMC4 SPA.LVO.120(b) Flight crew competence

p. 147-148

comment

702

comment by: *FNAM*

## ISSUE AND PROPOSAL

EASA proposed guidance and requirements on the definition of recent experiences are confusing. They are splited on the four corners of this proposed regulation and the scope of each and every AMC and GM is not precise. Some requirements and guidance seem to be redundant which introduces complexity on this proposed regulation.



response	Not accepted
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AMC5 SPA.LVO.120(b) Flight crew competence	p. 148-149
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comment	703 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL It is confusing to add operations with operational credits requirements in this subpart. Indeed, since requirement names are SPA.LVO and since operations with operational credits have different requirements and conditions and cannot be associated with LVO operations, FNAM suggests to separate these two concepts in the future regulation. For example, SA CAT I and SA CAT II operations are operations with operational credits which are differentiate from LVO operations.
response	Not accepted  SA CAT I, SA CAT II, CAT II and CAT III are all LVOs.

AMC6 SPA.LVO.120(b) Flight crew competence	p. 148
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comment	704 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL EASA proposed guidance and requirements on the definition of recent experiences are confusing. They are splited on the four corners of this proposed regulation and the scope of each and every AMC and GM is not precise. Some requirements and guidance seem to be redundant which introduces complexity on this proposed regulation. FNAM suggests therefore to clarify recent experience requirements and guidance by providing a reference time and rearrange the structure of these proposed disposals.
response	Not accepted

comment	705 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL Training for EFVS may be differentiated between pilot monitoring and pilot flying. In order to reduce redundancy and alleviate any supplemental burden for operators, FNAM suggests that any redundant items between pilots monitoring and flying should be avoided.
response	Not accepted  The duties of pilot monitoring and pilot flying during EFVS operations are different, so there are no redundant items.



GM1 SPA.LVO.120(b) Flight crew competence

p. 149-153

comment

121 comment by: Dassault-Aviation

Text:

GM1 SPA.LVO.120(b) Flight crew competence

FLIGHT CREW TRAINING page 150

"(e) Approaches conducted in a suitably qualified FSTD and/or during a proficiency check or demonstration

of competence may be counted towards the recent experience requirements. If a flight crew member

has not complied with the recent experience requirements of AMC4 SPA.LVO.120 or

AMC5 SPA.LVO.120, the required approaches may be conducted during recurrent training, an operator

proficiency check or a periodic check of competence either in an aircraft or on an FSTD"

Comment:

AMC reference number are not the good one. Typo

Proposed change:

"...If a flight crew member has not complied with the recent experience requirements of AMC4~~2~~ SPA.LVO.120 or AMC5~~3~~ SPA.LVO.120, the required approaches..."

response

Partially accepted

The correct references have been inserted, viz. AMC2 SPA.LVO.120(a) and AMC3 SPA.LVO.120(a).

comment

122 comment by: Dassault-Aviation

Text:

GM1 SPA.LVO.120(b) Flight crew competence

FLIGHT CREW TRAINING page 151

Table summarizing the training requirements

Comment:

Recurrent and currency should be addressed in separate columns.

The reference (for ex AMC X) for recent experience and the reference for the recurrent training should be added, as it is for initial training in column 4 of the table.

response

Accepted

The recent experience and recurrent training/checking requirements have been moved to a table, separated into different columns and the references have been included.



comment	706 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL EASA proposed guidance and requirements on the definition of recent experiences are confusing. They are split on the four corners of this proposed regulation and the scope of each and every AMC and GM is not precise. Some requirements and guidance seem to be redundant which introduces complexity on this proposed regulation.
response	Not accepted

NCC.OP.110 Aerodrome operating minima—general

p. 155-156

comment	709 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL – Title This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders.
response	Noted

AMC3 NCC.OP.110 Aerodrome operating minima — general

p. 157-158

comment	143 comment by: Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)  Suggest to delete in total.  <b>Rationale:</b> SET-IMC are not applicable to NCC-operations, since no specific approval is required for S/E IMC operations.
response	Partially accepted

comment	151 ❖ comment by: <i>UK CAA</i>  <b>Page No:</b> 43 / 61 / 157  <b>Paragraph No:</b> Annex I, Definitions: ‘aerodrome operating minima’ paragraphs (a) and (b) / AMC1 CAT.OP.MPA.110 paragraph (a)(1) / AMC3 NCC.OP.110 paragraph (a)(1)  <b>Comment:</b> The term ‘cloud conditions’ is frequently used but is not currently defined by ICAO or EASA. It would be helpful to know exactly what information should be specified; (for example: cloud type / height or ceiling / coverage).
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response	<p><b>Justification:</b> A definition of ‘cloud conditions’ would enable consistent interpretation of the term.</p> <p>Accepted</p> <p>The term ‘cloud conditions’ in AMC1 CAT.OP.MPA.110 point (a)(1) and AMC3 NCC.OP.110 point (a)(1) will revert to ‘ceiling’ and the ICAO definition of ‘ceiling’ (ICAO Doc 9365) will be included in Annex 1 – Definitions.</p>
comment	<p>710 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL - Title</p> <p>This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders.</p>
response	<p>Noted.</p> <p>A consistency check has been performed.</p>
comment	<p>711 comment by: <i>FNAM</i></p> <p>EDITORIAL ISSUE</p> <p>There is no (c)(1). <i>FNAM</i> suggests therefore to suppress the numbering (c)(1).</p>
response	<p>Not accepted</p> <p>This was the result of an error in the NPA. (c)(2) refers to helicopter and is therefore not included in the NPA. The text should have included the original text of (a)(2) and has been corrected accordingly.</p>
comment	<p>712 comment by: <i>FNAM</i></p> <p>EDITORIAL ISSUE</p> <p>This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders. <i>FNAM</i> wonders why Table 2.A has been removed from Part NCC whereas it still belongs to Part CAT and the Table 2.A is mentioned in the requirements of Part NCC.</p> <p><i>FNAM</i> suggests to add the Table 2.A in (c)(1)(ii)(B)</p>
response	<p>Accepted</p> <p>This was the result of an error in the NPA. Table 2.A has been reinstated.</p>

