Annex x to ED Decision 2026/XXX/R

The amendments are arranged as follows to show deleted text, new or amended text:

— deleted text is ~~struck through~~;

— new or amended text is highlighted in blue;

— an ellipsis '[…]' indicates that the rest of the text is unchanged.

Disclaimer

This document is provided for information purposes only.

No quality control has been performed.

1.1. Draft acceptable means of compliance (AMC) and guidance material (GM) (draft EASA decision)

1.1.1. GM to the cover regulation

GM1 Article 6.4a Derogations

OTHER-THAN-COMPLEX MOTOR-POWERED AIRCRAFT

The term 'other-than-complex motor-powered aircraft' is used synonymously with the terms 'other-than complex motor-powered aircraft' and 'other than complex motor-powered aircraft'. ~~Whenever one of these terms is used, it includes also non-motor-powered aircraft such as sailplanes.~~

Rationale:

This amendment is made to take into account that the Air OPS Regulation no longer applies to sailplanes.

1.1.2. GM to Annex I (Definitions)

GM1 Annex I Definitions

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

For the purpose of the Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 965/2012, the following definitions should apply:

~~(a)~~ 'Abnormal flight behaviour' means [...]

~~(a)~~ 'Accuracy' means [...]

'aeroplane maximum diversion time' means, for the purpose of EDTO, the maximum certified diversion time value (e.g. 120 min) or category (e.g. beyond 180 min) of a two-engined aeroplane or the maximum diversion time capability based on the time capability of the relevant time limited system(s) for aeroplanes with more than two engines;

~~(b)~~ 'Aircraft-based augmentation system (ABAS)' means [...]

~~(ba)~~ 'Airport moving map display (AMMD)' means [...]

~~(c)~~ 'Area navigation (RNAV)' means [...]

~~(d)~~ 'Availability' means [...]

~~(e)~~ 'Committal point' means [...]

~~(f)~~ 'Continuity of function' means [...]

~~(fa)~~ 'Controlled portable electronic device (C-PED)' means [...]

'Demonstration of competence' means the periodic checks that each flight crew carry to demonstrate competence in normal, abnormal and emergency procedures, typically in the context of non-commercial operations.

'EDTO area of operations' means, for the purposes of EDTO route planning, the area based on the operator's approved diversion time and calculated under standard conditions in still air, at the

approved one-engine-inoperative (OEI) speed for two-engined aeroplanes or at the all-engine operative (AEO) cruise speed for aeroplanes with more than two engines;

~~(fb)~~ 'EFB installed resources' means [...]

~~(fc)~~ 'EFB mounting device' means [...]

~~(fd)~~ 'EFB system supplier' means [...]

~~(g)~~ 'Emergency locator transmitter' [...]

~~(h)~~ 'Exposure time' means [...]

~~(i)~~ 'Fail-operational flight control system' means [...]

~~(j)~~ 'Fail-operational hybrid landing system' means [...]

~~(k)~~ 'Fail-passive flight control system' [...]

~~(l)~~ 'Flight control system' [...]

'HEC cycle' means either:

(a) if a rope is used, the pick-up, transportation and dropping of a person, including the flight to the place where the next person is picked up or the rope is taken off; or

(b) if a hoist is used, one down-and-up cycle of the hoist hook for the purpose of transporting a load or a person, including a transition to and from the hover;

~~(m)~~ 'HEMS dispatch centre' means [...]

'HESLO cycle' means the pick-up, transportation and dropping of a load, and the flight to the place where the next load is picked up or the rope is taken off;

'HESLO hour' means the flight time with a rope attached to the cargo hook for the purpose of transporting a load.

~~(n)~~ 'Hybrid head-up display landing system (hybrid HUDLS)' means [...]

'in-flight shut down (IFSD) rate' means, for the purpose of EDTO, a reliability figure calculated by dividing the chargeable number of in-flight shutdowns by the total engine operating hours accrued during the same period. It is usually computed over a 12-month rolling average basis for the respective aeroplane/engine combination (AEC). It may be computed for the worldwide fleet of the AEC concerned (this is the rate monitored by the state of design to assess the EDTO capability of a given AEC) or by the operator for its fleet of AEC concerned.

~~(na)~~ 'Installed EFB' means [...]

~~(o)~~ 'Integrity' means [...]

~~(p)~~ 'Landing distance available (LDAH)' means [...]

~~(q)~~ 'Landing distance required (LDRH)', [...]

~~(r)~~ 'Lateral navigation' means [...]

~~(ra)~~ 'mass' and 'weight': [...]

~~(s)~~ 'Maximum structural landing mass' means [...]

~~(t)~~ 'Maximum zero fuel mass' means [...]

~~(ta)~~ 'Miscellaneous (non-EFB) software applications' means [...]

~~(u)~~ 'Overpack' [...]

~~(v)~~ 'Package' [...]

~~(w)~~ 'Packaging' [...]

~~(x)~~ 'Personal locator beacon (PLB)' is [...]

~~(xa)~~ 'Ramp inspection tool' means [...]

~~(y)~~ 'Receiver autonomous integrity monitoring (RAIM)' means [...]

~~(z)~~ 'Rotation point (RP)' means [...]

~~(za)~~ 'Runway condition assessment matrix (RCAM)' means [...]

~~(zb)~~ 'Runway condition code (RWYCC)' means [...]

~~(zc)~~ 'Runway surface condition' means [...]

~~(zd)~~ 'Runway surface condition descriptors' means [...]

~~(aaa)~~ 'Slippery wet runway' means [...]

~~(ab)~~ 'Touch-down and lift-off area (TLOF)' means [...]

~~(ac)~~ 'Transmitting PED (T-PED)' means [...]

~~(ad)~~ 'Vertical navigation' means [...]

~~(ae)~~ 'Viewable stowage' means [...]

***Rationale**:*

It is proposed to remove the numbering of the terms in this GM for the following reasons:

1. *The current numbering is confusing, prone to mistakes, and difficult to follow. It is rigid and unfriendly — it hardly allows the insertion of new terms in alphabetical order without complicating the existing sequence.*
2. *Each term in the list appears only once. Arranging them alphabetically allows the reader to easily identify them just like searching for words in a dictionary, which follows the same logic. Any additional numbering of the terms brings no added value and is thus considered unnecessary.*
3. *Even in the case of translation, the terms may be listed in alphabetical order of the target language. There is no risk of confusion even when the order of the terms in the English language is changed in the target language because each term appears only once and the reference to a particular term cannot be mistaken for another.*

In a long-term perspective, this approach seems to be the most logical one, as this list is expected to increase and update continually. With the current numbering system, it would become increasingly complicated to keep a logical sequence with every new term.

Eliminating the numbering of these terms would not create any difficulty in further references, since each term appears only once and cannot be mistaken for another. The easiest reference would indicate only GM1 Annex I (Definitions) without any risk of confusion.

If one is interested in knowing when exactly a certain term was introduced into the rules, they may always consult the detailed list of amendments that is published with every EASA Decision. This can also be consulted in every revision of the Easy Access Rules.

The new terms proposed introduce specific definitions related to EDTO for terms which are used at AMC or GM level.

GM2 Annex I Definitions

ABBREVIATIONS AND ACRONYMS

The following abbreviations and acronyms are used in the Annexes to this Regulation:

[...]

AEC	aeroplane/engine combination

[...]

CMP	Configuration, maintenance and procedures

[...]

EDTO	extended diversion time operations

[...]

***Rationale**:*

Based on the comments received, some additional acronyms related to EDTO which are used at AMC or GM level have been added.

GM28 Annex I Definitions for terms used in Annexes II to VIII

FLIGHT MONITORING AND FLIGHT WATCH — RELEVANT SAFETY INFORMATION

[...]

(c) updates of the operational flight plan when they affect the fuel reserves:

(1) diversion to an en route alternate (ERA) aerodrome, a fuel/energy ERA aerodrome, an EDTO ERA aerodrome, a destination alternate aerodrome, or a take-off alternate aerodrome;

***Rationale**:*

Based on the comments received EDTO related to the applicability of flight monitoring to EDTO, this GM is amended to add EFTO ERA aerodromes.

GM30 Annex I Definitions

FUEL/ENERGY EN ROUTE ALTERNATE (ERA) AERODROME

Fuel/energy ERA aerodromes could be used in the following cases:

(a) 'fuel ERA aerodrome critical scenario': and ERA aerodrome becomes a 'fuel ERA aerodrome critical scenario' when ~~that aerodrome is used~~ additional fuel is required at the most critical point along the route to that ERA in compliance ~~to comply~~ with point (c)(6) of point CAT.OP.MPA.181 (…)

GM36 Annex I Definitions

EDTO/ETOPS

ICAO Annex 6 Part I replaced in 2012 the set of ETOPS Standards by EDTO Standards, primarily to address operations with longer diversion times for aeroplanes with two turbine engines, mainly based on the propulsion reliability and overall operational safety of current ETOPS two-engined aeroplanes, and also to address operations of aeroplanes with more than two engines on routes with extended diversion times. The EDTO provisions were built on the best practices and lessons learned from ETOPS and do not differ from the basic principles of ETOPS.

The main reason for the change in terminology from ETOPS to EDTO stems from the need to accurately reflect the scope and applicability of the new Standards. Nevertheless, this name change is not intended to mandate a similar and concurrent name change in the aeroplane documentation concerned.

