European Aviation Safety Agency

AWOs — Explanatory note

All-weather operations

RMT.0379 — 1.11.2016

EXECUTIVE SUMMARY

Rulemaking task RMT.0379 on 'All-weather operations (AWOs)' was initiated with the official publication on EASA web-page of the related Terms of Reference (ToR) and Concept Paper RMT.0379 Issue 1 on 'AWOs' on 9 December 2015. The aim of this RMT is to ensure that the European Union (EU) regulatory framework in the area of AWOs provides for safety, efficiency and consistency across all aviation domains, relying on a performance- and risk-based approach; it should enable, among other things, manufacturers, air operators, aerodrome operators and air navigation service providers (ANSPs) to benefit from the safety and economic advantages that new technologies and operational experience offer.

Considering performance and risk based development concept, all requirements for operations with operational credits should be technology independent. The performances required for certain type of operations with operational credits could be enabled by the adequate technology (airborne or ground-based).

As described in the ToR, this pilot project needs to be accomplished in less than 2 years. New methods of cooperation with the EU Member States, the European Commission (EC) and industry stakeholders are applied to meet these time constraints. For the development of the implementing rules (IRs), the 'accelerated procedure' is applied; for the development of the acceptable means of compliance (AMC), guidance material (GM) and certification specifications (CSs), the regular rulemaking procedure is applied.

As part of the accelerated procedure, EASA has already consulted its Advisory Bodies (ABs) on the regulatory impact assessment (RIA) and the description of operations (DoOs). The second consultation phase (focused consultation) concerns the proposed amendments to the IRs, and provides the comment-response document (CRD) of the AB consultation and the consequential subsequent amendments to the RIA and DoOs.

Stakeholders are kindly requested to provide consolidated comments on behalf of the organisation(s) they represent, by using the CRD template, by **30 November 2016.**

Applicability	
Affected regulations and decisions:	See Section 8.4
Affected stakeholders:	Design organisations; air operators; maintenance organisations; flight crew members; approved training organisations (ATOs); aerodrome operators; air navigation service providers (ANSPs); air traffic management (ATM); competent authorities in all aviation domains
Driver/origin:	Level playing field
Reference:	AWO concept paper (CP) (see Chapter 9 below)

Process map	
Concept paper:	Yes
Rulemaking group:	No, but involvement of nominated experts
RIA type:	Light
Technical consultation during NPA drafting:	No, but regular briefings on project progress, and consultations on draft material
Publication date of the NPA:	N/A (for IRs) 2017/Q1 (for AMC/GM)
Duration of NPA consultation:	2 months
Review group:	No, but involvement of nominated experts
Focused consultation:	Yes, 2016/Q4 (for IRs)
Publication date of the Opinion:	2017/Q1
Publication date of the Decision:	2017/Q4 (depending on the adoption of the IRs by the European Commission)

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1. Procedural information

1.1. The rule development procedure

The European Aviation Safety Agency (hereinafter referred to as the 'Agency') developed the RMT.0379 deliverables in line with Regulation (EC) No 216/2008[1] (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure[2].

This rulemaking activity is included in the Agency's Rulemaking Programme for 2016–2020[3] under RMT.0379.

An accelerated rulemaking procedure is applied for the development of the IRs, which foresees two stakeholder consultations: an AB consultation of the RIA and the DoOs, and a focused consultation of the proposed amendments to the IRs. The first consultation has been concluded already.

The second consultation is now launched with the publication of these documents. The documents submitted for the focused consultation have been developed by the Agency together with 81 experts nominated by stakeholders. As part of the focused consultation, the Agency will organise the 2016 AWO Workshop in Cologne from 9 to 11 November 2016.

For the development of the corresponding AMC, GM and CSs, the regular rulemaking procedure is applied, with a notice of proposed amendment (NPA) planned for March 2017, followed by a 2-month public consultation period. Pending the adoption of the IRs by the European Commission, the publication of the corresponding decisions is planned for November 2017.

The Agency has periodically informed stakeholders on the Project's progress and on the draft deliverables. The process map on the title page contains the major milestones of this rulemaking activity to date, and provides an outlook of the timescales of the next steps. The table below provides additional information. There are no changes made to the timelines compared to those indicated in the related ToR.

[1] Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1).

[2] The Agency is bound to follow a structured rulemaking process as required by Article 52(1) of the Basic Regulation. Such process has been adopted by the Agency's Management Board and is referred to as the 'Rulemaking Procedure'. See Management Board Decision No 18-2015 of 15 December 2015 concerning the procedure to be applied by the Agency for the issuing of Opinions, Certification Specifications and Guidance Material (Rulemaking Procedure).

[3] https://www.easa.europa.eu/system/files/dfu/Final%20RMP%202016-2020%20v6%20201512 10.pdf

1.2. The structure of this document and related documents

Chapter 1 of the Explanatory note provides information on how stakeholders can provide their comments, on the procedures applied for the development of the regulatory material, and on the timelines.

Chapter 2 provides an overview of the issue, the objectives of the RMT, a summary of the comments of the AB consultation, as well as executive summaries of the amended RIA and DoOs.

Chapters 3 to 6 provide detailed explanations on the proposed amendments to the IRs on air operations, aircrew, aerodrome operations and design as well as on ATM/ANS.

Chapter 7 provides information on the corresponding, ongoing drafting of CS-AWO.

Chapter 8 provides references to affected regulations, affected decisions and other reference documents.

The following documents are submitted for consultation:

— Explanatory note (which is this document);

— Proposed amendments to the implementing rules (IRs) (draft opinions); and

— CRD template.

The following documents are submitted for information:

— CRD of the AB consultation (22 July – 10 September 2016)

— Regulatory impact assessment (RIA) with subsequent,amendments based on the outcome of the AB consultation; and

— Description of operations (DoOs) with subsequent,amendments based on the outcome of the AB consultation.

1.3. How to comment on the Explanatory note and the proposed amendments to the IRs

Stakeholders are kindly requested to provide consolidated comments on behalf of the organisation(s) they represent using the **CRD template**.

Comments should be sent in Word version **per email** to **AWOproject@easa.europa.eu** by **30 November 2016.**

1.4. The next steps in the procedure

The Agency will publish the CRD and the resulting changes to the proposed amendments to the IRs as part of the Opinion, to be published by February 2017.

The related AMC, GM and CSs will be developed following the regular rulemaking procedure. The NPA is scheduled for March 2017. The related decisions should be published together with the IRs by November 2017.

Further details on the procedure can be found in the table of Section 1.1.

2. Explanatory note

2.1. Overview of the issues to be addressed

The following deficiencies have been identified in the existing rules in the relevant aviation domains:

— They are not keeping pace with technological advancements: Current rules do not sufficiently address technological advancements and do not fully support new operational concepts, e.g. approach operations using new generations of enhanced vision systems (EVSs), synthetic vision systems (SVSs), combined vision systems (CVSs), or the full potential of head-up displays (HUDs).

— Lack of harmonisation with ICAO: In some areas, EU rules are not anymore aligned with the ICAO Standards and Recommended Practices (SARPs), thus unintentionally becoming more limiting. For example, the recent ICAO Annex 6 amendments, which introduced lower CAT II and CAT III minima, and regulated the concept of operational credits in particular for operations with vision systems, have not yet been transposed into the EU air operations (AirOPS) rules. Furthermore, the new ICAO approach classification needs to be transposed into all domains.