comment	<p>9 ❖ comment by: Civil Aviation Authority Czech Republic</p> <p>page 64, Table 3.A, and page 160, Table 2.A</p> <p>The value "350 ft" for the lowest DH/MDH, there are currently no supporting meteorological measurements (ref. ICAO Annex 3, Appendix 3, Par. 4.5.4.1 , 4.5.4.2). The closest values of cloud base reported are 300 and 400 ft (but not 350 ft)</p>
response	<p>Noted</p> <p>The measurement of cloud base is not relevant to the determination of decision height.</p>
comment	<p>416 comment by: DGAC France</p> <p>Page 160 AMC4 NCC.OP.110 Aerodrome operating minima – general DETERMINATION OF DH/MDH FOR INSTRUMENT APPROACH OPERATIONS Table 2.A: * For localiser performance with vertical guidance (LPV), a DH of 200 ft may be used only if the published FAS datablock sets a vertical alert limit not exceeding 35 m. Otherwise, the DH should not be lower than 250 ft.</p> <p>Comment: If the vertical alert limit (VAL) published in the FAS exceeds 35m, the OCH of the procedure will hardly reach a value less than 250ft. Anyway if the VAL allows the OCH to be a little bit less than 250ft there would be no safety reason to limit the DH to 250ft. Most of the time the certification of the runway (precision against non precision) will be the limited factor on the DH. As a consequence there is no need to specify this note which may introduce useless complexity. Same comment for Part-CAT (see specific comment page 64)</p>
response	<p>Not accepted.</p> <p>The note has been redrafted, but it is maintained.</p>
comment	<p>713 comment by: FNAM</p> <p>EDITORIAL ISSUE This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders. FNAM wonders why Table 2.A has been removed from Part NCC whereas it still belongs to Part CAT and the Table 2.A is mentioned in the requirements of Part NCC. FNAM suggests to add the Table 2.A in (c)(1)(ii)(B)</p>
response	<p>Noted</p>



This comment appears to refer to AMC3 NCC.OP.110 and to be a duplication of comment # 712. Table 2.A in AMC3 NCC.OP.110 has been reinstated and the table numbering in AMC4 NCC.OP.110 has been updated accordingly.

AMC5 NCC.OP.110 Aerodrome operating minima — general

p. 161-167

comment

12 ❖ comment by: Civil Aviation Authority Czech Republic

page 102, Table 1, and  
page 67, Table 6.A, and  
page 166, Table 5.A

The values of RVR in the 1st column higher than 200 m (2100, 2200, 2300, 2 400 m) are usually not supported by meteorological measurements (ref. ICAO Annex 3, Appendix 3, Par. 4.3.6.2).

Please, note, that the standard "SPECI Criteria" values of RVR are: 50, 175, 300, 550, 800 m (ref. ICAO Annex 3, Appendix 3, Par. 2.3.2 (c) ) shall be preferred for operational needs. Introduction of the other limit values of RVR should be avoided as much as possible.

response

Partially accepted

The review group has checked the ICAO Doc 9365 AWO manual to ensure consistency which was the primary objective; therefore, the proposed solution of this comment was not followed.

comment

172 ❖ comment by: UK CAA

**Page No:** 66 / 165

**Paragraph No:** AMC4 CAT.OP.MPA.110, paragraphs (a) and (b) / AMC5 NCC.OP.110 paragraphs (a) and (b)

**Comment:** The abbreviation 'VIS' has been inserted where we believe it should read 'CMV'.

**Justification:** VIS and CMV are different parameters; they should not be used interchangeably.

Proposed Text:

'DETERMINATION OF RVR OR ~~VIS~~ **CMV** FOR INSTRUMENT APPROACH OPERATIONS  
— AEROPLANES

(a) The RVR/CMV for straight-in instrument approach operations should be not less than the greater of the following:

(1) The minimum RVR or ~~VIS~~ **CMV** for type of runway used according to Table 5.A;  
or



	<p>(2) The minimum RVR or <del>VIS</del> <b>CMV</b> determined according to the MDH or DH and class of lighting facility according to Table 6.A; or</p> <p>(3) The minimum RVR or <del>VIS</del> <b>CMV</b> according to the visual and non-visual aids and on-board equipment used according to Table 7.A.</p> <p>(b) For Category A and B aeroplanes, if the RVR or <del>VIS</del> <b>CMV</b> determined in accordance with point (a) is greater than 1 500 m, then 1 500 m should be used.'</p>		
<p>response</p>	<p>Partially accepted.</p> <p>The comment is correct; CMV and VIS are not equivalent. AMC8 NCC.OP.110 has been amended to clarify the circumstances in which CMV may be used in place of VIS or RVR. AMC5 NCC.OP.110 describes the determination of RVR or VIS for instrument approach operations. For straight-in approach operations, this will be RVR; for circling approaches, VIS. CMV has been removed because it is made redundant following the revision of AMC9.</p>		
<p>comment</p>	<p>173 ❖ comment by: UK CAA</p> <p><b>Page No:</b> 66 / 165</p> <p><b>Paragraph No:</b> AMC4 CAT.OP.MPA.110, Table 5.A / AMC5 NCC.OP.110, Table 4.A</p> <p><b>Comment:</b> We believe the abbreviation 'CMV' should be used instead of 'VIS'</p> <p><b>Justification:</b> RVR, VIS and CMV are different parameters; they should not be used interchangeably.</p> <p>Proposed Text: Table 5.A: The type of runway vs. minimum RVR or <del>VIS</del> <b>CMV</b></p> <table border="1"> <tr> <td>Type of runway:</td> <td>Minimum RVR or <del>VIS</del> <b>CMV</b> (m)</td> </tr> </table> <p>The same amendments should also be applied to Table 4.A on page 165</p>	Type of runway:	Minimum RVR or <del>VIS</del> <b>CMV</b> (m)
Type of runway:	Minimum RVR or <del>VIS</del> <b>CMV</b> (m)		
<p>response</p>	<p>Not accepted</p> <p>For straight-in approach operations, RVR is applicable. For circling operations, VIS is applicable. References to CMV are not required here because AMC9 CAT.OP.MPA.110 has been updated to describe the circumstances in which CMV may be substituted for RVR or VIS.</p>		
<p>comment</p>	<p>209 comment by: UK CAA</p> <p>Page No: 165</p>		