This is in line with the note introduced in the EDTO Standards of Annex 6, which clarifies that the term 'ETOPS' may still be used instead of 'EDTO', as long as the concepts are correctly embodied in the documentation concerned. As ETOPS and EDTO are built on the same concepts, it means that, when an EDTO type design and reliability approval is required, it is acceptable to perform EDTO flights with an aeroplane that is certified for ETOPS. In other words, the EDTO operational approval of an operator of ETOPS-certified aeroplanes does not require that these aeroplanes are re-certified for EDTO, nor that the aeroplane documentation is updated to refer to EDTO instead of ETOPS.

Following this change, the term 'EDTO' has replaced 'ETOPS' in Regulation (EU) No 965/2012. However, the use of 'ETOPS' may not have been updated in other regulations and documentation (e.g. manufacturer documentation), and should be considered as equivalent to EDTO.

Rationale:

The change has been introduced to provide some background information related to the use of the two terms (EDTO and ETOPS) and emphasise the equivalence between the two.

GM37 Annex I Definitions

ELECTRONIC FLIGHT BAGS (EFBs)

Devices used exclusively outside the aircraft (e.g. at the operator's dispatch centre) should not be considered EFBs.

Rationale:

This new GM is proposed with the purpose of clearly differentiating electronic devices used exclusively outside the aircraft from EFBs.

1.1.3. Annex II (Part-ARO)

Subpart GEN

~~AMC1 ARO.GEN.120(d)(3) Means of compliance~~

~~**GENERAL**~~

~~The information to be provided to other Member States following approval of an alternative means of compliance should contain a reference to the Acceptable Means of Compliance (AMC) to which such means of compliance provides an alternative, as well as a reference to the corresponding Implementing Rule, indicating as applicable the subparagraph(s) covered by the alternative means of compliance.~~

Rationale:

This AMC is proposed to be deleted because its content refers to a previous version of point ARO.GEN.120(d)(3), which was amended with Regulation (EU) 2019/1384. The obligation for Member States to notify each other of the alternative means of compliance they have accepted no longer exists in the implementing rule.

AMC1 ARO.GEN.200(a) Management system

ORGANISATIONAL STRUCTURE~~**GENERAL**~~

[...]

Rationale: *The subtitle of this AMC is proposed to be changed and aligned with its equivalent (i.e. AMC1 CAMO.B.200) in the CAMO domain.*

~~GM1~~AMC2 ARO.GEN.200(a) Management system

GENERAL

(a) The competent authority designated by each Member State should be organised in such a way that:

(1) there is specific and effective management authority in the conduct of all relevant activities;

(2) the functions and processes described in the applicable requirements of Regulation (EU) 2018/1139 and its delegated and implementing acts~~ (EC) No 216/2008[1]~~ and ~~its Implementing Rules and~~ related Acceptable Means of Compliance (AMC~~s~~), Certification Specifications (CSs) and Guidance Material (GM) may be properly implemented;

(3) the competent authority's organisation and operating procedures for the implementation of the applicable requirements of Regulation (EU) 2018/1139 and its

~~[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. Regulation as last amended by Commission Regulation (EU) No 6/2013 of 8 January 2013 (OJ L 4, 9.1.2013, p. 34).~~

delegated and implementing acts ~~(EC) No 216/2008 and its Implementing Rules~~ are properly documented and applied;

[...]

(b) A general policy in respect of the activities related to the applicable requirements of Regulation (EU) 2018/1139 and its delegated and implementing acts ~~(EC) No 216/2008 and its Implementing Rules~~ should be developed, promoted and implemented by the manager at the highest appropriate level; for example, the manager at the top of the functional area of the competent authority that is responsible for such activities.

(c) [...]

(d) The general policy, ~~whilst~~ while also satisfying additional national regulatory responsibilities, should in particular take into account:

(1) the provisions of Regulation (EU) 2018/1139~~(EC) No 216/2008~~;

[...]

Rationale: *This text is moved from GM to AMC as its content is more suitable at AMC level; it is also aligned with that in the CAMO domain, where the same change was made to AMC2 CAMO.B.200.*

AMC1 ARO.GEN.200(a)(1) Management system

DOCUMENTED POLICIES AND PROCEDURES

(a) The organisation's various policies and procedures necessary for ~~elements of the organisation involved with~~ the activities related to Regulation (EU) 2018/1139 and its delegated and implementing acts ~~(EC) No 216/2008 and its Implementing Rules~~ should be documented in order to establish a reference source for the establishment and maintenance of the~~this~~ organisation.

[...]

(c) The documented procedures should cover, as a minimum, all ~~of~~ the following aspects:

[...]

(7) training of personnel and inspectors' qualification;

(8) cross-references to associated documents;

(9) assistance from other competent authorities or the Agency (where required);

(10) ethics, personal conduct, and the avoidance of actual or perceived conflicts of interest in the performance of official duties.

[...]

Rationale:

New text is proposed to be inserted in point (c)(7) for alignment with ICAO Annex 6, and for clarification.

The amendments proposed to point (c)(10) transpose Appendix 5 to ICAO Annex 6 Part I (Technical guidance, tools and provision of safety-critical information).

AMC1 ARO.GEN.200(a)(2) Management system

QUALIFICATION AND TRAINING — GENERAL

[...]

(b) For each inspector, the competent authority should:

(1) define the competencies required to perform the allocated certification and oversight tasks, based on the knowledge, skills and attitude (KSA) concept;

[...]

(c) The competent authority may provide training through its own training organisation with qualified trainers or through another qualified training source.

(d) When training is not provided through a~~n internal~~ training organisation employing qualified trainers, adequately experienced and qualified persons (e.g. inspectors) may act as trainers, provided their training skills have been assessed by the competent authority. In this case~~f required~~, an individual training plan ~~should be established~~ covering specific training skills should be established. Records should be kept of such training and the assessment, as appropriate.

Rationale:

The amendment to point (b)(1) is proposed to enable competent authorities to build the competency-based training programme for their inspectors on the KSA concept, which would be particularly relevant for the authority personnel responsible for the acceptance and continuing monitoring of the air operators' SMS. The amendments proposed to point (d) reflect feedback from standardisation inspections and lessons learnt during such inspections. The amendments proposed to point (d) aim to clarify what should be understood by 'its own training organisation' in point (c). It is proposed to establish a 2-year transition period for the implementation of this AMC, to provide sufficient time to competent authorities to adapt their internal procedures.

AMC2 ARO.GEN.200(a)(2) Management system

INITIAL AND RECURRENT TRAINING ~~QUALIFICATION AND TRAINING~~ — INSPECTORS

(a) Initial training programme:

[...]

(3) overview of Regulation (EU) 2018/1139, its delegated and implementing acts, ~~(EC) No 216/2008, its implementing rules~~ and the related AMC, CS, and GM;

[...]

(10) 'on-the-job' training, relevant to the inspector's tasks;

Note: The content and duration of the on-the-job training should be adapted to the particular training needs of every trainee and take into account the scope and complexity of the inspector's tasks. It should cover, as much as possible, the certification and oversight tasks that the inspector will be qualified to conduct, as well as the assessment of the operators' management systems, if applicable. The competent authority should assess whether the required competencies have been achieved before an inspector is authorised to perform a task without supervision.

(11) technical training, including training on aircraft-specific subjects, appropriate to the role and tasks of the inspector, in particular for those areas requiring approvals.

(12) Regulation (EU) No 376/2014 on the reporting, analysis and follow-up of occurrences in civil aviation.

[...]

Rationale:

The proposed amendments to this AMC stem from lessons learnt during standardisation inspections. The note under point (a)(11) is the text of former GM4 ARO.GEN.200(a)(2), point (c). This AMC is also aligned with AMC3 CAMO.B.200(a)(3), and with AMC2 ADR.AR.B.005(a)(2) point (a)(3)(a).

AMC3 ARO.GEN.200(a)(2) Management system

QUALIFICATION AND TRAINING — CREW RESOURCE MANAGEMENT (CRM)

For the approval and oversight of the operator's CRM training, the inspectors of the competent authority should be qualified and trained as follows:

[...]

Rationale: *The new text is proposed for consistency with another AMC. This AMC refers to inspectors' qualification for the oversight of CRM training, and AMC5 ARO.GEN.200(a)(2) to the approval of FTSS. There is currently a lack of consistency between the two AMC, as both should read 'approval and oversight' because the same level of inspector qualification should be required both for the initial and the continued assessment of compliance.*

AMC4 ARO.GEN.200(a)(2) Management system

INSPECTOR QUALIFICATION FOR CAT OPERATIONS

(b) For CAT operations with an MOPSC of 19 seats or less, the authority should establish the inspector qualifications required to perform the allocated initial certification and oversight tasks. The assigned inspector should undergo theoretical training on ~~aircraft~~ the systems and operations of the aircraft types on which he or she performs initial certification and oversight tasks.

[...]

Rationale: *the amendment is the result of lessons learnt from standardisation inspections. The new text is proposed to clarify that the theoretical training should cover the aircraft types on which the inspector is allocated certification and oversight tasks, in order to acquire the necessary knowledge as underlined in ARO.GEN.200(a)(2).*

AMC5 ARO.GEN.200(a)(2) Management system

~~FATIGUE RISK MANAGEMENT~~ INSPECTOR TRAINING ON FATIGUE RISK MANAGEMENT

An inspector involved in the approval and oversight processes of an operator's flight time specification schemes and fatigue risk management (FRM) should receive the following training:
[...]

Rationale:

The subtitle of this AMC is better worded. Additionally, the new text is proposed to address a consistency issue, similar to the change proposed in AMC3 ARO.GEN.200(a)(2).