— Weaknesses of the existing domain-centric rules: Existing rules (conventional low-visibility operations (LVOs) as well as other AWOs) have been drafted in a domain-centric manner. This has resulted in a situation where occasionally rules are not fully consistent with each other across the different domains. In some cases, rules are missing in one or more domains, which makes it inefficient, if not impossible, to use the full potential of certified products and systems and enjoy the full safety benefits of such new products and systems.

— Need for hazard assessments: Cross-domain hazard assessments have not been conducted in a consistent manner to guarantee that all safety risks have been identified, properly managed and mitigated across all domains.

— Implementation of the results from cooperation with non-EU countries: The results of harmonisation efforts with the Federal Aviation Administration (FAA), especially the outcome of their All Weather Operations Harmonization Aviation Rulemaking Committee (AWOHARC), have not yet been transposed into the EU regulatory framework.

2.2. Objectives

The overall objectives of the EASA system are defined in Article 2 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Chapter 2 of this document.

Furthermore, the following specific objectives have been defined as follows:

— The EU regulatory framework in the area of AWOs should provide for safety and efficiency, relying on a performance- and risk-based approach; and

— Manufactures, air operators, aerodrome operators and ANSPs should be able to benefit from the safety and economic advantages that new technologies and operational experience offer.

Actions across all different domains should:

— take into account stakeholders' expectations and operational needs;

— be based on common operational concepts and cross-domain systemic risk assessments;

— deliver consistent rules across all domains;

— consider established industry standards;

— be aligned with ICAO SARPs and relevant ICAO documents by applying alignment principle with existing ICAO references whever feasible and for the newly developed regulatory elements nor being yet part of the current ICAO references to take the lead with EU partners and other authorities (e.g. FAA) for adequate incorporation of those element into the regulatory structure of iCAO; the attendance of EASA representatives to relevant ICAO panels and working groups should be actively used for as smooth as possible introduction of newly developed AWO elements into the iCAO regulatory content;

— be harmonised with rule developments in the FAA and other major regulators, as far as possible, taking the opportunity of regular meetings as for example EASA / FAA Flight Standards annual meeting, as well as ad-hoc meetings if needed; and

— be followed up by rule implementation support actions, where necessary.

The principal aim of the proposed amendments to the IRs is to ensure that they:

— enable the use of new technologies and provide operational flexibility beyond the limits of the established standard operations definition;

— provide performance-based and safety-objective-oriented rules which are, as much as possible, technology-neutral; and

— do not need to be further amended over the next years when new mature technologies, new products or new operational concepts will be available.

A key element to achieve this aim is the concept of operations with operational credits. This concept is further described in the DoOs. The proposed amended IRs would generally allow operations with operational credits. AMC, GM and CSs should provide the means for the implementation. The following operations with operational credits will be addressed: special approval (SA) CAT I, SA CAT II, lower-than-standard (LTS) CAT I, other-than-standard (OTS) CAT II . approach operations, . As en example of adequate enabler for operations with the operational credits use of EFVS/CVS is provided

2.3. Summary of the outcome of the AB consultation

The RIA and DoOs documents were consulted with the ABs from 22 July until 10 September 2016. 9 responses were received during the consultation from AESA, Airbus, CANSO, DGAC, EUROCONTROL, IATA, IAPPS, LBA, and UK CAA, specifically addressing the issues of DoOs (6) and RIA (5), 2 comments were of general nature.

RIA: The main topics addressed by the comments were the following: text modified considering the answers to the questionnaire on the airborne equipment provided (e.g. detailed information on development/installation/etc. costs for EVS/CVS/HUDs/autoland); reference added to indicate that autoland is an important element to enable SA CAT I operations; positive impact of the introduced principles on reducing the number of visibility-related diversions was reassessed considering additional assumptions; and positive impacts for ATOs was better described by clarifying that the operator is responsible for providing the training in accordance with operational procedures and the operational approval

DoOs**:** The following topics have been addressed by amending the proposed text: better description of how the Systems-Theoretic Process Analysis (STPA) methodology is used within the AWO Project; with regard to the classification of standard operations, the definitions of 'LVTO I' and 'LVTO II' are retained to ensure consistency with the definition of 'low-visibility operations' but the amended text highlights the differences with regard to the ICAO classifications; additional text clarifies how the STPA methodology is used to validate the proposed requirements; the 'hazards' and 'safety constraints' have been amended to ensure that they are complete and consistent; the improved description of LTS CAT I, OTS CAT II and SA CAT II makes stronger link clarifies the role of the concept of air operations with operational credits; LTS CAT I, OTS CAT II and SA CAT II have been included in the Description of System Components.

Based on the detailed feedback on operations with operational credits SA CAT I (ref.: Appendix 1), some important issues are better addressed, such as a specific performance need for the pre-threshold terrain depending on the current technology of autoland systems based on the radio altimeter (RA) (which might be superseded by an adequate new technology) , the interaction of crosswind limitations, runway width, time-to-alert and protection of the obstacle-free zone, and the criteria and terminology to be used for SA CAT I operations not using instrument landing system (ILS). Based on the comments on the use of EFVS/CVS as enabler for operations with the operational credits (ref.: Appendix 2), the criteria for establishing operations are now included in the relevant AMC, but the determination of such minima for EVS will be the responsibility of the operator (as it is the case for any other approach).

2.4. Summary of the RIA

The RIA identifies and assesses according to the set-up principles for the impact assessment development three options, which are further assessed on how they would meet the objectives of the AWO Project. It assesses and compares the impact of these three policy options on the following areas: safety, economy, environment, social aspects, general aviation (GA) and proportionality, and better regulation and harmonisation with other States.

The following options have been identified:

— Option 0: Take no regulatory action;

— Option 1: Enable the use of certain adequate technology in the domain of AWO operations such as flight path control automation, new vision and flight guidance systems, etc. for operations with operational credit and ensure consistency of the AWO rules across all domains, as well as with ICAO and other States;

— Option 2: Mandate the use of new vision and flight guidance systems in certain areas, and ensure consistency of the AWO rules across all domains, as well as with ICAO and other States.

The RIA concludes with the selection of Option 1, which provides for the optimal combination of safety and efficiency benefits and offers the required flexibility for future technological advancements.

Enabling operations with operational credits would enhance the overall network efficiency because weather-related diversions to CAT II/III aerodromes could be effectively reduced. Lower operating minima will also benefit ANSPs by offering more flexibility in selecting the most efficient arrival patterns to maximise arrival rates in reduced visibility conditions. Furthermore, it is assumed that air operators could greatly benefit from the reduction of significant costs induced by weather-related delays, diversions and cancellations.

The RIA also contains aerodrome-related statistics for the European airspace. Currently, 480 out of 580 aerodromes support CAT I operations as their lowest approach category. This implies that there is a remarkable potential for operations with operational credits in Europe. It is assumed that more than 60 % of these CAT I aerodromes could support operations with significantly lower operating minima without major infrastructure investments, despite that some minor investments into aerodrome infrastructure (e.g. centreline lights) might be needed, if adequate information could not be provided by the new airborne technology.