	<p><b>Paragraph No:</b> AMC5 NCC.OP.110 paragraph (f)</p> <p><b>Comment:</b> This paragraph does not appear in AMC4 CAT.OP.MPA.110, which is otherwise identical.</p> <p>It is questioned whether this paragraph should be transposed to AMC4 CAT.OP.MPA.110.</p> <p>Justification: Query</p> <p>Proposed Text: AMC4 CAT.OP.MPA.110 paragraph (f) Where any visual or non-visual aid specified for the approach and assumed to be available in the determination of operating minima is unavailable, revised operating minima will need to be determined.</p>
response	<p>Not accepted</p> <p>Nevertheless, the comment has highlighted inconsistencies between AMC4 CAT.OP.MPA and AMC5 NCC.OP.110 which will be addressed.</p>
comment	<p>714 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – Title This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders. <i>FNAM</i> suggests to keep the same wording than the one used in CAT requirements: remove 'CMV' from the title.</p>
response	<p>Accepted</p>
comment	<p>715 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – Table 6.A The proposed Table transposes the current (a)(i) and (ii) requirements. <i>FNAM</i> thanks for this new editorial which is clearer and simpler to understand. However, some requirements have been changed during this transposition. First, 3D operations with RTZL or without RTZL but using HULDS or equivalent system have no limitation for the lowest RVR for multi-pilot operations and 600m for single-pilot operations for the second case. <i>FNAM</i> wonders from which current requirements these proposals come from. Indeed, there are no such requirements for 3D operations in the current regulation. Then, proposed 2D operations disposals on the lowest RVR depend on the final approach track offset angle. In the current regulation, the lowest RVR will variate if the final approach track offset is not more than 15° for category A and B aeroplanes and not more than 5° for category C and D aeroplanes. According to the current requirement, 15° or 5° could be reach but is the absolute limit. Thus, <i>FNAM</i> suggests to modify the limit for the final approach track offset angle transposition</p>



response	<p>in Table 6.A with: <math>\leq 15^\circ</math> and <math>\leq 5^\circ</math> rather than <math>&lt; 15^\circ</math> and <math>&lt; 5^\circ</math>; and <math>&gt; 15^\circ</math> and <math>&gt; 5^\circ</math> rather than <math>\geq 15^\circ</math> and <math>\geq 5^\circ</math>.</p> <p>Not accepted</p> <p>The 600-m limitation for single-pilot operations comes from the current AMC5 CAT.OP.MPA.110(a)(8)(ii).</p> <p>Accepted</p> <p>The mathematical symbols will be corrected in Table 7.A (AMC4 CAT.OP.MPA.110) and Table 6.A (AMC5 NCC.OP.110).</p>
comment	<p>716 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>The name of Table 7 is confusing. All tables applicable for aeroplanes are named such as Table N°.A and in the same way, all tables applicable for helicopters are named such as Table N°.H. It is confusing to have a table named such as Table N°. It may mean that this table is applicable for aeroplanes and helicopters. FNAM suggests to rename Table 7 such as Table 7.A.</p>
response	<p>Accepted</p> <p>Table 7 has been amended to 7.A, as proposed, and the reference in the text has been corrected from 'Table 5.A' to 'Table 7.A'.</p>

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p. 167-168
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comment	<p>177 ❖ comment by: <i>UK CAA</i></p> <p><b>Page No:</b> 72 / 168</p> <p><b>Paragraph No:</b> AMC9 CAT.OP.MPA.110, Table 11: Conversion of reported VIS to RVR/CMV / and AMC8 NCC.OP.110 Table 9</p> <p><b>Comment:</b> Please refer to ICAO paper: AMOFSG/10-SN No. 11 – AERODROME METEOROLOGICAL OBSERVATION AND FORECAST STUDY GROUP (AMOFSG), TENTH MEETING (Montréal, 17 to 19 June 2013) Agenda Item 5: Aerodrome observations: INCONSISTENCY BETWEEN VISIBILITY AND CMV, A CONVERTED METEOROLOGICAL VISIBILITY.</p> <p>In this paper, it is discussed that the CMV table was established in 1995 before the ICAO definition of visibility was introduced in 2001.</p> <p>It is believed the CMV table is consistent with a visibility being a meteorological optical range (MOR), <u>but is not consistent with the current ICAO Annex 3 definition of visibility.</u></p> <p>To quote the paper:</p>
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	<p>“The explanation of this inconsistency is probably the fact that the conversion table was established before 2001, the year when Annex 3 defined for the first time the term “visibility” (for aeronautical purposes). Before 2001, the only objective definition of visibility was that of the World Meteorological Organization (WMO), the MOR. And the CMV conversion table is consistent with a visibility being a MOR. But this conversion table was not updated to take into account the ICAO definition of visibility.”</p> <p>In summary, the paper believes that: “This conversion could lead to safety problems.”</p> <p>Also note in ICAO Doc 9365 - Manual of All-Weather Operations (Fourth edition, 2017), Table E-1. ‘Conversion of MET visibility to RVR/CMV’ includes a note as follows: “The relationship between reported visibility and RVR/CMV at night is under review by ICAO.”</p> <p>The UK CAA recommends that the values in Table 11 (and Table 9) are reviewed.</p> <p><b>Justification:</b> Accuracy, safety</p>
<p>response</p>	<p>Partially accepted</p> <p>The values in Table 11 have been reviewed but, after extensive discussions, the RMG decided to maintain the existing provisions in relation to the use of CMV for continuation of an approach. The comment is accurate in that the matter has been considered at ICAO, but no conclusion has been reached and ICAO standards are not affected. The view of the group was that while the conversion factors are not based on scientific or empirical data, they do provide a useful heuristic for the rare occasions where RVR is not available. The conversion factors have been in use for many years and, in the absence of any safety-related data, no justification has been found to amend the factors.</p>
<p>comment</p>	<p>323                      comment by: <i>EUROCONTROL</i></p> <p>p. 167 - AMC8 NCC.OP.110 (a) (3)</p> <p>Type "...of continuation of an approach in..." and RVR conversion.</p> <p>See previous comment on RVR conversion.</p>
<p>response</p>	<p>Accepted</p> <p>AMC8 NCC.OP.110 has been extensively amended and now includes provision (a)(3) which prevents the use of CMV if the value is less than 800 m.</p>
<p>comment</p>	<p>717                      comment by: <i>FNAM</i></p>