GM3 ARO.GEN.200(a)(2) Management system

~~SPECIFIC FLIGHT OPERATIONS INSPECTOR QUALIFICATION~~

SPECIFIC QUALIFICATIONS FOR FLIGHT OPERATIONS INSPECTORS

[…]

(b) The following factors should be considered with regard to knowledge of the route and area:

[…]

(3) Navigational procedures, including PBN requirements, ~~ETOPS~~ and requirements on operations with ~~extended~~ diversion time beyond 60 minutes, ~~requirements~~ including EDTO;

[…]

Rationale

The change has been introduced to:

- *replace the previously used term 'ETOPS' by the new term 'EDTO';*
- *include operations with diversion time exceeding 60 minutes in the specific factors to be considered with regard to the knowledge of the route and area.*

GM4 ARO.GEN.200(a)(2) Management system

INSPECTOR TRAINING PROGRAMMES

[...]

(b) The following documents, as appropriate to the role of the inspector, are relevant for the initial training programme for inspectors referred to in AMC2 ARO.GEN.200(a)(2):

[...]

(3) Regulation (EU) 2018/1139 and its delegated and implementing acts ~~(EC) No 216/2008, and related implementing rules~~ such as:

[...]

~~(c) The duration of the on-the-job training should take into account the scope and complexity of the inspector's tasks. The competent authority should assess whether the required competence has been achieved before an inspector is authorised to perform a task without supervision.~~

Rationale:

It is proposed to transpose point (c) of this GM to AMC2 ARO.GEN.200(a)(2) as a note under point (a)(11). The transposition is based on feedback from EASA standardisation inspections. It is also aligned with its equivalent AMC in Part-CAMO: AMC3 CAMO.B.200(a)(3), note in point (a).

GM5 ARO.GEN.200(a)(2) Management system

~~**FATIGUE RISK MANAGEMENT**~~ **INSPECTOR TRAINING ON FATIGUE RISK MANAGEMENT**

[...]

GM6 ARO.GEN.200(a)(2) Management system

~~**FATIGUE RISK MANAGEMENT**~~ **ADDITIONAL GUIDANCE ON INSPECTOR TRAINING ON FATIGUE RISK MANAGEMENT**

[...]

Rationale:

The title of this GM is proposed to be amended to distinguish its content from the previous GM, which has the same title but a different content.

AMC1 ARO.GEN.200(a)(4) Management system

SAFETY RISK MANAGEMENT PROCESS

(a) The safety risk management process should be documented. The following details should be defined in the related documentation:

(1) means for hazard identification and the related data sources, taking into account data provided by other competent authorities with which the competent authority interfaces in the Member State, or by the competent authorities of other Member States;

(2) risk management steps including:

(i) analysis (in terms of probability and severity of the consequences of hazards and occurrences);

(ii) assessment (in terms of tolerability); and

(iii) control (in terms of mitigation) of risks to an acceptable level;

(3) who is responsible for hazard identification and risk management;

(4) who is responsible for the follow-up of risk-mitigation actions;

(5) the levels of management that have the authority to make decisions regarding risk tolerability;

(6) the means to assess the effectiveness of risk-mitigation actions; and

(7) the link with the compliance-monitoring function.

(b) To demonstrate that the safety risk management process is operational, the competent authority should be able to provide evidence that:

(1) the persons involved in internal safety risk management activities are properly trained;

(2) hazards that could impact the authority's capabilities to perform its tasks and discharge its responsibilities have been identified and the related risk assessment has been documented;

(3) regular meetings take place at appropriate levels of management of the competent authority to discuss the risks identified and to decide on the risk tolerability and possible risk-mitigation measures;

(4) in addition to the initial hazard identification exercise, the risk management process is triggered as a minimum whenever changes occur that may affect the competent authority's capability to perform any of the required tasks;

(5) a record of the actions taken to mitigate risks is maintained, showing the status of each action and the owner of the action;

(6) there is a follow-up on the implementation of all risk-mitigation actions;

(7) risk-mitigation actions are assessed for their effectiveness; and

(8) the results of the risk assessments are periodically reviewed to check whether they remain relevant (e.g. whether the assumptions are still valid, and whether there is new information available).

Rationale:

New AMC and GM are proposed related to the safety risk management process. The AMC is aligned with AMC1 CAMO.B.200(a)(5), on which positive feedback from stakeholders has been received. Further, the AMC and GM have been added following a recommendation to reflect such AMC and GM in other domains as well, not only for CAMO. It is proposed to establish a 2-year transition period for the implementation of this AMC, to provide sufficient time to competent authorities to adapt their internal procedures.

GM1 ARO.GEN.200(a)(4) Management system

SAFETY RISK MANAGEMENT PROCESS

(a) The purpose of safety risk management as part of the management system framework for competent authorities is to ensure the effectiveness of the management system. Like for any organisation, hazard identification and risk management are expected to contribute to effective decision-making, guide the allocation of resources, and contribute to organisational success.

(b) The safety risk management process required by point ARO.GEN.200(a)(4) is intended to address the safety risks that are directly related to the competent authority's organisation and processes, and which may affect its capability to perform its tasks and discharge its responsibilities. This process is not intended to be a substitute for the State safety risk management defined in ICAO Annex 19 Chapter 3, section 3.3. The competent authority may of course use information and data obtained through its State Safety Programme (SSP), including oversight data and information, for the purpose of safety risk management as part of its management system.

(c) The safety risk management process is also to be applied to the management of changes (point ARO.GEN.210), which is intended to ensure that the management system remains effective whenever changes occur.

Rationale:

This new GM is proposed following the amendments made to the AMC to Part-CAMO and the introduction of safety management system elements in Part-CAMO. Its purpose is to enable the implementation of the requirement in point (a)(4) of point ARO.GEN.200 on the safety risk management process in the AIR OPS domain as well. A comment on this GM was rejected as the proposed text does not preclude the combination of the management of the competent authority and industry risk. RMT.706 will look more into this topic.

AMC1 ARO.GEN.305(a);(b) Oversight programme

MAINTAINING THE OVERSIGHT PROGRAMME — REGULAR REVIEW

(a) In order to ensure that its oversight programme is adequately maintained, as required by point ARO.GEN.305, the competent authority should regularly review the oversight planning cycle and related oversight programme for each organisation to ensure that they remain adequate regarding any changes in the nature, complexity or safety performance of each organisation.

(b) When reviewing the oversight planning cycle and related oversight programme, the competent authority should also consider any relevant information collected in accordance with points ORO.GEN.160 and ARO.GEN.300(f).

Rationale:

The aim of this proposed new AMC is to ensure that the oversight planning cycle and programme established for an organisation remain current and address any new elements or changes organisations may introduce. Competent authorities have the flexibility to update the oversight planning cycle and oversight programme as appropriate to the changes introduced; this is why the term 'regularly' was preferred instead of defining a fixed interval (as it appears in the AMC to Part-CAMO). This AMC is also aligned with AMC1 CAMO.B.305(a);(b).

AMC1 ARO.GEN.305(b);(d);(d1) Oversight programme

SPECIFIC NATURE AND COMPLEXITY OF THE ORGANISATION~~,~~ AND RESULTS OF PAST OVERSIGHT

(a) When determining the oversight programme for an organisation, the competent authority should consider in particular the following elements, as applicable:

(1) the implementation by the organisation of industry standards, directly relevant to the organisation's activity subject to this Regulation;

(2) the procedure applied for and the scope of changes not requiring prior approval;

(3) specific approvals held by the organisation;

(4) specific procedures implemented by the organisation related to any flexibility provisions in accordance with Article 71 of Regulation (EU) 2018/1139 or alternative means of compliance used; ~~and~~

(5) number and type of ~~sub~~contractors; and

(6) the effectiveness of the organisation's management system in identifying and addressing non-compliances and safety hazards.

(b) For the purpose of assessing the complexity of an organisation's management system, AMC1 ORO.GEN.200(b) should be used.

(c) Regarding the results of past oversight, the competent authority should also take into account relevant results of ramp inspections of organisations it has certified or authorised, persons and other organisations having declared their activity or persons performing operations with other-than-complex motor-powered aircraft that were performed in other Member States in accordance with Subpart ARO.RAMP.

Rationale:

The amendments proposed to point (a)(4) are relevant in the context of the Covid-19 pandemic. Quick reaction in emergency cases on the side of authorities and regulators to grant the necessary flexibility from the application of the current requirements has proven extremely important in the extended period of the pandemic experienced in 2020 and 2021.

In point (a)(5), the change of the term 'subcontractor' to 'contractor' is proposed to ensure consistency of the terms used in other parts of the rules, especially in point ORO.GEN.205 'Contracted activities'. This issue had been also signalled to EASA by a competent authority. The proposed addition of the term 'type' reflects alignment with AMC1 CAMO.B.305(b), issued with ED Decision 2020/002/R[2].

Point (a)(6) is proposed to be added to align with AMC1 CAMO.B.305(b).

AMC2 ARO.GEN.305(b) Oversight programme

PROCEDURES FOR THE OVERSIGHT OF OPERATIONS

(a) [...]

(b) Audits and inspections, on a scale and frequency ~~appropriate to~~ commensurate with the operation, should cover at least:

(1) infrastructure,

(2) manuals,

(3) training,

(4) crew records,

(5) equipment,

(6) release of flight/dispatch,

(7) dangerous goods,

(8) organisation's management system, including the flight data monitoring programme when applicable,

(9) flight time limitations.

(c) The following types of inspections should be included~~, as part of~~ in the oversight programme on a scale and frequency commensurate with the operation:

[2] ED Decision 2020/002/R 'AMC & GM to Commission Regulation (EU) No 1321/2014' (https://www.easa.europa.eu/en/document-library/agency-decisions/ed-decision-2020002r).