This document also includes the proposal to conduct case studies for aerodrome operators, and air operators to further assess benefits and costs of operations with operational credits. These case studies are not a necessary element to support the conclusions, but would add value to the document. Furthermore, this data can be used for the future implementation phase when the rules are adopted.

2.5. Summary of the DoOs

The conduct of AWOs involves many different components. Some of these components are hardware (such as aircraft and the equipment installed on the aircraft or at aerodromes), some components are software (such as computer codes or operating procedures used by personnel), and some components are liveware (i.e. the people who operate the system, e.g. air traffic controllers, pilots, maintenance personnel). For AWOs to be conducted safely, each component of the system must perform as intended and must interact correctly with the other components of the overall system. The safety of the AWO system, therefore, depends not only on the reliability of individual components but also on the interaction between those components.

In order to ensure that the interactions of the components between the different domains are duly considered, the AWO Project has applied the STPA methodology. This means that the total system for AWOs, including the interactions between the different components, is described in terms of systems theory as a network of controllers and controlled processes. Some of these controllers influence the nature of the system development structure for AWOs, which establishes the context within which AWOs are conducted, while other controllers constitute the system operations' structure that directly controls AWOs in real time.

In order to have a common framework for the development of consistent rules across the different domains, the AWO Project has adopted a classification of standard operations. Such standard operations are classified in terms of lowest aerodrome operating minima.

Additionally, the concept of operations with operational credits is introduced to enable the best use of new technologies and provide further operational flexibility beyond the limits of standard operations. This concept will exploit in particular the performance of new vision systems to either allow operations to lower than standard minima for a particular class of operation or to standard minima despite the absence of some performance items normally required.

The basic principle of the operations with operational credits are required performances, identified on the appropriate risk assessment, which should be enabled by the adequate technology, either on-board the aircraft technology or ground based technology. The performance based requirements shall be identified as technology independent requirements.

The different system components together must comply with the AWO safety constraints regardless of the classification of a particular operation. Each class of operation or each operation with an operational

credit may require a different set of system components to comply with these safety constraints. This is further described in this document and will be further elaborated as the Project progresses.

Finally, the document contains a set of common definitions and their abbreviations.

2.6. Integration of helicopter operations in the AWO concept

Traditionally, helicopter operators have not been conducting large-scale AWO operations. All the European CAT operators, that hold an approval to conduct IFR operations, operate to CAT I approach minima, and only 8 % of these operators hold an approval for low-visibility take-off operations with a runway visual range (RVR) of less than 400 m.

With the introduction of required navigation performance (RNP) 0.3, point-in-space approaches and new technologies, there is more and more interest from the helicopter community to conduct AWOs. Several helicopters are now equipped with avionics that are equivalent to that fitted in the latest generation large airliners.

Therefore, there is a growing need to integrate helicopter operations into the AWO concept.

However, when it comes to the total system of helicopter IFR operations, the Agency is not in the position to develop all the required regulations. The majority of aerodromes that these helicopters operate to/from, are not open to public use and do not serve commercial aor transport, i.e. hospital heliports and offshore helidecks, are outside the scope of the Agency's rulemaking activity in the aerodrome domain. Therefore, the individual Member States have to ensure that national requirements address in particular the aerodrome-related aspects so that helicopter approach and take-off procedures at such aerodromes can be applied in an obstacle-protected environment. Without such an obstacle-protected environment for the approach and departure routes, IMC approaches with lower minima cannot be conducted in a safe manner, which is the reason why traditionally helicopter operations are not conducted in minima below 800 m visibility.

As a reference, the North Sea has approximately 400 helideck-equipped fixed installations and 173 mobile drilling rigs[4]. Those helidecks are not designed to a common standard, although it is acknowledged that the UK CAA CAP 437 is used by many as guidance. ICAO Annex 14 Volume II and the ICAO Heliport Manual are not transposed in a consistent manner throughout Europe, and although these offshore operations are carried out under IFR and IMC conditions, they take place in 'unclassified airspace' in several countries, without the support of any air traffic services (ATS).

Similarly, this applies to hospital heliports, for which the Agency has no data available on the magnitude of the heliports involved. It is estimated that there are around 2 500 hospital heliports in Europe, of which only a very limited number are equipped to accommodate IFR operations.

This implies that there is a huge potential for operations with operational credits in Europe. It is assumed that more than half of these helidecks and heliports could support operations with significantly lower operating minima without major infrastructure investments, provided the Member States ensure an obstacle-protected environment for the approach and departure routes.

4 Swartz, K.I., *Setting the Standard*, Vertical Magazine, 16 April 2015 (http://www.verticalmag.com/features/settingthestandard/).

2.7. *Proportionate approach to the flexibility depending on the type of operations*

The main concept followed is the development of performance risk based rules, however the proportionally criterion among different types of operations shall be considered as well, especially with regard to the capabilities of identifying and mitigating risks at appropriate level of complexity. For example in NCO.OP.110 (ref.: Annex VII Part-NCO reference is given to "specified aerodrome operating minima" instead of "established operating minima" assuming that pilot-in-command (instead of the operator in the cases of other types of operations) would usually use the standard minima provided.

It should be reminded that for selected relevant requirements there is an intentional difference between Part-CAT and the other technical Parts (Part-NCC, Part-NCO, Part-SPO). In Part-CAT the corresponding rules are on the AMC level whereas in all other technical Parts, these rules are on the IR level. The reason for the difference is that for Part-CAT any changes to AMCs require safety assessments and a prior approval from the competent authority in accordance with the alternative means of compliance (AltMoC) procedure. However, for the other types of operations, a prior approval for an AltMoC from the competent authority is not required. Since the rules are considered to be safety-critical, they are maintained on the IR level.

3. Proposed amendments to the implementing rules (IRs) — air operations

3.1. Annex I (Definitions)

3.1.1. New terms

Aerodrome operating minima: the source of this term is ICAO Annex 6. ICAO has modified this term with the work on the new ICAO approach classification. The term has been transposed with a minor difference in subparagraph (b) to which the term 'circling approach operation' has been added for consistency.

Circling approach operation: the existing definition of 'circling' has been split into a definition for the terms 'circling' and 'circling approach operation'. The amendment should provide for better consistency and clarity of the rule text.

Decision altitude (DA) or decision height (DH): this term has been added for consistency. The source of the definition is ICAO Annex 6.

Final approach segment: this term has been added for consistency. The source of the definition is ICAO Annex 6.

Go-around: this term has been added for consistency. It was developed when working on the RMT.

Instrument approach operations: this term has been added for consistency. The source of the definition is ICAO Annex 6. ICAO has modified this term with the work on the new ICAO approach classification.

Instrument approach procedures: this term has been added for consistency. The source of the definition is ICAO Annex 6. ICAO has modified this term with the work on the new ICAO approach classification.

Low-visibility operations (LVO): this term has been added for consistency. It was developed through the RMT. This term is currently not defined by ICAO.

Minimum descent altitude (MDA) or minimum descent height (MDH): this term has been added for consistency. The source of the definition is ICAO Annex 6.