	<p>AGREEMENT</p> <p>The disposal proposes to modify conditions for the use of CMV when reported RVR is not available. The modification is more flexible for operators as it would be impossible to replace by the CMV when operating in LVO (<i>i.e.</i> with RVR less than 550m) although the current condition forbids it when RVR is less than 800m.</p>
response	Noted

comment	<p>718 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (a)</p> <p>This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders. Therefore, FNAM wonders why CAT proposed requirements (a), (b) and (c) is not written with the same wording than the one used in NCC proposed requirements.</p>
response	Accepted

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p. 168-169
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comment	<p>417 comment by: <i>DGAC France</i></p> <p>Pages 168-169</p> <p>AMC9 NCC.OP.110 Aerodrome operating minima — general</p> <p>EFFECT ON LANDING MINIMA OF TEMPORARILY FAILED OR DOWNGRADED GROUND EQUIPMENT</p> <p>(b)(3) and table 10</p> <p>Comment:</p> <p>If there is a GBAS standby system, GLS should be mentioned in (b)(3) and table 10. Same comment for Part-CAT and Part-SPA (see specific comments pages 72 and 107)</p>
response	<p>Partially accepted</p> <p>The reference to ILS and MLS has been deleted so that all nav aids are included.</p>

comment	<p>458 comment by: <i>EUROCONTROL</i></p> <p>Table 10</p> <p>AMC9 NCC.OP.110 (b) (3)</p> <p>Change to "ILS/MLS/GLS" in text and table.</p>
response	<p>Partially accepted</p> <p>The reference to ILS and MLS has been deleted so that all nav aids are included.</p>



comment	719	comment by: <i>FNAM</i>
	<p>AGREEMENT</p> <p>More flexibilities are offered for outer marker loss. FNAM thanks for this new possibility by height or glide path checking.</p>	
response	Noted	

comment	720	comment by: <i>FNAM</i>
	<p>ISSUE AND PROPOSAL</p> <p>The proposed disposal presents the effect on landing minima of temporarily failed or downgraded ground equipment. Table 10 updates the current required data with the new proposed categories of this NPA. FNAM thanks for harmonizing data throughout the whole proposed regulation. However, the change in Table 10 are not adapted.</p> <p>The main issue is that current CAT I is possible with a DH over 200ft although the proposed regulation includes CAT I in Type B operations which are limited with a DH below 250ft. Thus, the proposed Type B CAT I operation would have a DH from 200ft to 250ft. Table 12 is therefore more restrictive when CAT I operations are transposed with Type B operations.</p> <p>Plus, proposed requirements would be applicable for all operators since modifications are included in NCC regulations. This is against this NPA main objective which is to introduce new possibilities on a voluntary basis without impacting all operators.</p> <p>Therefore, FNAM suggests to keep CAT I in Table 10 instead of Type B.</p>	
response	<p>Not accepted</p> <p>The change to Type A and B operations derives from ICAO material. A Cat I approach with a DH above 250 feet is, by definition, a Type A operation. Therefore, it should be accounted for as such. In practice, the material in Table 12 will not limit a Cat I approach differently if it is either a Type A or a Type B approach.</p>	

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comment	721	comment by: <i>FNAM</i>
	<p>ISSUE</p> <p>This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders. The proposed guidance is not proposed for CAT operations. FNAM wonders why aircraft categories are not described in CAT requirements.</p>	
response	<p>Noted</p> <p>Aircraft categories are described in CAT.OP.MPA.320.</p>	



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comment

722 comment by: *FNAM*

## AGREEMENT

FNAM thanks EASA for introducing ICAO and FAA values. In that way, agreements and exchanges with third countries would be facilitated.

response

Noted

## GM6 NCC.OP.110 Aerodrome operating minima — general

p. 170

comment

723 comment by: *FNAM*

## ISSUE AND PROPOSAL

FNAM does not understand GM6 objectives. This guidance seems to advise that SBAS should be used for NCC operations when is at 200ft. Then, the list of systems allowing SBAS around the world is provided. Does that mean that any of these systems could be used?

Plus, FNAM fears that with new technologies evolutions, the European regulation would become obsolete rapidly.

Additionally, FNAM wonders why these NCC proposed requirements are specific to Part NCC and do not also belong to Part CAT proposed requirements.

response

Not accepted

This text already exists as GM to Part-CAT. It is introduced to ensure consistency between Parts.