[...]

The inspection should be a 'deep cut' through the items selected~~, and all findings should be recorded. Inspectors should review the root cause(s) identified by the organisation for each confirmed finding.~~

~~The competent authority should be satisfied that the root cause(s) identified and the corrective actions taken are adequate to correct the non-compliance and to prevent re-occurrence.~~

(d) [...]

(e) [...]

(f) In the first few months of a new operation (i.e. after the initial AOC issuance or a change significantly affecting the scope of operations), the competent authority~~inspectors~~ should carry out oversight activities with a particular focus on the operator's procedures, facilities, equipment, operational control and management system.

'(g) [...]

(h) When the competent authority notices ~~They should also carefully examine any~~ conditions that may indicate a significant deterioration in the organisatin'~~'~~s financial management, it should immediately inform the competent licensing authority designated in accordance with Regulation (EC) No 1008/2008. When any significant financial problems~~difficulties~~ are identified, the competent authority~~inspectors~~ should conduct additional audits and/or inspections ~~increase technical surveillance~~ of the operation with particular emphasis on the upholding of safety standards and the effectiveness of the organisation's management system.

(i) If the competent authority is informed of a significant decrease in the operator's compliance or safety performance, it should promptly conduct additional audits and/or inspections of the operation with particular emphasis on the upholding of safety standards and the effectiveness of the management system.

Rationale:

The amendments proposed to point (b) are the result of lessons learnt from standardisation inspections and the alignment with ICAO Doc 8335 (for use of the same terminology) 'commensurate with' instead of 'appropriate to'.

New point (b)(8) is proposed as the results of several standardisation inspections confirm that the flight data monitoring (FDM) programme is not verified consistently during oversight, although the FDM programme is part of the organisation's safety management system. A link should be created in Part-ARO to include the FDM programme within the oversight activity.

New point (b)(9) proposes to improve the oversight requirements by adding flight time limitations among the processes covered by audits and inspections. The list of audits and inspections does not mention flight time limitations, although this is done in practice.

This list could be further improved, if necessary, by aligning it with the list provided in GM2 ORO.GEN.200(a)(6).

The proposals in point (c) are also the result of lessons learnt from standardisation inspections and the alignment with ICAO Doc 8335. During several standardisation inspections, it has been observed that the competent authorities had established a risk-based oversight model, but the exposure (number of aircraft / fleet or number of flights) was not part of the model and there was no evidence that the

model drove the number of inspections within a given cycle (i.e. flight, training, etc.). This resulted in operators with a number of flight inspections not commensurate with the scale of their activities.

In addition, ICAO Doc 8335 includes the following provision: 'Regardless of the method used, all significant aspects of the operator's procedures and practices should be evaluated and appropriate inspections, commensurate with the scale of the operator's activities, conducted at least once every 12 months' (to be noted that ICAO Doc 8335 does not differentiate audits from inspections). Furthermore, some sentences from point (c) are proposed to be deleted as they are inserted in new AMC1 ARO.GEN.350(d), where they are better placed in relation to the content of the implementing rule.

The amendment proposed to Point (f) is the result of lessons learnt from standardisation inspections. The new text is proposed to clarify what is a new operation and is aligned with the wording of the proposed change to AMC1 ARO.GEN.330.

The proposed point (h) adds new text to enable oversight in case of financial difficulties. It has been shown in the context of the COVID-19 pandemic in 2020 that the oversight of some operators having financial difficulties in such times needs to be enhanced, with the purpose of increasing safety. The term 'technical surveillance' stems from ICAO Doc 8335 and is not defined in Regulation (EU) No 965/2012, so it has been replaced by 'audits and inspections'. Furthermore, the term 'difficulties' has been replaced by 'problems', to align with the terminology in Regulation (EC) No 1008/2008 (see Article 8 Validity of an operating licence).

New point (i) has been proposed in response to other standardisation inspections to prevent situations in which an air operator receives findings from a safety-relevant SACA inspection, but the competent authority responsible for the issue of that AOC does not feel it has any legal obligation to schedule an additional oversight activity to identify whether the operator faces systemic issues and whether it had adequately addressed those findings. Neither the implementing rule nor the AMC mention that a significant decrease in an operator's safety performance should lead to conducting additional oversight activities. Point ARO.GEN.135 on safety problems is also quite general.

It is proposed to establish a 2-year transition period for the implementation of this AMC, to provide sufficient time to competent authorities to adapt their internal procedures.

AMC1 ARO.GEN.305(b);(c);(d);(d1) Oversight programme

INDUSTRY STANDARDS

[...]

(c) In order to be able to credit any audits performed as part of certification in accordance with industry standards, the following should be considered:

[...]

(5) audit results are accessible to the competent authority and open to exchange of information in accordance with Article 72(1)~~15(1)~~ of Regulation (EU) 2018/1139 ~~(EC) No 216/2008~~; and

(6) the audit planning intervals of certification audits ~~i.a.w.~~ in accordance with industry standards are compatible with the oversight planning cycle.

[...]

AMC1 ARO.GEN.305(c) Oversight programme

OVERSIGHT PLANNING CYCLE — AUDIT AND INSPECTION

[...]

Rationale:

The subtitle is proposed to include new elements to distinguish this AMC from the next one, which has the same title but a different content.

AMC2 ARO.GEN.305(c) Oversight programme

OVERSIGHT PLANNING CYCLE — AUDIT

[...]

AMC1 ARO.GEN.305(d1) Oversight programme

OVERSIGHT OF AUTHORISATION HOLDERS

[...]

(e) When scheduling audits and inspections, the competent authority should also take into account the activity conducted by the authorised organisations in other Member States. In this case, the competent authority should coordinate the audit and inspection schedule with the authority of the Member State in the territory of which ~~territory~~ the activity takes~~is taking~~ place.

[...]

AMC1 ARO.GEN.330 Changes — organisations

AOC HOLDERS

(a) [...]

(b) The competent authority should maintain a ~~A~~ simple management system documentation status sheet ~~should be maintained~~, which contains information on when an amendment was received ~~by the competent authority~~ and when it was approved.

(c) The organisation should ~~provide~~ submit each amendment to the management system documentation ~~amendment~~ to the competent authority, regardless of whether those ~~including for the~~ amendments ~~that do not~~ require prior approval or not~~by the competent authority~~.

(1) ~~Where the amendment~~For changes requiring prior approval, ~~requires competent authority approval,~~ the competent authority, when satisfied, should indicate its approval in writing.

(2) ~~Where the amendment~~For changes not requiring a ~~does not require~~ prior approval, the competent authority should acknowledge receipt in writing within 10 working days.

(d) For changes requiring prior approval, in order to verify the organisation~~'~~s compliance with the applicable requirements, the competent authority should:

(1) assess the organisation's management of the related change, including the safety risk assessment;

(2) conduct an audit of the organisation, limited to the extent of the changes; ~~.~~ ~~I~~if required for verification, the audit should include interviews and inspections carried out at the organisation's facilities;~~.~~

(3) when the organisation intends to add a new aircraft type to its fleet significantly affecting the scope of operations (e.g. addition of a helicopter to an aeroplane operator, list of specific approvals held), require the conduct of one or more demonstration flights operated as if they were commercial flights, or conduct an in-flight inspection at the earliest opportunity.

Rationale:

This AMC is proposed to be amended following repetitive feedback from standardisation inspections, and also for consistency purposes and clarification of the intent.

Regarding the amendments proposed to point (c), point ARO.GEN.330(a) mentions the verification of the operator's compliance with the applicable requirement when it submits a change for prior approval. In particular, the competent authority should assess the proper implementation of the management of change process (mentioned in AMC1 ORO.GEN.200(a)(1);(2);(3);(5) and in AMC1 ORO.GEN.200(a)(3)) for each change requiring prior approval, as part of the verification of compliance in accordance with point ARO.GEN.330(a).

However, the current text of AMC1 ORO.GEN.130(b) states that the operator should submit its safety risk assessment of a change requiring prior approval 'upon request' — which implies it is not done systematically. Numerous non-compliances indicated that operators did not conduct a management of change as defined in AMC1 ORO.GEN.200(a)(3) and that this was not verified by the competent authority, which did not request or assess the management of change before approving the related change.

That is why 'upon request' was removed from AMC1.ORO.GEN.130(b), and AMC1 ARO.GEN.330 was changed accordingly. The new text mentions the submission of the management of change only in case of changes requiring a prior approval. No further amendment has been made to the text compared to the NPA.

The proposed new point (d)(3) adds a demonstration flight for cases when new aircraft types significantly affecting the scope of operations are added to the fleet, based on the wording of point (a)(3) of AMC1 ARO.GEN.310(a) relating to demonstration flights in the case of the initial issue of an AOC. Several comments were submitted to this point, and they were partially accepted.

The conduct of one or more demonstration flights prior to the issuance of an AOC or of flight inspections at the earliest opportunity has often allowed competent authorities to detect non-compliances (including safety-relevant ones) that could not be detected during an on-site audit of the operator's processes. However, similar non-compliances have been detected during standardisation inspections, when competent authorities had approved the addition of new aircraft types to the fleet without conducting a demonstration flight or a flight inspection, in particular when the new operations significantly differed from the existing scope (e.g. helicopter vs aeroplane, new specific approvals). The text has been reworded to mention such flights when the new aircraft type would lead to a significant

modification of the scope of operations with examples added. In addition, the wording keeps the flexibility for the competent authority to conduct a flight inspection at the earliest opportunity after granting the approval instead of a demonstration flight.