Obstacle clearance altitude (OCA) or obstacle clearance height (OCH): this term has been added for consistency. The source of the definition is ICAO Annex 6.

Operation with an operational credit: this term has been added for consistency. It was developed through the RMT. This term is currently not defined by ICAO.

Type A instrument approach operation: this term has been added for consistency. The source of the definition is ICAO Annex 6. ICAO has introduced this term with the work on the new ICAO approach classification.

Type B instrument approach operation: this term has been added for consistency. The source of the definition is ICAO Annex 6. ICAO has introduced this term with the work on the new ICAO approach classification. There is a minor editorial difference to the ICAO definition, which currently subcategorises CAT III approach operations into CAT IIIA, B and C. ICAO and the FAA, however, initiated a process to delete these subcategories from the definition.

3.1.2. Terms amended

Circling: The existing definition of 'circling' has been split into a definition for the terms 'circling' and 'circling approach operation'. The amendment should provide for better consistency and clarity of the rule text.

Head-up display (HUD) or equivalent display: the term also includes the words 'equivalent display' to include other certified displays such as head-mounted displays.

Low-visibility take-off (LVTO): this term has been aligned with the term 'LVO'. Furthermore, two new subcategories, i.e. LVTO I and LVTO II, have been created. Only for LVTO II a specific approval will be required. Furthermore, the definition does not anymore contain a lower limit of 75 m to enable operations with lower visibility minima.

Purely editorial amendments have been made to the following definitions:

— continuous descent final approach (CDFA);

— stabilised approach;

— visual approach operation; and

— weather-permissible aerodrome.

3.1.3. Terms deleted

Approach procedure with vertical guidance (APV) operation: this term is not used anymore in the new ICAO approach classification. It has, therefore, been deleted and replaced with the new definitions for Type A and Type B approach operations.

CAT I, CAT II, CAT IIIA, CAT IIIB approach operations: in accordance with the new ICAO approach classification, these terms have been replaced with the new definition of Type B approach operations.

Head-up display landing system (HUDLS): this term is not used anymore neither for IRs nor for AMC/GM. This term will be replaced with the phrase 'HUD combined with a flight guidance system'.

Non-precision approach (NPA) operation: this term is not used anymore in the new ICAO approach classification. It has, therefore, been deleted and replaced with the new definitions for instrument approach operations.

3.1.4. Terms moved at GM level

The following terms are not used anymore in the IRs but in AMC/GM, and have been therefore moved at GM level:

— enhanced vision system (EVS);

— head-up display (HUD) (this definition will also include equivalent displays);

— low-visibility procedures (LVP);

— lower-than-standard Category I (LTS CAT I) operation; and

— other-than-standard Category II (OTS CAT II) operation.

3.1.5. Additional new terms for GM

It is foreseen that the following additional terms will be defined as GM:

— approach and landing phase — helicopters;

— combined vision systems (CVS);

— point in space (PinS);

— PinS proceed visual flight rules (VFR);

— PinS proceed visually; and

— synthetic vision systems (SVS).

3.2. Annex II (Part-ARO)

Appendix II: it contains the EASA Form 139 with the template for operations specifications. To align with ICAO SL12/2016, a new line for operational credits has been added under the chapter on low-visibility operations.

It is foreseen that a new AMC/GM to *ARO.OPS.200 Specific approval procedure* will be added, which will provide additional provisions for the specific approval of operations with operational credits and for the establishment and monitoring of performance indicators.

3.3. Annex III (Part-ORO)

There are no amendments proposed to the requirements of Part-ORO.

3.4. Annex IV (Part-CAT)

3.4.1. CAT.OP.MPA.107 Adequate aerodrome

The amendments are of editorial nature. Across all parts, the term ‘weather’ has been replaced with the term ‘meteorological’.

3.4.2. CAT.OP.MPA.110 Aerodrome operating minima

As mentioned above, the term 'aerodrome operating minima' has been defined in Annex I (Definitions) in compliance with the term specific by ICAO Annex 6. This definition specifies the minima for take-off operations as well as for two-dimensional (2D) and three-dimensional (3D) instrument approach operations.

A safety objective has been added to subparagraph (a). This safety objective relates to the identified hazards: insufficient separation of the aircraft from terrain or obstacles, and loss of control during the visual flight segment.

The second sentence of subparagraph (a) and subparagraph (b) are proposed to be moved at AMC level. The non-exhaustive and descriptive list of items to be considered for the establishment of aerodrome operating minima has been replaced with a more general list of items. Further details on these items are addressed at AMC level.

Finally, the current text of subparagraph (e) has been deleted. The content, however, has been added to *CAT.OP.MPA.265 Take-off conditions* (although the current text only refers to approach operations) and to *CAT.OP.MPA.300 Approach and landing conditions addressed to the flight crew*.

It is foreseen to maintain most of the current AMC/GM but to streamline the content. It is planned that the AMC/GM address the following subjects:

Subjects	**Sources**
AMC: Method to establish the aerodrome operating minima	CAT.OP.MPA.110; AMC3 & AMC12 CAT.OP.MPA.110
AMC: RVR determination (could be part of the AMC on the establishment of the subject above)	AMC4 & AMC10 CAT.OP.MPA.110
AMC: Take-off and LVTO I operations — aeroplanes	AMC1 CAT.OP.MPA.110
AMC: Take-off and LVTO I operations — helicopters	AMC2 CAT.OP.MPA.110
AMC: Type A and Type B CAT I approach operations — aeroplanes	AMC3 & AMC5 CAT.OP.MPA.110
AMC: Type A and Type B CAT I approach operations — helicopters	AMC3 & AMC6 CAT.OP.MPA.110
AMC: Circling approach operations — aeroplanes	AMC7 CAT.OP.MPA.110
AMC: Onshore circling approach operations — helicopters	AMC8 CAT.OP.MPA.110
AMC: Visual approach operations	AMC9 CAT.OP.MPA.110
AMC: Missed approach segment	PANS-OPS

Subjects	Sources
AMC: Effect of downgraded and failed ground equipment	AMC11 CAT.OP.MPA.110; FAA
GM: Operations classifications Overview of standard operations classification and operations with operational credits	DoOs
GM: Onshore aerodrome departure procedures — helicopters	GM1 CAT.OP.MPA.110
GM: Approach lighting systems — classification	GM2 CAT.OP.MPA.110
GM: SBAS for CAT I approach operations	GM3 CAT.OP.MPA.110

The amended AMC/GM to CAT.OP.MPA.110 will address common elements for aerodrome operating minima and provide provisions for standard take-off and standard approach operations for which no specific approval is required. Operations which require a specific approval — low-visibility operations as well as operations with operational credits — are addressed in the AMC to SPA.LVO.105.

Consistency between the AMC/GM structure of CAT.OP.MPA.110 and SPA.LVO.105 will be ensured.

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

The amendments to subparagraph (a) are of editorial nature.

Subparagraph (b) has been revised and shortened. The modified requirement specifies that an approval is required for each particular runway for which the continuous descent final approach (CDFA) technique is not used. The penalties on the RVR minima have been removed from the IR because they are already addressed in the AMC to CAT.OP.MPA.110.

It is proposed to maintain the current AMC/GM structure.