## GM7 NCC.OP.110 Aerodrome operating minima — general

p. 171

comment

123 comment by: Dassault-Aviation

## Text:

GM7 NCC.OP.110 Aerodrome operating minima — general

MEANS TO DETERMINE THE REQUIRED RVR BASED ON DH AND LIGHTING FACILITIES  
page 171

Table 13: Approach lighting systems

## Comment:

This table is already mentioned in AMC5 NCC.OP.110 Aerodrome E42:E46

## Proposed change:

remove the table 13 and refer to table 7

response

Accepted



Table 13 has been deleted as proposed.

comment

724 comment by: *FNAM*

## AGREEMENT

FNAM thanks for explaining the calculation of operating minima in GM instead of IR and AMC. Indeed, in that way, the regulation is much simpler to understand than the current one.

response

Noted

comment

725 comment by: *FNAM*

## ISSUE AND PROPOSAL

FNAM proposes to refer to Table 7 instead to repeat the same value in Table 13. This would introduce unnecessary complexity to the proposed regulation.

response

Accepted

Table 13 has been deleted, as proposed.

comment

726 comment by: *FNAM*

## ISSUE AND PROPOSAL – (a)

The proposed disposal transposes current IR requirements in GM. In that way, the formula to calculate the required RVR / VIS is now provided in GM. FNAM agrees and thanks for this initiative. Nevertheless, this formula should have been modified taking into account proposed updates of RVR limitation in Table 5.A. Indeed, new proposed RVR values are limited to a threshold at 2400m which is not the case in the formula. Thus, FNAM suggests to precise this new requirement while describing the formula in this GM.

response

Accepted

The text has been modified to explain that an upper limit of 2 400 m has been set.

GM8 NCC.OP.110 Aerodrome operating minima — general

p. 171-172

comment

727 comment by: *FNAM*

## ISSUE AND PROPOSAL

The proposed disposal describes the 4 suitable topics for the safety assessment required for each operators for the use of DH for Non-Precision Approaches flown using the CDFA technique.

The wording of the proposal is confusing because it seems that the 4 topics are mandatory to demonstrate although the proposed requirement are a guidance. Therefore, FNAM suggest to modify the wording by replacing 'include' by 'may include'.



	Plus, considering the current quality system requirements and demonstrations, these items may have already been demonstrated by operators. In order to reduce the complexity of this regulations, FNAM suggests to remove redundant requirements. The oversight items may be provided in Part-ARO if needed.
response	Noted  The GM does not put any obligation on operators. It includes a list of suitable topics for a safety assessment. The list is not comprehensive or exhaustive.

GM9 NCC.OP.110 Aerodrome operating minima — general

p. 172

comment	418                      comment by: <i>DGAC France</i>  Page 172 GM9 NCC.OP.110 Aerodrome operating minima — general INCREMENTS SPECIFIED BY THE COMPETENT AUTHORITY  Comment: Shouldn't we specify that the scope of the increment is the RVR/CMV? and not the DH/MDH. Same comment for Part-CAT (see specific comment page 78)
response	Noted

comment	728                      comment by: <i>FNAM</i>  ISSUE AND PROPOSAL This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders. FNAM wonders why the sentence 'or approaches flown without the use of the CDFA techniques' is not transposed in NCC proposed guidance. FNAM suggests to add this sentence in order to ensure efficient interpretations and implementations of this proposed guidance.
response	Noted  Further to AMC1 NCC.OP.115(c), NCC operators should use the CDFA. Part-NCC does not include a provision for NPA to be flown without using the CDFA; therefore, the proposed sentence is not relevant to Part-NCC. (Operators intending to conduct NPA without using the CDFA would implement an AltMoC.)

GM10 NCC.OP.110 Aerodrome operating minima — general

p. 172

comment	729                      comment by: <i>FNAM</i>  ISSUE AND PROPOSAL
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	<p>The demonstration of aerodrome operating minima calculation is currently not oversight and no approval is required. Although the calculation of operating minima is an essential task for operator, the need of approval would require additional resources in time, personnel, etc. in order to complete the demonstration file for competent authorities.</p> <p>Plus, since proposed disposal is introduced in Part-NCC, it would impact all NCC operators. This is against the NPA main objective which is to introduce new possibilities on a voluntary basis without impacting all operators.</p> <p>Therefore, FNAM suggests to remove this requirement.</p>
response	<p>Accepted</p> <p>There is no proposal for the method used by NCC operators to determine aerodrome operating minima to be approved by the competent authority. GM10 has been corrected to remove the reference to the 'method approved'. This has been substituted by the method specified in the operations manual.</p>

NCC.OP.112 Aerodrome operating minima — circling operations with aeroplan	p. 172-173
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comment	<p>730 comment by: <i>FNAM</i></p> <p><b>ISSUE AND PROPOSAL</b></p> <p>EASA proposed NCC requirements correspond to AMC6 CAT.OP.MPA.110. FNAM thanks EASA for transposing CAT proposed requirements in NCC proposed requirements. Nevertheless, this requirement is an implementing rule for NCC and an acceptable means of compliance for CAT. This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ.</p> <p>Requirements drawn up in an identical way would benefit all stakeholders. Besides, more flexibility should be provided for NCC operations than for CAT operations; hence it would be beneficial for NCC operators if the regulation does not impose more stringent requirements in Part NCC than in Part CAT.</p>
response	<p>Noted</p> <p>The proposals are intended to be proportionate to the nature and risk of non-commercial operations. Non-commercial operators are able to implement AltMoC without the approval of the competent authority so, in order to mandate a requirement, it is necessary for the requirement to appear in the implementing rule for NCC whereas it appears in AMC for CAT.</p>

AMC1 NCC.OP.115(c) Departure and approach procedures	p. 175
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comment	<p>731 comment by: <i>FNAM</i></p> <p><b>ISSUE</b></p> <p>The paragraph AMC2 NCC.OP.116 (d)(2)(B) stands in contradiction with the ICAO PANS OPS VOL I document (Chapter 1 APV/BARO-VNAV APPROACH PROCEDURES).</p>
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	<p>Indeed, within the paragraph 1.4.1 Operational constraints of this ICAO Chapter, it is explicit that:          “Pilots are responsible for any necessary cold temperature corrections to all published minimum altitudes/heights. This includes:          a) the altitudes/heights for the initial and <b>intermediate segment(s)</b>;          b) <b>the DA/H</b>; and          c) subsequent missed approach altitudes/heights.”          This is not consistent with the following EASA requirement : “when the temperature is within the promulgated limits, the flight crew should not make compensation to the altitude at the FAF and DA/H”.</p>
response	<p>Noted</p> <p>AMC2 NCC.OP.116 is not included in the NPA and is not within the scope of RMT.0379.</p>