It is proposed to establish a 2-year transition period for the implementation of this AMC, to provide sufficient time to competent authorities to adapt their internal procedures.

AMC1 ARO.GEN.350(a) Findings and corrective actions — organisations

MANAGEMENT OF FINDINGS

(a) In order to ensure that the identified non-compliances are adequately addressed by the organisation, the competent authority should:

(1) review the root cause(s) and contributing factors (if applicable) identified by the organisation for each confirmed finding together with the corrective action plan;

(2) be satisfied that the root cause(s) identified and the corrective action plan proposed by the operator are adequate to correct the non-compliance and to prevent its reoccurrence;

(3) assess the implementation of the accepted corrective action plan;

(4) be satisfied that the accepted corrective actions have been adequately implemented; and

(5) close the finding only after points (1) to (4) have been completed.

(b) In the case of level 2 findings, the competent authority should first grant the organisation a period to submit the root cause(s) and the corrective action plan. This period should be of a shorter duration than that of the corrective action plan implementation period to provide sufficient time for the organisation and the authority to agree on an acceptable corrective action plan and for the organisation to implement it before the end of the implementation period.

(c) The competent authority should monitor all due dates agreed in accordance with points (a) and (b).

Rationale:

This proposed new AMC contains elements transferred from AMC2 ARO.GEN.305(b) where they had been included initially, although they were not relevant for the content of the rule. Additionally, new elements have been introduced following repetitive feedback received from standardisation inspections during which numerous non-compliances were detected on the management of findings raised by competent authorities.

AMC1 ORO.GEN.150(b), the equivalent of this AMC in Part-ORO, is proposed to be amended accordingly, so that the mentioned shorter period that the organisation has to provide the root-cause analysis and the corrective action plan to the competent authority is also reflected.

2 comments were received on these proposed changes, one of them was partially accepted and the text has been further improved; the other one was rejected based on the argument that the lack of an answer from the operator before the deadline can be enforced via ARO.GEN.350(d)(3).

It is proposed to establish a 2-year transition period for the implementation of this AMC, to provide sufficient time to competent authorities to adapt their internal procedures.

GM1 ARO.GEN.355(b) Findings and enforcement measures — persons

GENERAL

[...]

(a) persons subject to the requirements laid down in Regulation (EU) 2018/1139 and its delegated and implementing acts ~~(EC) No 216/2008 and its Implementing Rules~~ who are not required to hold a licence, certificate or attestation; and

(b) [...]

Subpart OPS

GM4 ARO.OPS.110 Leasing agreements for aeroplanes and helicopters

WET-LEASE BETWEEN EU OPERATORS

(a) When an air operator intends to wet-lease an aircraft from an operator that is registered in an EASA State, both the lessor and the lessee are subject to the same EU regulations applicable to their operation, personnel licensing, and airworthiness. Both air operators are part of the EASA system. Therefore, the lessee will not have to provide the certificate of airworthiness of the respective aircraft or their serial number, or details of their owners since this information is already in the possession of another Member State's competent authority, and its validity is under that authority's oversight. This practically ensures the necessary level of control that does not need to be duplicated and verification of that data needs no reassessment.

(b) As both operators (in that case, lessee and lessor) are subject to Regulation (EU) 965/2012, requesting a signed statement that 'they understand their respective responsibilities under the applicable regulations' or 'a copy of the lease agreement or description of the lease provisions, except financial arrangements' is no longer necessary. Nevertheless, the flight schedule would need to be provided for the authority to have full knowledge of the operation and for ramp inspections to account for the wet-leased aircraft. Since all the documents pertaining to the aircraft of EU operators are already accessible to the competent authorities that have issued them, the proposals do not entail any decrease in oversight capabilities.

(c) The list of preapproved air operators for wet-lease purposes can be a way to streamline the approval process, like the framework contract applicable in the case of third-country operators (see GM1 ORO.AOC.110(c)). The necessary information required for the approval of a wet lease is provided in a two-step process: first, providing the AOC and the approved areas of operation to have the list approved, and then, before the wet-lease agreement is concluded, providing to the competent authority the flight schedule, duration of the lease and aircraft type and registration markings. Furthermore, to have the list approved, the operator has to provide the competent authority with a copy of its internal procedures showing how the responsibilities for the wet-leased operations are shared between the lessor and the lessee, so as to ensure that

the short-term wet-lease operations are taken into account for the risk assessment and management of changes under its management system.

Rationale:

This GM contains the text of the rationale to the new proposed AMC1 ORO.AOC.110 published in NPA 2022-11. This follows the suggestion received from stakeholders during consultation.

AMC1 ARO.OPS.200 Specific approval procedure

PROCEDURES FOR THE APPROVAL OF CARRIAGE OF DANGEROUS GOODS

When verifying compliance with the applicable requirements of point SPA.DG.100, the competent authority should check that:

(a) the procedures specified in the operations manual, including emergency procedures, are sufficient for the safe transport of dangerous goods;

(b) operations personnel are properly trained in accordance with the ICAO 'Technical Instructions for the Safe Transport of Dangerous Goods by Air' (ICAO Doc 9284 ~~AN/905~~), and the training programme is maintained, is consistent with the operations conducted, and approved; and

(c) a reporting scheme is in place.

[…]

AMC6 ARO.OPS.200 Specific approval procedure

APPROVAL OF THE USE OF A TYPE B EFB APPLICATION — OPERATIONAL EVALUATION TEST

When an operator notifies the competent authority of its intention to conduct an operational evaluation test through the submission of a plan, the competent authority should verify the operator's compliance (in terms of content, scope and duration) with the applicable requirements, and once satisfied, should notify accordingly the operator, which may then conduct it.

Rationale:

This new AMC6 is proposed to be added following feedback from standardisation inspections to clarify the need for the competent authority to formally notify the operator once satisfied with the submitted plan for the operational evaluation test so that the operator may start it. It is also expected to ensure a harmonised approach by competent authorities in such cases.

Several comments received on this AMC indicated the wrong numbering – which has been corrected. 2 comments have been rejected as it is not considered necessary to require a formal an approval to start the operational evaluation test. This is similar to the initiation of the safety assessment prior to obtaining an LVO approval, for which no formal approval is required.

AMC7 ARO.OPS.200 Specific approval procedure

PROCEDURES FOR THE APPROVAL OF EXTENDED DIVERSION TIME OPERATIONS (EDTO)

(a) General

(1) When verifying compliance with the applicable requirements of Subpart F of Annex V (SPA.EDTO), the competent authority should verify that:

(i) for two-engined aeroplanes, the aeroplane type holds a valid EDTO or ETOPS type design and reliability approval;

(ii) a system is implemented to configure, maintain and dispatch an EDTO aeroplane in accordance with an approved maintenance, reliability and training programme. In particular, this system should also ensure that the aeroplane is not dispatched on EDTO routes with diversion times that are beyond its EDTO capability as reflected in the aeroplane's AFM EDTO Section and in the applicable EDTO requirements of the EDTO configuration, maintenance and procedures (CMP) document for two-engined aeroplanes, or in relevant aeroplane documentation for aeroplanes with more than two engines;

(iii) the EDTO operational limitations (e.g. the applicable time limitations of the relevant time-limited systems (TLSs) of the aeroplane) are adequately considered and that the EDTO flight preparation and in-flight procedures are properly conducted;

(iv) for two-engined aeroplanes, the EDTO maintenance checks, servicing and programmes are properly conducted;

(2) The scope and thoroughness of the verification of compliance should be linked with:

(i) the operator's experience with EDTO, long-range operations, the area of operation, the aircraft type, the engines, etc.;

(ii) the approval process selected; and

(iii) the intended EDTO operations (i.e. area of operations, list of EDTO en-route alternate aerodromes, diversion time requested).

(3) EDTO operational approval process

(i) When processing an operator's application for an EDTO operational approval, the competent authority should assess the operator's overall safety record, past performance, flight crew training and experience, and maintenance programme.

(ii) For two-engined aeroplanes, assessment of the operator's propulsion system reliability

Following the accumulation of adequate operating experience by the world fleet of the specified aeroplane/engine combination and the establishment of an IFSD rate in accordance with Appendix 1 to AMC 20-6 for use in ensuring the propulsion system reliability necessary for EDTO, an assessment should be made of the applicant's ability to achieve and maintain this level of propulsion system reliability.

This assessment should include trend comparisons of the operator's data with other operators (if available), as well as the world fleet average values, and the application of a qualitative judgement that considers all the relevant factors. The operator's past record of propulsion system reliability with related types of power

units should also be reviewed, as well as its record of achieved systems reliability with the aeroplane/engine combination for which an approval to conduct EDTO is being sought.

Note: Where statistical assessment alone may not be applicable, e.g. when the fleet size is small, the applicant's performance should be reviewed on a case-by-case basis. This may include such items as actual data populating the air operator's reliability programme and this being compared, where possible, to worldwide fleet data of the concerned AEC and related EDTO maintenance significant systems, as well as air operator events, including IFSDs and loss of thrust, with the results of investigation into the cause(s) of the events.

(iii) Validation of the operator's EDTO continuing airworthiness (for two-engined aeroplanes) and operations capability

The observation of at least one validation flight should be included in the activities to validate the operator's EDTO capability.

(iv) Issuance of EDTO operational approval

The EDTO operational approval issued by the competent authority should include:

(A) the related aeroplane/engine combination,

(B) the aeroplanes within the scope of the approval (registrations and serial numbers),

(C) the authorised area of operations,

(D) the operator's approved diversion time and the related selected speed.