3.4.4. CAT.OP.MPA.185 Planning minima for IFR flights — aeroplanes

The existing structure of this rule has been maintained. However, the content has been shortened. Parts of the rule text will be addressed in an AMC to *CAT.OP.MPA.110 Aerodrome operating minima*. Furthermore, the planning minima table for alternate aerodromes is proposed to be moved at AMC level to provide for more flexibility and to adjust this rule to the typical level of detail of an IR.

In addition to the current GM, the creation of a new AMC is planned to address the establishment of planning minima in general terms and for alternate aerodromes in particular. Any table for alternate aerodromes should take into account planning minima to enable operations with operational credits and to align the terms with the new classification for approach and take-off operations.

Furthermore, it should be noted that this rule is also addressed by RMT.0573 ‘Fuel planning and management’. The amendments proposed by this RMT are not shown in this version since the AWO

Project work will be finalised ahead of RMT.0573, which will ensure consistency with the deliverables of the AWO Project.

3.4.5. CAT.OP.MPA.186 Planning minima for IFR flights — helicopters

To this rule the same amendments are proposed as for the corresponding rules to aeroplane operations. In this regard it should be mentioned that the intentional difference between helicopter and aerodrome operations as regard planning minima for destination aerodromes has been maintained.

3.4.6. CAT.OP.MPA.265 Take-off conditions

The rule text has been shortened to improve the readability of the rule text and editorial amendments have been proposed for consistency.

Moreover, a new subparagraph (b) has been added with the rule content of the existing subparagraph (e) of CAT.OP.MPA.110. This new subparagraph requires the flight crew to verify whether for the selected aerodrome operating minimum all necessary components (such as ground equipment, aircraft systems, aircraft performance, and flight crew qualifications) are available and operative.

3.4.7. CAT.OP.MPA.300 Approach and landing conditions

As for *CAT.OP.MPA.265 Take-off conditions*, the rule text has been shortened to improve the readability of the rule text and some editorial amendments have been proposed for consistency.

The reference to 'missed approach' has been replaced with the term 'go-around' to also take into account such operations below the DA/H or MDA/H. As mentioned above, a definition of the term 'go-around' has been added to Annex I (Definitions).

Moreover, a new subparagraph (b) has been added with the rule content of the existing subparagraph (e) of CAT.OP.MPA.110. This new subparagraph requires the flight crew to verify whether for the selected aerodrome operating minima all necessary components (such as ground equipment, aircraft systems, aircraft performance, and flight crew qualifications) are available and operative.

It should be noted that the ongoing RMT.0256 & RMT.0257 'Revision of operational approval criteria for performance-based navigation (PBN)' also addresses this requirement. This RMT also requires flight crew to conduct a landing distance assessment, which will then be further described in a new requirement in CAT.OP.MPA.303. The proposal of this RMT is not shown in this document version.

3.4.8. CAT.OP.MPA.305 Commencement and continuation of an approach operation

This requirement is also know under the term 'approach ban'. It is considered to be a safety-critical rule to avoid controlled flight into terrain (CFIT). This rule complies with a corresponding ICAO Annex 6 standard. The appropriateness of this rule has been in particular discussed from the perspective of operations using EVS/CVS for operational credits. For such operations, a credit to the RVR minimum is allowed. The reduced RVR minimum can be applied to comply with the approach ban requirement.

The technical content of this rule is kept unchanged. Some editorial amendments have been proposed for consistency. Moreover, except of the first sentence, the rule text of subparagraph (f) is proposed to be moved at AMC level for consistency. Moreover, the last sentence of the current rule text in this subparagraph is proposed to be deleted or modified because it has caused interpretation and implementation problems.

The existing AMC on visual references for different approach operations needs will be amended to take operations with operational credits into account. Furthermore, an additional AMC will replace the deleted IR text.

3.4.9. CAT.OP.MPA.310 Operating procedures — threshold crossing height — aeroplanes

The proposed amendments are of editorial nature.

The AWO Project team was also considering whether this IR is still required to ensure safe approach operations. **Stakeholders are kindly asked to provide their opinion whether this IR should be maintained or deleted.**

3.5. Annex V (Part-SPA)

3.5.1. SPA.GEN.100 Competent authority

This requirement specifies which authority shall issue specific approvals. Subparagraph (b) addresses specific approvals for non-commercial operations with aircraft registered outside the European Union. In accordance with ICAO Annex 6, the State of Registry shall issue specific approvals. Subparagraph (b) specifies that in such a case the requirements of Part-SPA do not apply.

With SL13/2016 and SL14/2016, ICAO introduced the 'list of specific approvals' template, similar to the template for commercial air transport operations specifications (OPSPECS). The ICAO template also refers to low-visibility operations. The new template will be applicable as of November 2016.

In order to align with this new ICAO standard, low-visibility operations have been added to the list of specific approvals in subparagraph (b).

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

This requirement specifies which operations require a specific approval, which are:

— standard take-off operations with visibility conditions less than 400 m RVR;

— standard approach operations with visibility conditions less than 550 m RVR; and

— operations with operational credits.

As mentioned already above, the term 'operations with operational credits' has been defined in Annex I (Definitions).

Compared to the existing requirement, the proposed new requirement generally enables operations with operational credits instead of listing specific types of operations with operational credits. This change ensures that future technological advancements may not require a change to the IRs. This achieves a major objective of this RMT.

AMC and GM will provide further provisions on how standard low-visibility operations and operations with operational credits can be approved. For any new types of operations or any new technologies used to meet performance requirements of already defined operations only additional AMC or amendments to existing AMC will be necessary. The AWO Project will, among other things, establish a new EASA process to ensure that such AMC for air operations and for all other domains, where relevant, will be developed together with the certification of new products.

The following GM is planned to be added to this requirement:

Subjects	Sources
GM: Standard operations classifications Among other things, explain the reasons why subcategories of CAT III have been deleted.	DoOs
GM: Concept of operations with operational credits	DoOs

3.5.3. SPA.LVO.105 Specific approval criteria

This requirement is proposed to be thoroughly amended. In line with other specific approvals of Part-SPA, this requirement specifies the main criteria to obtain a specific approval for LVO and/or operational credits, which include the following components required for safe operations:

— aircraft capabilities;

— flight crew competence;

— operating procedures;

— MEL;

— continuous airworthiness;

— safety assessments and continuous monitoring.

The proposed text has been aligned with a corresponding proposed amendment to ICAO Annex 6. It is expected that ICAO will publish a related State letter with the proposed amendment early next year. The applicability of the amended ICAO standard is foreseen for November 2018.