NCC.OP.225 Approach and landing conditions

p. 175

comment	<p>732 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL          NCC.OP.195 and NCC.OP.225 disposals propose to add a step in commander checklist before take-off and before commencing an approach. The operative ground equipment, operative aircraft systems, aircraft performances and flight crew qualifications should be checked by the commander. FNAM wonders if these steps are necessary twice per flight to enhance the flight safety. Indeed, current NCC.OP.110 is already transposed in NCC.OP.195 for take-off procedure. Alleviated procedures should be provided for in-flight check such as before commencing the approach when some points have been already check before take-off. It could help and simplify the in-flight check and focusing commanders attention on flight parameters. This may enhance the flight safety. For example, crew member qualification should be check only once before the take-off.          Plus, this requirement would imply changes of procedures and operating documents. It would therefore impact operators.</p>
response	<p>Partially accepted.</p> <p>1. The requirements of CAT.OP.MPA 300 ‘Approach and landing conditions’ have been transferred from the existing rule CAT.OP.MPA.110 point (e). The identical requirements of CAT.OP.MPA.265 add consistency. In all cases, the commander should be satisfied that the status of the aircraft, systems, ground equipment and flight crew qualification are consistent with the selected aerodrome operating minima. These requirements may differ according to the intended operation.</p> <p>2. The term ‘shall verify’ in CAT.OP.MPA 265 will be amended to ‘shall be satisfied’ to provide the commander with the flexibility to exercise good judgement, as opposed to requiring proof.</p>



NCC.OP.230 Commencement and continuation of approach

p. 175-176

comment

183 ❖

comment by: UK CAA

**Page No:** 89 / 117 / 176**Paragraph No:** CAT.OP.MPA.305 paragraph (a)(2) / GM4 SPA.LVO.100(c) paragraph (f) / NCC.OP.230 paragraph (a)(2)**Comment:** Some amendments are suggested for easier reading.

Justification: Clarity

Proposed Text:

Page 89, CAT.OP.MPA.305, paragraph (a)(2):

'(a) If the reported visibility or controlling RVR for the runway to be used for landing is less than the applicable minimum, then an instrument approach operation shall not be continued:

(1) past a point at which the aircraft is 1 000 ft above the aerodrome elevation; or  
 (2) **into the final approach segment (FAS)** if the DH or MDH is higher than 1 000 ft, ~~in the final approach segment (FAS).~~

Page 117: GM4 SPA.LVO.100(c) paragraph (f):

(f) Conditions for commencement and continuation of the approach are in accordance with CAT.OP.MPA.305.

Pilots conducting EFVS operations may commence an approach and continue that approach below 1 000 ft above the aerodrome or **into** the final approach segment (FAS) if:

Page 176: NCC.OP.230 paragraph (a)(2):

(2) **into the FAS** if the DH or MDH is higher than 1 000 ft, ~~into the FAS.~~

response

Accepted

The text has been amended as proposed.

AMC1 NCC.OP.230(a) Commencement and continuation of approach

p. 178

comment

51

comment by: Europe Air Sports

Europe Air Sports welcomes this new provision and supports its inclusion also in Part-NCO. It is a good example of risk-based regulation.

response

Noted

comment

733

comment by: FNAM

ISSUE AND PROPOSAL



	<p>This NPA proposes requirements for CAT and NCC operations which are equivalent. However, in some of the proposed disposals, the wording used between Part CAT and Part NCC may differ. Requirements drawn up in an identical way would benefit all stakeholders. Besides, more flexibility should be provided for NCC operations than for CAT operations; hence it would be beneficial for NCC operators if the regulation does not impose more stringent requirements in Part NCC than in Part CAT.</p>
response	<p>Noted</p> <p>The proposals are intended to be proportionate to the nature and risk of non-commercial operations.</p>

NCC.OP.235 EFVS 200 operations

p. 179

comment	<p>734                      comment by: <i>FNAM</i></p> <p>AGREEMENT FNAM agrees with EASA's proposals for EFVS 200 which would not need specific approvals.</p>
response	<p>Noted</p>

GM1 NCC.OP.235 EFVS 200 operations

p. 179-181

comment	<p>124                      comment by: Dassault-Aviation</p> <p>Text: GM1 NCC.OP.235 EFVS 200 operations GENERAL page 179 "(d) Aerodrome operating minima for EFVS 200 operations are determined in accordance with AMC1 NCC.OP.235(h). The performance ... for the evaluation, but credit <b>cannot be taken for such performance in EFVS 200 operations.</b></p> <p>Comment: Same as GM1 CAT.OP.MPA.312 EFVS 200 operations GENERAL</p>
response	<p>Not accepted</p> <p>The rulemaking group decided that since Part-SPA will include the provision to take credit of better performance of cameras, EFVS, etc. in the future, it is not appropriate to include this in the 'simplified criteria for EFVS200.</p>
comment	<p>210                      comment by: <i>UK CAA</i></p>