While an EDTO operational approval is possible at entry into service under the accelerated EDTO operational approval process, the competent authority may consider granting an EDTO operational approval of up to 90 minutes to operators with minimal or no in-service experience with the aeroplane/engine combination under the 'in-service EDTO operational approval' process. This determination should be based on factors such as:

(A) the proposed area of operations,

(B) the operator's demonstrated ability to successfully introduce aeroplanes into operations, and

(C) the quality of the proposed continuing airworthiness (for two-engined aeroplanes) and operations programmes.

In the case of the in-service approval process, the operator's initial approved diversion time may later be progressively increased by the competent authority, after the operator applies for it, as it gains experience on the particular aeroplane/engine combination. The factors to consider may include:

(A) duration of experience,

(B) total number of flights,

(C) the operator's diversion events,

(D) record of the aeroplane/engine combination with other operators,

(E) quality of operator's programmes, and

(F) route structure.

(v) 15 % diversion time increase to operator's approved diversion time for aeroplanes with 120-180 minutes maximum diversion time

When an operator applies for such increase for specific routes or areas for use on an exceptional basis, the competent authority should assess the TLS(s) and demonstrated reliability of the aeroplane concerned if its certified EDTO capability is less than the contemplated increased operator's approved diversion time. The increased diversion time approved should be reflected in the operator's operations specifications.

(4) Continued surveillance:

The IFSD rate of the operator's fleet of two-engined aeroplanes of the specified aeroplane/engine combination will continue to be monitored in accordance with Appendices 1 and 3 to AMC 20-6. As with all other operations, the competent authority should also monitor all aspects of the EDTO operations that it has approved to ensure that the levels of reliability achieved remain at the necessary levels, and that the operation continues to be conducted safely. If an acceptable level of reliability is not maintained, if significant adverse trends exist, or if significant deficiencies are detected in the type design or the conduct of the EDTO operation, then the competent authority should:

(i) initiate a special evaluation,

(ii) impose operational restrictions if necessary, and

(iii) stipulate corrective action(s) for the operator to take to resolve the problems in a timely manner.

The competent authority should alert the certifying authority when a special evaluation is initiated and make provisions for their participation.

(b) Continuity of the EDTO operational approval

If an operator ceases actual EDTO operations for a period exceeding 12 months, the competent authority should assess again the operator's compliance with the EDTO requirements before the operator resumes its EDTO operations.

If the operator maintains simulated EDTO processes, procedures and training as prescribed in its approved procedures, the competent authority may not need to re-assess compliance with the EDTO requirements.

Rationale

The change has been introduced to introduce a specific AMC detailing the EDTO operational approval process to be followed from a competent authority perspective.

In addition, based on comments received and accepted, aeroplanes with more than two engines were added into the scope of EDTO .

GM1 ARO.OPS.300 Introductory Flights

ADDITIONAL CONDITIONS

For introductory flights carried out in the territory of a~~the~~ Member State, the competent authority may establish additional conditions such as defined area of the operations, time period during which such operations are to be conducted, safety risk assessments to be accomplished, aircraft to be used, specific operating procedures, notification requirements, maximum distance flown, pilot qualification, maximum number of passengers on board, and further restrictions on the maximum take-off mass.

Rationale

This is an editorial change with no impact to the scope of the rule. The change to the headers of AMC1 ARO.OPS.300 and GM1 ARO.OPS.300, proposed in NPA 2022-11, was withdrawn, following the comments received.

Subpart RAMP

AMC1 ARO.RAMP.100(b) General

SUSPECTED AIRCRAFT

In determining whether an aircraft and/or its operation are/is suspected of not being compliant with the applicable requirements, the following should be taken into account:

[...]

(e) lists, referred to in point ARO.RAMP.106, indicating that the operator or the State of operator has been prioritised for alcohol testing;

(~~e~~f) [...]

(~~f~~g) [...]

(g~~h~~) [...]

(~~h~~i) [...]

Rationale:

This proposed amendment is designed to add the prioritisation list for alcohol testing in the list of criteria to be taken into account to determine whether an aircraft and/or its operation are/is suspected of not being compliant with the applicable requirements.

AMC1 ARO.RAMP.100(c) General

ANNUAL RAMP INSPECTION PROGRAMME

[...]

(c) For layer 1 operators, the annual ramp inspection programme should meet the target numbers of inspections as assigned by the Agency for the Member States' territories in the ICAO EUR region.

[...]

(d) For layer 2 operators, the total planned number of inspections as defined in the annual ramp inspection programme should not be less than the layer 2 operators target assigned by the Agency for the Member State's territories in ICAO EUR region.

[...]

(g) The competent authority should ensure that layer 2 operators, including unforeseen ones which cannot be a part of the established annual programme, receive inspections proportionate to the traffic pattern in the State. The following priority criteria should be considered before deciding to inspect the aircraft:

(1) prioritised ramp inspections as per point ARO.RAMP.105(a);

(2) prioritised alcohol tests as per point ARO.RAMP.106(b);

(~~2~~3) aircraft suspected of not being compliant with the applicable requirements; and

(~~3~~4) inspection of an operator which was not inspected in accordance with Subpart ARO.RAMP in any State in the previous 12 months;

[...]

Rationale:

This proposed amendment is designed to add the prioritisation list for alcohol testing in the list of criteria to be taken into account before deciding to inspect the aircraft of a layer 2 operator.

AMC1 ARO.RAMP.110 Collection of information

COLLECTION OF INFORMATION

The information should include:

(a) [...]

(b) information on action(s) taken following~~subsequent to~~ a ramp inspection, such as:

[...]

(3) correction(s) and corrective action(s) required;

[...]

(c) follow-up information concerning the operator, such as:

(1) implementation of correction(s) and corrective action(s); and

[...]

Rationale:

This proposed amendment is designed to ensure the consistent use of the terms 'correction' and 'corrective action' throughout Regulation (EU) No 965/2012 and its AMC and GM.

AMC1 ARO.RAMP.115(a)(b) Qualification of ramp inspectors

ELIGIBILITY CRITERIA

(a) The candidate should be considered eligible to become a ramp inspector provided they~~he/she~~ meet~~s~~ the following criteria:

[…]

[...]

Rationale:

This proposed amendment was initially proposed in NPA 2022-11 and was designed to introduce a specific eligibility criterion for candidate ramp inspectors who will be qualified only for alcohol testing. Nevertheless, the new text was withdrawn after assessing one comment as this requisite is already included in ARO.RAMP.115.

AMC4 ARO.RAMP.115(a)(b) Qualification of ramp inspectors

ON-THE-JOB TRAINING

[...]

(h) Certain OJT items may be replaced by alternative training using representative examples when no operational environment is required ~~(e.g. documents, dangerous goods)~~ (e.g.: documents, dangerous goods).

Rationale:

This AMC will revert to its original text.

AMC5 ARO.RAMP.115(a)(b) Qualification of ramp inspectors

EXTENSION OF THE RAMP INSPECTOR PRIVILEGES

(a) The competent authority may extend the privileges of a ramp inspector provided that the following conditions are met:

(1) the relevant knowledge of the ramp inspector has been satisfactorily complemented by additional theoretical and/or practical training relevant to the ~~scope of the extension~~ new privileges; and

(2) [...]

(b) [...]

(c) Certain OJT items may be replaced by alternative training using representative examples when no operational environment is required ~~(e.g. document inspections, dangerous goods)~~ (e.g.: documents, dangerous goods).

Rationale:

This amendment is designed to clarify the scope of the additional theoretical and/or practical training delivered when extending the privileges of an inspector.

The subparagraph (c) will not be modified. It will revert to its original text.

AMC6 ARO.RAMP.115(a)(b) Qualification of ramp inspectors

RECENT EXPERIENCE AND REQUALIFICATION

(a) The minimum number of inspections to be performed by a ramp inspector to meet the recent experience requirement should be 12 per calendar year.

[...]

(g) In order to maintain their authorization for conducting alcohol tests on flight and cabin crew members, the ramp inspector should perform a minimum of 2 alcohol tests per calendar year.

(h) If the ramp inspector fails to maintain the validity of his authorization for conducting such tests, they should undergo a refreshment training in the area of alcohol testing, covering the applicable legal requirements, procedures, as well as the use of the testing device. Such training should be provided by or under the responsibility of the competent authority of the inspector.

(i) If the validity of the authorization for conducting alcohol tests is not re-established during the next calendar year, the ramp inspector should undergo the initial theoretical and practical training in the area of alcohol testing.

Rationale:

This amendment is designed to define the recency and re-qualification requirements applicable to ramp inspectors authorised to conduct alcohol tests. The text was further amended to address comments to the NPA 2022-11. The commenters mentioned there should not be Ramp Inspectors qualified only to perform alcohol testing (AT). Therefore, only ramp inspectors that are qualified for technical inspection of the aircraft may also be qualified to perform AT. As a consequence, a ramp inspector may have 2 qualifications: one for technical, the other one for AT.

AMC1 ARO.RAMP.120(a)(4) Approval of training organisations

TRAINING INSTRUCTORS

[...]

(c) Notwithstanding point (a), for the delivery of the theoretical and practical training on ~~D~~dangerous ~~G~~goods, the competent authority may accept instructors who are certified in accordance with the latest effective edition of the Technical Instructions for the ~~latest effective edition of the~~ Safe Transport of Dangerous Goods by Air (ICAO Doc 9284~~-AN/905~~), provided that they possess adequate English language communication skills.

AMC2 ARO.RAMP.120(a) Approval of training organisations

OVERSIGHT OF APPROVED RAMP INSPECTION TRAINING ORGANISATIONS

[...]