The following AMC/GM are planned to be added to this requirement:

Subjects	Sources
AMC: Operational demonstration — aeroplanes	AMC1 SPA.LVO.105
AMC: Operational demonstration — helicopters	AMC2 SPA.LVO.105
AMC/GM: Continuous monitoring Including establishment of performance indicators; establish link to flight data monitoring (FDM).	AMC3 SPA.LVO.105; GM1 SPA.LVO.105
AMC: Transitional periods For all types of LVO and operations with operational credits; establish link to continuous monitoring.	AMC4 SPA.LVO.105
AMC: Operating procedures	SPA.LVO.125; AMC1 SPA.LVO.125
AMC: Continuous airworthiness	AMC5 SPA.LVO.105
AMC: MEL	SPA.LVO.130

AMC: LVTO II operations — aeroplanes	SPA.LVO.110; AMC1 SPA.LVO.100; DoOs
AMC: LVTO II operations — helicopters	SPA.LVO.110; AMC2 SPA.LVO.100; DoOs
AMC: CAT II approach operations	SPA.LVO.110; AMC4 SPA.LVO.100; DoOs
AMC: CAT III approach operations	SPA.LVO.110; AMC5 SPA.LVO.100; DoOs
AMC: LTS CAT I approach operations	SPA.LVO.110; AMC3 SPA.LVO.100; DoOs
AMC: SA CAT I approach operations This should include operations with HUDs, autoland, SVS combined with flight guidance system.	DoOs
AMC: OTS CAT II approach operations	SPA.LVO.110; AMC4 SPA.LVO.100; DoOs
AMC: SA CAT II approach operations	DoOs
AMC: EVS/CVS approach operations This should include EVS to touchdown.	SPA.LVO.110; AMC6 SPA.LVO.100; DoOs
AMC: Effect on landing minima of temporarily failed or downgraded equipment This may be integrated into the AMC of the different types of operations.	AMC7 SPA.LVO.100; FAA
GM: Operational capabilities	DoOs
GM: Description of system components	DoOs

3.5.4. SPA.LVO.110 ATM/ANS and aerodrome-related requirements

In the existing requirement, aerodrome provisions are addressed in SPA.LVO. 120. The new requirement also includes provisions on instrument procedures, which shall include instrument procedures for take-off and approach operations.

For standard LVO, it is assumed that no specific requirements are needed. The proposed requirement is drafted from the perspective of the needs for operations with operational credits.

Aerodrome operators falling within the scope of Regulation (EU) No 139/2014 will require an approval to serve operations with operational credits. However, since ICAO Annex 14 standards do not yet address operations with operational credits, it cannot be assumed that this will be the case also for aerodrome operators other than those regulated under Regulation (EU) No 139/2014. Therefore, the rule text does not require an approval of the aerodrome operator, but only requires that the aerodrome is suitable for the intended operation. This means that for aerodromes which are not approved for operations with operational credits, the air operator will have to establish whether they could be used.

For some operations with operational credits (e.g. SA CAT I), an instrument approach procedure published in the aeronautical information publication (AIP) will be required (at AMC level). However, for the majority of operations, a dedicated published instrument approach procedure 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 EVS operation with operational credit may use the CAT I instrument approach procedure. In such cases, it is the responsibility of the operator to ensure that the instrument approach procedure used is suitable for the intended operation.

Furthermore, subparagraph (b) addresses the possible scenario where a published instrument approach procedure does not conform to the procedure design criteria of PANS-OPS. In such cases, it is assumed that the State of the aerodrome will publish a note in the AIP. In such cases, the operator shall assess the possible impact of the differences to PANS-OPS. A similar provision has been recently introduced into SPA.PBN.105.

The following AMC/GM are planned to be added to this requirement:

Subjects	**Sources**
AMC: Suitable aerodromes	AMC6 SPA.LVO.105; DoOs
AMC: Suitable instrument procedures	DoOs
AMC: LVP	SPA.LVO. 120
AMC: Operational assessments	DoOs; AMC1 SPA.PBN.105(c); GM1 SPA.PBN.105(c)

3.5.5. SPA.LVO. 120 Flight crew competence

The proposed revised requirement describes better the safety objectives and the responsibilities of the operator in relation to flight crew competence, training and checking, and record-keeping.

In this regard it should be noted that it is planned to move the training, testing and checking requirements for low-visibility operations from Part-FCL to Part-SPA. This is further described in Chapter 4 on the proposed amendments to the IRs related to aircrew.

The following AMC/GM are planned to be added to this requirement:

Subjects	**Sources**
AMC/GM: Flight crew training	AMC1 SPA.LVO.120; GM1 SPA.LVO.120
AMC/GM: Flight crew checking	Section 6 of Appendix 9 to Part-FCL
AMC/GM: Appropriately qualified personnel for training and checking	Reference only to the acceptable means of compliance and guidance material of current relevant FCL requirements

3.5.6. Explanations on the requirements moved

The following requirements are proposed to be moved at AMC level to SPA.LVO.105:

— SPA.LVO.110 General operating requirements;

— SPA.LVO.125 Operating procedures; and

— SPA.LVO.130 Minimum equipment.

The AMC/GM table above for SPA.LVO.105 provides additional information.

3.6. Annex VI (Part-NCC)

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

This requirement has been aligned with CAT.OP.MPA.110 in a proportionate manner.

As in the current rule text version, the new subparagraph (c) of CAT.OP.MPA.110, specifying that the method to determine the aerodrome operating minima shall be specified in the operations manual (OM), what is not applicable for NCC operations because OM is not required. .

Furthermore, the requirement in Part-NCC is limited to IFR flights, on the contrary to the requirement in Part-CAT not limited to IFR flights only.

As for the corresponding requirement in Part-CAT, the content of the current subparagraph (c) has been moved to *NCC.OP.195 Take-off conditions* and to *NCC.OP.225 Approach and landing conditions*.

It is foreseen to align the AMC/GM structure with that specified in Part-CAT. The technical content of the AMC/GM should be aligned in a proportionate manner.

3.6.2. NCC.OP.111 Aerodrome operating minima — 2D and 3D approach operations

The rule text has been aligned with the terminology of the new approach classification and modified to improve readability.

Furthermore, the current rule text in subparagraph (a)(1) has been deleted because it is considered to be a duplication of the current rule text in subparagraph (a)(4).

The structure and rule content of subparagraph (b) has been aligned with that of subparagraph (a).

The entries in Table 1 have been sorted in accordance with the lowest DA/H and MDA/H values.

It should be reminded that for this requirement as well as for the following two requirements, there is an intentional difference between Part-CAT and the other technical Parts (Part-NCC, Part-NCO, Part-SPO). In Part-CAT the corresponding rules are at AMC level whereas in all other technical Parts these rules are at IR level. The reason for the difference is that for Part-CAT any changes to the AMC require safety assessments and a prior approval from the competent authority in accordance with the alternative means of compliance (AltMoC) procedure. However, for the other types of operations, a prior approval for an AltMoC from the competent authority is not required. Since the rules are considered to be safety-critical, the rules are maintained at IR level.

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

As mentioned above, the terms ‘circling’ and ‘circling approach operations’ have been defined in Annex I ‘Definitions’.

The rule text has been slightly modified to ensure consistency with the new terminology.

Moreover, wrong references to ‘procedures’ have been corrected through references to ‘operations’.

The editorial error in (b)(2) has been corrected.

3.6.4. NCC.OP.113 Aerodrome operating minima — onshore circling approach operations with helicopters

The rule text has been slightly modified to ensure consistency with the new terminology.

3.6.5. NCC.OP.195 Take-off conditions

This requirement has been aligned with CAT.OP.MPA.265 with the only difference being the use of the term ‘pilot-in-command’ instead of ‘commander’.