	<p>Page No: 180</p> <p><b>Paragraph No:</b> GM1 NCC.OP.235 paragraph (e)</p> <p><b>Comment:</b> An amendment to the paragraph is proposed below to include a missing word.</p> <p>Justification: Grammar</p> <p>Proposed Text: Pilots conducting EFVS 200 operations <b>may</b> commence an approach and continue that approach below 1 000 ft above the aerodrome or into the FAS if the reported RVR or CMV is equal to or greater than the lowest RVR minima determined in accordance with AMC1 NCC.OP.235(h) and if all the conditions for the conduct of EFVS 200 operations are met.</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>
comment	<p>419                      comment by: <i>DGAC France</i></p> <p>Page 181 GM1 NCC.OP.235 EFVS 200 operations GENERAL j) Go-around (...) Where an OFZ is not provided for a CAT I precision approach, this will be indicated on the approach chart</p> <p>Comment: Replace “will be indicated” by “may be indicated”. Indeed, a few states are indicating that OFZ are not provided on a CAT I approach. OFZ is not required if the procedure is defined with a DH not less than 200ft (CS.ADR-DSN.J480). Same comment for Part-CAT and Part-SPA (see specific comments pages 94 and 119)</p>
response	<p>Partially accepted</p> <p>The text has been amended in a similar way as proposed in the comment.</p>
comment	<p>424                      comment by: <i>Dassault-Aviation</i></p> <p>Text: GM1 NCC.OP.235(b) page 181</p> <p>(i) Use of EFVS to touchdown: In order to use an EFVS to touchdown, the operator needs to hold a specific approval in accordance with Part-SPA.</p>



	<p>Comment:</p> <p>What is the objective of that article related to EFVS to touchdown in EFVS200 related section ?</p> <p>Proposed change:</p> <p>proposed to be removed</p>
response	<p>Not accepted</p> <p>Nevertheless, EASA has amended the GM to reflect the use of such a system in LVOs.</p>

comment	<p>735 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – (c)(1);  ‘EFVS 200 operations may be used for 3D operations. This may include operations based on NPA procedures, ...’  This statement is non-consistent. Indeed, NPA approaches are 2D approaches operations. Thus, it is non-consistent to affirm that NPA would benefit from EFVS because they are included in 3D approached operations. Thus, FNAM suggests to reformulate this requirement.</p>
response	<p>Not accepted</p> <p>NPA procedures may be flown as 3D operations; in fact, this is specified in AMC1 NCC.OP.115(c).</p>

AMC1 NCC.OP.235(a) EFVS 200 operations

p. 181

comment	<p>125 comment by: Dassault-Aviation</p> <p>Text:</p> <p>AMC1 NCC.OP.235(b) EFVS 200 operations  AERODROMES AND INSTRUMENT PROCEDURES SUITABLE FOR EFVS 200 OPERATIONS page 181  "(b) EFVS 200 operations should only be conducted as 3D operations, using an IAP in which the final approach track is offset by a maximum of 3 degrees from the extended centreline of <b><i>the runway and intercepts the centreline at the threshold.</i></b>"</p> <p>Comment:</p> <p>Same comment as for AMC1 CAT.OP.MPA.312(b) EFVS 200 operations  AERODROMES AND INSTRUMENT PROCEDURES SUITABLE FOR EFVS 200 OPERATIONS</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>



AMC2 NCC.OP.235(b) EFVS 200 operations

p. 182

comment

126

comment by: Dassault-Aviation

Text:

AMC2 NCC.OP.235(b) EFVS 200 operations

VERIFYING THE SUITABILITY OF RUNWAYS FOR EFVS 200 OPERATIONS page 182

"3) VSSs are required for procedures published after 15 March 2007, but the existence of the VSS has

to be verified through aeronautical information publication (AIP), operations manual Part C, or

direct contact with the aerodrome. Where the VSS is established, it may not be penetrated by obstacles. If the VSS is not established or is penetrated by obstacles and an OFZ is not established, then the operations should not be conducted."

Comment:

Obstacle clearance is a key point of the EFVS with OPs credit operation.

In order to enable the crew to determine if an approach can be continued below DA/H using EFVS, VSS penetration status should be at least mentioned in the AIP (in addition to OFZ that are supposed to be already mentioned in §2,12 of AIP per ICAO annex 15). VSS penetration should be addressed in a clear and non ambiguous way and for each minima as the VSS may be penetrated for LNAV/ VNAV, but may be not for LPV.

Beyond VSS, and 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. This will ensure the verification task is achievable by business aviation operators, some of them being small organization with limited resources.

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 depending on AIP documentation (for example, OFZ are already clearly mentioned in AIP of some countries and are not in AIP of some others countries)

To create an new AMC to reflect the following change and to facilitate promulgation of EFVS approaches.

cf comments about NPA 2018-06 (D)

Proposed change:

To display a clear and non ambiguous status of VSS penetration in AIP. This status should clearly mention the minima to which it relates.

Beyond VSS, AIP should contain all the essential aerodrome information related to EFVS operation. In particular:

- presence of OFZ
- VSS penetration for each runway/ minima



	<p>- Presence of RVR sensor</p> <p>- ...</p> <p>These information should be presented in a clear, comprehensive and non ambiguous way.</p> <p>In the perspective of approval, an asterix close to the minima in the chart could refer to a note indicating to the crew if EFVS operation is possible.</p> <p>for example: EFVS authorized</p> <p>cf comment about NPA 2018-06 (D)</p>
response	<p>Accepted</p> <p>EASA has included a requirement for the publication of the penetration of visual segment surface as transposed from ICAO. For more information, please see the new rule ADR.OPS.A.085.</p>