(b) An oversight cycle not exceeding 24 months should be applied. The oversight planning cycle may be extended to a maximum of 48 months if the competent authority has established that during the previous 24 months:

(1) all corrections and corrective actions have been implemented within the time period accepted or extended by the competent authority; and

[...]

Rationale:

This amendment is proposed to ensure the consistent use of the terms 'correction' and 'corrective action' throughout Regulation (EU) No 965/2012 and its AMC and GM.

AMC1 ARO.RAMP.125(c) Conduct of ramp inspections

PROOF OF INSPECTION

(a) [...]

(2) When handing over the POI to the pilot-in-command/commander or the operator's representative, the inspector should ask them~~him/her~~ to sign the POI whilst explaining that the signature does in no way imply acceptance of the listed findings.

[...]

AMC1 ARO.RAMP.135(a) Follow-up actions on findings

FOLLOW-UP ACTIONS FOR CATEGORY 2 OR CATEGORY 3 FINDINGS

(a) Exceptionally, where multiple category 2 findings have been raised and the accumulation of these findings or their interaction justifies correction(s) ~~corrective action~~ before the flight takes place, the class of action may be increased to the actions foreseen by point ARO.RAMP.135(b).

(b) When communicating findings to the operator, the inspecting authority should:

(1) [...]

(2) request evidence of the corrections and corrective actions taken, or alternatively the submission of a corrective action plan followed by evidence that planned corrections and corrective actions have been taken;

[...]

Rationale:

This amendment is proposed to ensure the consistent use of the terms 'correction' and 'corrective action' throughout Regulation (EU) No 965/2012 and its AMC and GM.

AMC1 ARO.RAMP.135(b) Follow-up actions on findings

CLASSES OF ACTIONS FOR CATEGORY 3 FINDINGS

[...]

(d) Whenever the operator is required to implement corrections ~~take corrective actions~~ before departure (Class 3b action), inspectors should verify that the operator has taken such actions. Depending on the circumstances, this verification may take place after the departure.

(c) Whenever a category 3 finding is raised, the aircraft should be grounded ~~only~~ (Class 3c action) only if the crew refuses to implement ~~take~~ the necessary corrections ~~corrective actions~~ or to respect imposed restrictions on the aircraft flight operation. However, grounding might be appropriate if an operator refuses to grant access in accordance with point ORO.GEN.140 (in case of an EU operator) or contrary to Regulation (EU) No 452/2014 (in case of a third-country operator). The inspecting authority should then ensure that the aircraft will not depart for as long as the reasons for the grounding remain. Any records of communication undertaken pursuant to point ARO.RAMP.140(b), as well as other evidence~~s~~, should be collected and kept as evidential material.

(d) If inspectors have imposed any restrictions and/or corrections~~corrective actions~~, these should be mentioned in the ramp inspection report.

Rationale:

This amendment is proposed to ensure the consistent use of the terms 'correction' and 'corrective action' throughout Regulation (EU) No 965/2012 and its AMC and GM.

1.1.4. Annex III (Part-ORO)

Subpart GEN

AMC1 ORO.GEN.110(c) Operator responsibilities

OPERATIONAL CONTROL

The organisation and methods established to exercise operational control should ~~be included in the operations manual and should~~ cover the following:

(a) ~~at least a~~identification and description of the functions, duties, responsibilities and authority concerning the initiation, continuation, and termination or diversion of each flight in the interest of safety; refer to AMC1 ORO.OCP.110 and AMC1 ORO.OCP.115;

(b) the procedures for flight preparation and execution of operational control. Flight preparation includes flight planning as a safety-critical step that is essential for the safe execution of operational control; the two steps should be addressed together;

(c) the training and qualifications of the individuals involved.

Rationale:

This AMC and the following GMs to ORO.GEN.110(c) have been further changed and more text has been added to address the comments on NPA 2023-01. The purpose is to clarify the exercise of operational control and the duties and responsibilities with any associated authority in operational control decision-making of the operations control personnel that the operator may use.

The defined operational control tasks will be used by the operator to set up the training programme for the operations control personnel with the most adequate role-specific targets of competence or proficiency, establish achievable training target descriptions, and develop realistic and adequate exercises.

GM1 ORO.GEN.110(c) Operator responsibilities

OPERATIONAL CONTROL – PROCESSES AND PROCEDURES

The operational control system includes the following elements, as applicable to the type and complexity of operation:

(a) an organogram of the operator, with the identification of the following:

(1) the line of safety accountability within the organisation, including the functions and levels of management to which responsibilities are delegated, with the authority to take decisions regarding the initiation, continuation, diversion or termination of a flight in the interest of safety;

(2) the specialised, non-managerial functions with their associated tasks and responsibilities, and with or without delegated authority to take decisions in operational control; and

(3) the different administrative or support of functions of operations control personnel with no authority to take decisions in the exercise of operational control;

Depending on the method of operational control applied by the operator and the additional use of operations control personnel, the operator can delegate the authority to decide whether a flight should be initiated, for safety reasons, to flight dispatchers, the flight operations manager, the chief operations officer, or a similar function. It is important that such authority is clearly defined in the operations manual.

It should also be understood that regardless of the chosen method of operational control by the operator, the ultimate authority and responsibility for operational control during the flight remains with the commander/pilot-in-command, in accordance with CAT.GEN.MPA.105 points (a)(2) and (a)(3), and respectively NCC.GEN.106(a)(2) and SPO.GEN.107(a)(2);

(b) a description of how the safety of flight operations and the training and qualification of personnel involved in all flight operations, including the flight crew, are monitored;

(c) a reference or link to the operator's document-and-record-keeping system, with focus on the flight documents, safety-related data, and training records of operations control personnel;

(d) a process for the dissemination of additional operational instructions and information which is supplementary to that in the operations manual, including the responsibilities for the dissemination of such information and instructions;(e) processes and procedures for flight preparation and the exercise of operational control, including the associated tasks to cover:

(1) operational risk assessment;

(2) operational data evaluation and distribution;

(3) resource allocation and control;

(4) problem solving and decision making;

(5) distribution, as applicable, of operational control decisions and information to all stakeholders involved, such as ground handling, CAMO, maintenance, repair and overhaul (MRO), ATC, flight operations, aircrew members, etc.;

(6) provision of safety-relevant information and advice to the commander/pilot-in-command before and during the flight;

(7) communication system used. The operator's communication system that is used for implementing the operational control refers to and should cover the following elements:

(i) facilities,

(ii) procedures,

(iii) NOTAMs,

(iv) emergency communication procedures,

(v) communication between OCC and appropriate ATS unit,

(vi) voice communication between the flight dispatcher and the commander,

(vii) air-ground communications and point-to-point circuits for flight safety messages,

(viii) proper authority and qualification of the flight dispatcher to use all communications channels required by the operator's method of control and supervision of flight operations,

(ix) proper receiving of messages both in the aircraft and at the operations control centre or en-route stations,

(x) adequate facilities to communicate weather information to en-route stations and to aircraft;

(8) the operational flight plan and the flight plan to be filed to the unit designated by the appropriate ATS authority;

(9) as applicable, flight following, flight monitoring and flight watch.

Rationale:

This new GM explains what the operator is expected to develop and implement to demonstrate how it executes operational control and what elements have to be considered to ensure control and supervision of flight operations. This information should also be useful to support the operator to better prepare for the oversight by competent authorities. The text is based on ICAO Doc 10153 Guidance on the Preparation of an Operations Manual, Ch. 3, Ch. 6, and ICAO Doc 8335 Manual of Procedures for Operations Inspection, Certification and Continued Surveillance, Part III Ch 5, section 5.4.4.2 (b).

The operational control system is a safety-critical component of an operator's activity, often reaching a very high level of complexity due to several hierarchical levels involved in the decision making, different layers of responsibility and authority, new technologies, multiple operational roles, and an increasing amount of data and information that have to be processed under time pressure. Such a system requires a clear identification of its components, processes and procedures, and needs to properly cover the required training of operations control personnel.

Operators already include these elements in the operations manual, dispersed in various places and mostly in Chapter 2 of OM-A. The intent of this GM is to clarify the following:

1. *The components of the operational control system need to be identified in the rules (what operational control is, what it is not). This is roughly captured in the list of section 2 of the operator's OM-A. This information is dispersed in various ICAO Docs (Doc. 8335, Doc 10153, and some elements in Doc 10106). A clear identification of the operational control system is crucial to define the tasks, responsibilities and authority of FDs and other qualified operations control personnel, and consequently their training.*

2. *The control and supervision of flight operations may involve other levels of management as well, that are hierarchically above the FD function: flight operations director, OCC manager, possibly other chief pilot functions, chief operations officer, etc.*

For operators, this new GM should enable a holistic approach towards all the aspects of its operational control. For competent authorities, it should provide in an orderly and unequivocal view the elements of control and supervision of flight operations that need to be verified during oversight.

GM2 ORO.GEN.110(c) Operator responsibilities

AUTHORITY AND RESPONSIBILITY IN OPERATIONAL CONTROL

Flight cancellations, re-routings and re-allocation of resources (aircraft, aircrew) for a specific flight take place for commercial/marketing or safety reasons. When such decisions are taken due to safety reasons, all implications over the safe execution of operational control of the affected flights are assessed.

Most flight cancellations, reroutings and reallocation of resources are executed without flight crews on duty, also during the day of operation. Often this decision is not taken by the commander/pilot-in-command of that flight. That is why it is important that the operator properly identifies in its operations manual the individual responsibilities and delegation of authority to specific functions and individuals and communicates them throughout the organisation. it is also important for the operator to distinguish between operational control decisions taken due to commercial/marketing reasons or safety reasons.