3.6.6. NCC.OP.225 Approach and landing conditions

This requirement has been aligned with CAT.OP.MPA.300 with the only difference being the use of the term ‘pilot-in-command’ instead of ‘commander’.

3.6.7. NCC.OP.230 Commencement and continuation of an approach operation

This requirement has been aligned with CAT.OP.MPA.305 with the only difference being the use of the term ‘pilot-in-command’ instead of ‘commander’.

It is foreseen to align the structure and technical content of the AMC/GM with those specified in Part-CAT.

3.7. Annex VII (Part-NCO)

3.7.1. NCO.OP.110 Aerodrome operating minima — aeroplanes and helicopters

This requirement has been aligned with NCC.OP.110 in a proportionate manner.

The existing requirement in Part-NCC applies to the operator, whereas the requirement in Part-NCO applies to the pilot-in-command. This difference is maintained.

Furthermore, the term 'specify' (aerodrome operating minima) is used instead of 'establish'. This expresses that there does not need to be a method available to establish the aerodrome operating minima. This takes into account the fact that the pilot would usually use the standard minima provided by chart service providers.

Furthermore, since NCO is usually carried out as single-pilot operation, the term 'flight crew' has been replaced with the term 'pilot'.

Since the pilot will only hold an instrument rating (IR) for conducting IFR flights, no reference to pilot qualifications is made compared to the rule text in Part-NCC.

It is foreseen to align the AMC/GM structure with that specified in Part-NCC. The technical content of the AMC/GM should be aligned in a proportionate manner.

3.7.2. NCO.OP.111 Aerodrome operating minima — 2D and 3D approach operations

This requirement has been aligned with NCC.OP.111.

3.7.3. NCO.OP.112 Aerodrome operating minima — circling approach operations with aeroplanes

This requirement has been aligned with NCC.OP.112.

3.7.4. NCO.OP.113 Aerodrome operating minima — onshore circling approach operations with helicopters

This requirement has been aligned with NCC.OP.113.

3.7.5. NCO.OP.175 Take-off conditions — aeroplanes and helicopters

This requirement has been aligned with NCC.OP.195 in a proportionate manner.

Compared to Part-NCC, subparagraph (b) only requires compliance with the applicable aerodrome operating minimum.

It is proposed that the more detailed requirements of subparagraph (b) of NCC.OP.195 be transposed into GM.

3.7.6. NCO.OP.205 Approach and landing conditions — aeroplanes and helicopters

This requirement has been aligned with NCC.OP.225 in a proportionate manner.

Compared to Part-NCC, subparagraph (b) only requires compliance with the applicable aerodrome operating minima.

It is proposed that the more detailed requirements of subparagraph (b) of NCC.OP.225 be transposed into GM.

3.7.7. NCO.OP.210 Commencement and continuation of an approach operation — aeroplanes and helicopters

This requirement has been aligned with NCC.OP.230.

3.8. Annex VIII (Part-SPO)

3.8.1. SPO.OP.110 Aerodrome operating minima — aeroplanes and helicopters

This requirement has been aligned with NCO.OP.110.

It is foreseen to align the structure and technical content of the AMC/GM with those specified in Part-NCO.

3.8.2. SPO.OP.111 Aerodrome operating minima — 2D and 3D approach operations

This requirement has been aligned with NCO.OP.111.

3.8.3. SPO.OP.112 Aerodrome operating minima — circling approach operations with aeroplanes

This requirement has been aligned with NCO.OP.112.

3.8.4. SPO.OP.113 Aerodrome operating minima — onshore circling approach operations with helicopters

This requirement has been aligned with NCO.OP.113.

3.8.5. SPO.OP.180 Take-off conditions — aeroplanes and helicopters

This requirement has been aligned with NCC.OP.195.

3.8.6. SPO.OP.210 Approach and landing conditions — aeroplanes and helicopters

This requirement has been aligned with NCC.OP.225.

3.8.7. SPO.OP.215 Commencement and continuation of an approach operation — aeroplanes and helicopters

This requirement has been aligned with NCC.OP.230.

4. Proposed amendments to the implementing rules (IRs) — aircrew

4.1. Regulation (EU) No 1178/2011 — Annex I (Part-FCL)

4.1.1. General

For the reasons given above in Section 2.1 (third indent), all the requirements related to training, testing and checking with regard to LVO operations will be located in Annex V (Part-SPA) to Regulation (EU) No 965/2012 and the related AMC/GM. Consequently, all the requirements on LVO training, testing and checking contained so far in Regulation (EU) No 1178/2011 need to be amended or deleted (see below).

4.1.2. FCL.605 (IR — Privileges)

FCL.605(b) is amended to state that, in addition to an IR, privileges for lower decision heights as well as for acting as pilot during operations in accordance with Annex V (Part-SPA) Subpart E of Regulation (EU) No 965/2012 may be obtained in accordance with Regulation (EU) No 965/2012, and that such privileges shall be recorded by the operator in accordance with SPA.LVO.115(c). AWO privileges will not be endorsed on the Part-FCL licence.

4.1.3. Appendix 9 (Training, skill test and proficiency check for MPL, ATPL, type and class ratings, and proficiency check for IRs)

The following parts of Appendix 9 to Part-FCL are amended in such a way that the following contents related to low-visibility operations (CAT II/III operations) are deleted:

— Section B (aeroplanes): paragraph 2 (last two sentences);

— Section B (aeroplanes): section 6 of the skill test programme (CAT II/III exercises);

— Section D (powered-lift aircraft): section 6 of the skill test programme (CAT II/III exercises); and

— Section E (airships): section 6 of the skill test programme (CAT II/III exercises).

5. Proposed amendments to the implementing rules (IRs) — aerodrome operations and design

5.1. Annex I (Definitions)

5.1.1. New terms

(24a) Low-visibility operations: this term has been added for consistency. It has been developed through the RMT. The term is currently not defined by ICAO.

(34a) Operation with an operational credit: the term has been added for consistency. The term is the same as the one proposed in Regulation (EU) No 965/2012.

5.1.2. Terms amended

(25) Low-visibility procedures: the term has been amended to align it with the term 'low-visibility operations'. Furthermore, the use of the term 'operations' refers mainly to aircraft, while 'procedures' are meant for aerodromes and ATS.

(26) Low-visibility take-off (LVTO): this term has been aligned with the term 'LVO'. Furthermore, the definition does not anymore contain a lower limit of 75 m to enable operations with lower visibility minima.

5.1.3. Terms deleted

(27) Lower-than-standard Category I operation: the term is not used anymore in IR.

(35) Other-than-standard Category II operation: the term is not used anymore in IR.

5.2. Annex II — Part-ADR.AR

There are no amendments proposed to the requirements of Part-ADR.AR since the certification and oversight process of an aerodrome and an aerodrome operator remain unchanged.

5.3. Annex III — Part-ADR.OR

There are no amendments proposed to the requirements of Part-ADR.OR.