AMC1 NCC.OP.235(c) EFVS 200 operations

p. 183-184

comment	<p>127            comment by: Dassault-Aviation</p> <p>Text: AMC1 NCC.OP.235(c) EFVS 200 operations INITIAL TRAINING FOR EFVS 200 OPERATIONS page 183 "(12) qualification requirements <b>for pilots to obtain and retain approval to EFVS 200 operations.</b>"</p> <p>Comment: As no approval is requested for EFVS200, this sentence should be modified</p> <p>Proposed change: "(12) <b>pilot</b> qualification requirements <del>for pilots to obtain and retain approval to</del> EFVS 200 operations."</p>
response	<p>Accepted</p> <p>The text has been amended as proposed.</p>

comment	<p>128            comment by: Dassault-Aviation</p> <p>Text: AMC1 NCC.OP.235(c) EFVS 200 operations INITIAL TRAINING FOR EFVS 200 OPERATIONS page 183</p> <p>Comment: An AMC is missing to introduce a table similar to GM1.SPA.LVO. 120 (b) for EFVS 200</p> <p>Proposed change:</p>
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	New AMC and table to be created
response	Not accepted.  EFVS 200 does not have additional requirements in addition to those described in the AFM and/or OSD.
comment	736 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL – (b) The proposed disposal introduces the possibility to perform ‘a course of FSTD training and/or flight training’. <i>FNAM</i> wonders what is the flight safety benefit to perform the same course in flight and with FSTD. Plus, it would be a burden for operators which would provide FSTD and in-flight training. Thus, <i>FNAM</i> suggests to remove ‘and/’.
response	Not accepted
comment	737 comment by: <i>FNAM</i>  ISSUE AND PROPOSAL – (b)(3) Phase two of EVFS 200 training is described in this proposed disposal. It is confusing that this phase focuses on low-visibility approach operations. Indeed, all operations in low-visibility are described in SPA requirements since specific approvals are required for each ones. Indeed, SPA.LVO.100 introduces requirement for Low-Visibility Operations. Plus, EFVS 200 definition in Annex I express that this concept is to be used ‘in other than low-visibility operations’. Thus, to avoid non-consistency throughout the entire proposal, <i>FNAM</i> suggests to remove EFVS 200 training in low-visibility operations.
response	Accepted  The reference to low-visibility operations has been deleted.

AMC2 NCC.OP.235(c) EFVS 200 operations

p. 185

comment	129 comment by: Dassault-Aviation  Text: AMC2 NCC.OP.235(c) EFVS 200 operations RECURRENT TRAINING AND CHECKING FOR EFVS 200 OPERATIONS page 185 "the operator should ensure that the pilots’ competence to perform EFVS 200 operations is <b>checked</b> at each required demonstration of competence by performing at least <b>four</b> approaches, of which one should be flown without natural vision to 200 ft."
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	<p>Comment:</p> <p>As EFVS minima will not be lower than CAT I minima, we consider that specific checking for EFVS 200 should be not mandatory.</p> <p>In addition, It should be clearly mentioned the fact the EFVS approaches requested for the recurrent can be done using existing approaches</p> <p>Proposed change:</p> <p>"The operator should ensure that the pilots' competence to perform EFVS 200 operations is checked at each required demonstration of competence by performing at least <del>four</del> <b>two</b> approaches <b>among the total number of approaches</b>, of which one should be flown without natural vision to 200 ft."</p>
response	<p>Partially accepted</p> <p>Two approaches are required in checking.</p>

## AMC5 NCC.OP.235(c) EFVS 200 operations

p. 185

comment	<p>738 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>Training for EFVS 200 may be differentiated between pilot monitoring and pilot flying. In order to reduce redundancy and alleviate any supplemental burden for operators, FNAM suggests that any redundant items between pilots monitoring and flying should be avoided.</p>
response	<p>Not accepted</p> <p>The duties of pilot monitoring and pilot flying during EFVS operations are different, so there are no redundant items.</p>

## Annex VII Non-commercial air operations with other-than complex motor-powered aircraft (Part-NCO)

p. 188

comment	<p>739 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL</p> <p>FNAM is really surprised that NCO proposals will not be submitted to consultation. This is totally unacceptable for stakeholders who want to give their opinions on proposed NCO dispositions in order to make sure that they will be applicable for each and every stakeholders.</p>
response	<p>Noted</p> <p>The NPA proposing amendments to Part-NCO and to helicopters will be published at a later stage. Stakeholders will have the opportunity to provide their opinions.</p>



comment	<p>740 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL Current LVP for helicopter operations is defined with RVR lower than 500m. However, proposed RVR for LVO operations for all type of aircraft is proposed lower than 550m. Since the proposed disposal applies for all helicopter operations, this modification would impact them. Since one of the NPA main objective is to introduce new possibilities on a voluntary basis without impacting all operators, FNAM suggests to remove take-off possibilities in LVO definition since it is already taking into account in LVTO definition. Plus, in order to be consistent with current helicopter requirements, FNAM suggests to precise helicopter specific definition with RVR lower than 500m.</p>
response	<p>Not accepted</p> <p>The objective is to ensure consistency across all operations in the European regulatory framework (e.g. Aerodromes Regulation).</p>

## 3.2. Proposed changes — aircrew

p. 190-197

comment	<p>441 comment by: <i>DGAC France</i></p> <p>Pages 190-197 Annex I Flight Crew Licensing</p> <p>Comment: DGAC has no specific comment on the proposed modifications. However, implementations of these modifications will require human resources at DGAC and modifications of a software. A sufficient transitional period should be proposed to ensure that appropriate actions can be taken in due time at national level.</p>
response	<p>Noted</p> <p>Thank you for your comment which will be taken into consideration when drafting the relevant transitional provision.</p>
comment	<p>741 comment by: <i>FNAM</i></p> <p>ISSUE AND PROPOSAL – FCL.605 (b)(2) It is non-consistent to precise helicopter requirements. According to EASA, all helicopter operations requirements would be discussed and precise in phase 2 for AWO. Thus, helicopter AWO requirements are under discussions and should not be presented in this NPA. Plus, it is confusing to include helicopter AWO requirements in aeroplane AWO requirements chapter. Therefore, FNAM suggests to remove helicopter requirements.</p>
response	<p>Not accepted</p>



Thank you for your comment. EASA would like to highlight that the requirement in FCL.605 (b)(2) is a transposition from the already existing in point FCL.605 (d). This experience requirement for multi-pilot helicopter IFR operation has not been amended and is not related to the all-weather operations rulemaking task.

comment

742 comment by: *FNAM*

EDITORIAL– FCL.605

The numbering of this chapter is non-consistent.

response

Noted

The numbering has been checked and found to be consistent.