5.4. Annex IV — Part-ADR.OPS

5.4.1. ADR.OPS.B.030 Surface movement guidance and control system

The current IR requires the aerodrome operator to ensure that a surface movement guidance and control system (SMGCS) is provided at the aerodrome. The SMGCS is very important for the safe manoeuvring of aircraft on the movement area, especially when visibility is limited. The effectiveness of the system largely depends on its design that has to consider many issues such as the aerodrome design characteristics, the operational and meteorological conditions at the aerodrome, as well as human factor principles related mainly to flight crew and vehicle drivers. Additionally, considering also the ICAO Annex 14 SARPs in Chapter 9.8, the SMGCS shall assist in the prevention of runway incursions and the collision between aircraft, as well as collision between aircraft and vehicles and other objects. Furthermore, the IR requires the use of appropriate technical means and procedures for the

development of the SMGCS. Finally, the associated procedures have to be established in coordination with ATS to ensure the optimum utilisation of the system. The above-mentioned elements have not been addressed in the current IR, therefore it is proposed to be amended.

5.4.2. ADR.OPS.B.045 Low visibility operations

As a general rule, and in accordance with ICAO Doc 4444 'Procedures for Air Navigation Services — Air Traffic Management', any operation with an RVR less than 550 m requires the application of low-visibility procedures. The revised IR specifies the cases where low-visibility procedures are required and extends this requirement to operations with an operational credit, where the actual RVR is less than 550 m.

The timely application of low-visibility procedures is very important for the safety of operations and to avoid unnecessary aircraft diversions and delays. For this reason, the IR requires the aerodrome operator to establish criteria for the preparation, initiation and termination of low-visibility procedures.

Furthermore, considering the fact that unavailability of aerodrome facilities may have an impact on the operation of aircraft, the IR has been updated to require the aerodrome operator to provide this information to the aeronautical information services (AIS) and/or ATS as appropriate.

Finally, point (d) is revised to require that changes to the low-visibility procedures require also prior approval by the competent authority.

6. Proposed amendments to the implementing rules (IRs) — ATM/ANS

Apart from a reference to SERA.3210 in Regulation (EU) No 923/2012 concerning the right-of-way on the manoeuvring area, there are no requirements for ATS providers in respect of low-visibility operations. Nevertheless, the Agency transposed in the context of RMT.0464 'Requirements for Air Traffic Services (ATS)' parts of ICAO Annex 11 and of ICAO Doc 4444 related to the provision of ATS. The proposed IRs contain requirements for low-visibility procedures and they will be part of a separate NPA consultation, which has already been published by the Agency (NPA 2016-09).

7. Information on CS-AWO

Under the auspices of RMT.0379 on 'All-weather operations (AWOs)', the Certification Specifications for All Weather Operations (CS-AWO) will also be updated and amended. CS-AWO will address the needed regulatory changes in the airworthiness domain to complement relevant AWO requirements in other domains from design and certification point of view and will also enable the certification of emerging technologies such as EFVS, SVS and CVS.

The initial issue of CS-AWO (dated 17 October 2003) is based upon the Joint Aviation Authorities (JAA) document JAR-AWO and included a number of ongoing JAA Notices of Proposed Amendments (NPAs). There is, however, a number of JAA NPAs which were not included in the initial issue of CS-AWO. CS-AWO has not been amended since its adoption in 2003. The upcoming amendment will incorporate the outstanding JAA NPAs in order to have an updated baseline document. It will be also aligned with other international authorities' regulations, such as the FAA's.

CS-AWO Amendment 1 will also address the following aspects:

— Provide the certification specifications for Type A operations as a baseline for any applicable operational credits;

— Provide the certification specifications for Type B Category 1 operations as a baseline for operational credits;

— Revise the certification specifications for Type B Category 2 and 3 operations to ensure that they reflect current technology and support the intended operations;

— Provide and clarify the certification specifications for airborne equipment to gain the benefits from operational credits including: SA CAT I, SA CAT II, EFVS to 100 ft and EFVS/CVS to touchdown;

— Provide the certification specifications for aircraft conducting taxiing operations in low visibility;

— Provide certification specifications for take-off in low visibility.

A notice of proposed amendment (NPA) will outline the proposed changes to CS-AWO. .

8. References

8.1. Affected regulations

Air Operations

— Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1)

Aircrew

— Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 311, 25.11.2011, p. 1)

Aerodromes

— Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 44, 14.2.2014, p. 1)

Air Traffic Management/Air Navigation Services

— Commission Implementing Regulation (EU) No 1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) No 691/2010 (OJ L 271, 18.10.2011, p. 15)

— Commission Implementing Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 (OJ L 271, 18.10.2011, p. 23)

Standardised European Rules of the Air

— Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.10.2012, p. 1)

8.2. Affected decisions (CSs, AMC and GM)

Initial/Continuous Airworthiness

— Decision No. 2003/6/RM of the Executive Director of the Agency of 17 October 2003 on certification specifications, including airworthiness codes and acceptable means of compliance, for all weather operations (« CS-AWO »)

— Decision 2013/031/R of the Executive Director of the Agency of 17 December 2013 adopting Certification Specifications for Airborne Communications Navigation and Surveillance (CS ACNS) ('CS-ACNS Initial Issue')

Air Operations

- [illegible]
- [illegible]
- [illegible]
- Decision 2014/017/R of the Executive Director of the Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-ORO of Regulation (EU) No 965/2012 and repealing Decision 2012/017/R of the Executive Director of the Agency of 24 October 2012 ('AMC and GM to Part-ORO — Issue 2')
- [illegible]
- [illegible]
- Decision N° 2013/021/Directorate R of the Executive Director of the Agency of 23 August 2013 on adopting Acceptable Means of Compliance and Guidance Material for Non-commercial operations with complex motor-powered aircraft (Part-NCC)
- Decision 2014/016/R of the Executive Director of the Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-NCO of Regulation (EU) No 965/2012 and repealing Decision 2013/022/R of the Executive Director of the Agency of 23 August 2013 ('AMC and GM to Part-NCO — Issue 2')
- Decision 2014/018/R of the Executive Director of the Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-SPO of Regulation (EU) No 965/2012 ('AMC and GM to Part-SPO')

Aircrew

— Decision No° 2011/016/R of the Executive Director of the European Aviation Safety Agency of 15 December 2011 on Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council ('Acceptable Means of Compliance and Guidance Material to Part-FCL')

— Decision No° 2012/006/Directorate R of the Executive Director of the Agency of 19th April 2012 on Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council ('Acceptable Means of Compliance and Guidance Material to Part-ARA')

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— Decision No° 2012/010/Directorate R of the Executive Director of the Agency of 4th July 2012 on the certification specifications for aeroplane flight simulation training devices ('CS-FSTD(A)')

— Decision No° 2012/011/Directorate R of the Executive Director of the Agency of 26th June 2012 on the certification specifications for helicopter flight simulation training devices ('CS-FSTD(H)')

Aerodromes

— Executive Director Decision 2015/001/R of 29 January 2015 amending Certification Specifications and Guidance Material for Aerodrome Design (CS-ADR-DSN) ('CS-ADR-DSN — Issue 2')

— Decision 2014/012/R of the Executive Director of the Agency of 27 February 2014 adopting Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014 ('AMC/GM for Aerodromes – Initial Issue')

Air Traffic Management/Air Navigation Services

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— Executive Director Decision 2015/014/R of 3 July 2015 adopting Guidance Material on the implementation of the remote tower concept for single mode of operation

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8.3. Reference documents

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