(a) The term 'authority' means delegated power to command or direct, to make specific decisions, to grant permission and/or provide approval, or to control or modify a process.

(b) 'Responsibility' means an obligation to perform an assigned duty, task or action. An assignment of responsibility usually requires the delegation of an appropriate level of authority.

(c) All operations control personnel are responsible to perform their duties and tasks in accordance with the standards specified in the operations manual. However, not all of them have authority to take decisions regarding operational control.

Rationale:

New GM is added to distinguish between authority and responsibility and to clarify that some decisions related to operational control are not related to safety. The content of this GM is based on the IOSA Standards Manual, Section 3.

GM3~~1~~ ORO.GEN.110(c) Operator responsibilities

OPERATIONS~~AL~~ CONTROL PERSONNEL

(a) Point ORO.GEN.110(c) does not imply a requirement for licensed flight operations officers or ~~/~~flight dispatchers or other operations control personnel. Furthermore, it is not mandatory to use operations control personnel, as this depends on the method of operational control chosen by the operator. Operational control tasks may be performed only by the flight crew members, particularly in certain helicopter operations or in operations with other-than complex motor-powered aeroplanes. The use of operations control personnel depends very much on the size of the organisation, the type and complexity of operations and the complexity of the safety risk assessment of the flight.

~~(b) If the operator uses flight operations officers (FOOs)/flight dispatchers (FDs) in conjunction with a method of operational control, training for that personnel should be based on relevant parts of ICAO Annex 1 and ICAO Documents 10106 and 9868. This training should be described in the OM.~~

(b) The functions of operations control personnel are listed in GM1 ORO.OCP.100. The associated tasks and responsibilities, as well as the training requirements for operations control personnel are detailed in Subpart ORO.OCP.

(c) Guidance on the operational control method and the roles of the personnel is provided in ICAO Doc 8335 *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance*.

(d) Guidance on the authorisation, duties and responsibilities of the operations control personnel is provided in ICAO Doc 10153, *Guidance on the Preparation of an Operations Manual*.

Rationale

The additional text in point (a) refers to various other jobs or roles that may exist in conjunction with the operational control system. Existing point (b) has been deleted as the new training requirements in Subpart ORO.OCP clarify and provide details on the different types of training for flight dispatchers and for other operations control personnel.

~~AMC1 ORO.GEN.110(c)&(e) Operator responsibilities~~

~~**PERSONNEL RESPONSIBILITIES — OPERATIONAL CONTROL PERSONNEL THAT PERFORMS TASKS RELATED TO FLIGHT MONITORING AND FLIGHT WATCH — TRAINING PROGRAMME**~~

~~(a) When a CAT operator uses flight monitoring or flight watch as functions of a system for exercising operational control, FOOs/FDs should perform those functions.~~

~~(b) The CAT operator should develop a training programme, based on the relevant parts of ICAO Annex 1, ICAO Documents 10106 and 9868, for FOOs/FDs that perform those functions.~~

~~(c) The training programme specified above should be detailed in the OM of the CAT operator and should be delivered by an instructor for operational control personnel.~~

INITIAL TRAINING

(d) The initial training should include, where relevant to the intended operation, the following elements that should be tailored to the specific duties assigned to each person:

(1) air law:

rules and regulations relevant to the task assignment, appropriate ATS practices and procedures;

(2) aircraft general knowledge:

(A) principles of operation of aeroplane engines/systems/instruments;

(B) operating limitations of aeroplanes and engines; and

(C) MEL and configuration deviation list (CDL);

(3) flight performance calculation, planning procedures, and loading:

(A) effects of loading and mass distribution on aircraft performance and flight characteristics; mass and balance calculations;

(B) operational flight planning; fuel consumption and endurance calculations; alternate aerodrome selection procedures; en route cruising control; extended-range operation;

(C) preparation and filing of ATS flight plans; and

(D) basic principles of computer-assisted planning systems;

(4) human performance:

human performance related to operational control duties, including principles of threat and error management (TEM); guidance material on how to design training programmes on human performance, including on TEM, is provided in ICAO Doc 9683 Human Factors Training Manual;

(5) meteorology:

(A) aeronautical meteorology; movement of pressure systems; structure of fronts; origin and characteristics of significant weather phenomena that affect take-off, en route, and landing conditions;

(B) interpretation and application of aeronautical meteorological reports, charts, and forecasts; codes and abbreviations; use of, and procedures for, obtaining, meteorological information;

(C) effects of meteorological conditions on aircraft operation and on radio reception in the aircraft that is used by the operator; and

(D) all-weather operations;

(6) navigation:

(A) principles of air navigation with particular reference to IFR; and

(B) navigation and radio equipment in the aircraft that is used by the operator;

(7) operational procedures:

(A) use of aeronautical documentation and SOPs;

(B) procedures for operations beyond 60 minutes from an adequate aerodrome, including, if applicable, extended-diversion-time operations (EDTOs);

(C) operational procedures for the carriage of cargo and dangerous goods;

(D) de-icing/anti-icing;

(E) procedures related to aircraft accidents and incidents; emergency flight procedures; and

(F) security procedures related to unlawful interference and sabotage of aircraft;

(8) principles of flight:

principles of flight related to the appropriate category of aircraft;

(9) radio communications:

procedures for communicating with other aircraft and ground stations; and

(10) special aerodromes.

OPERATOR-SPECIFIC TRAINING

(e) In addition to the initial training, FOOs/FDs should receive training in the specific duties, responsibilities, and tools that are associated with the operational control system of the operator.

RECURRENT TRAINING

(f) When the recurrent training is conducted within the last 12 months of the 36-month validity period, the next 36-month validity period should be calculated from the original expiry date of the previous assessment.

(g) Notwithstanding the 36-month interval of point (f), recurrent training may also be performed at shorter intervals and adjusted to the needs identified after an assessment of the training needs conducted by the operator.

KNOWLEDGE, SKILLS, AND QUALIFICATIONS FOR INSTRUCTORS OF OPERATIONAL CONTROL PERSONNEL

(h) Unless otherwise required by the relevant national regulations, instructors for operational control personnel should:

(1) be able to prove that they are current in the subjects covered by the training programme for FOOs/FDs, including the operator-specific elements, or otherwise successfully complete an FOO/FD training programme;

(2) have adequate instructional skills or attend instructor training; if more than 24 months passed since the delivery of the last FOO/FD course, they should attend recurrent instructor training before delivering the next course; and

(3) have relevant work experience in the areas of the training that they provide.

~~(h) The CAT operator should include in the OM the required knowledge, skills, and qualifications of the instructors for operational control personnel.~~

Rationale

This AMC has been moved to the new AMC1 ORO.OCP.120(c)(3);(d), under the newly created Subpart ORO.OCP, which contains all the training requirements for operations control personnel. It has been redrafted to fit in the new structure and updated in line with the proposed amendments to the SARPs on FOO and FD training in ICAO Annex 1.

AMC1 ORO.GEN.110(e) Operator responsibilities

MEL TRAINING PROGRAMME

(a) In order to ensure compliance with points ORO.GEN.110(e) and ORO.GEN.200(a)(4), ~~T~~the operator should develop a training programme for ground personnel dealing with the use of the MEL and detail such training in the continuing airworthiness maintenance exposition (CAME) and the operations manual (OM) as appropriate. Such training programme should include:

[...]

Rationale:

This amendment ensures that this AMC is applied in the context of the operator's management system, namely the requirement that the operator must ensure its personnel are trained and remain competent to perform their tasks.

AMC2~~1~~ ORO.GEN.110(e~~a~~) Operator responsibilities

SECURITY TRAINING PROGRAMME FOR CREW MEMBERS — CAT OPERATIONS

Without prejudice to Regulation (EC) No 300/2008, and to ensure compliance with points ORO.GEN.110(e) and ORO.GEN.200(a)(4), the CAT operator should establish and maintain a security training programme for crew members, including theoretical and practical elements.

[...]

AMC3~~2~~ ORO.GEN.110(e~~a~~) Operator responsibilities

SECURITY TRAINING PROGRAMME FOR THE OPERATOR'S GROUND HANDLING PERSONNEL — CAT OPERATIONS

In accordance with Regulation (EC) No 300/2008, and to ensure compliance with points ORO.GEN.110(e) and ORO.GEN.200(a)(4), the CAT operator should establish and maintain a security training programme for its ground handling personnel ~~to acquaint appropriate employees~~ to include, as applicable, ~~with~~ preventive measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies intended for carriage so that they contribute to the prevention of acts of sabotage or other forms of unlawful interference.

Rationale:

The text has been improved following the comments received, to clarify that 'ground personnel' refers to the ground handling personnel of the operator.

GM21 ORO.GEN.110(ea) Operator responsibilities

SECURITY TRAINING PROGRAMME FOR CREW MEMBERS

[...]

~~GM2 ORO.GEN.110(e) Operator responsibilities~~

~~**AERODROME SERVICES**~~

~~Aerodrome services refer to units available at an aerodrome that could be of assistance in responding to an urgent need or an emergency, such as rescue and firefighting services, medical and ambulance services, air traffic services, security services, police, aerodrome operations, air operators.~~

Rationale:

This GM is deleted. It is no longer necessary because the content of the relevant AMC (i.e. AMC2 ORO.GEN.110(e)) is clarified.

~~GM2 ORO.GEN.110(f) Operator responsibilities~~

~~**ELEMENTS OF THE BRIEFING OF FLIGHT OPERATIONS OFFICERS/FLIGHT DISPATCHERS BEFORE ASSUMING DUTIES**~~

~~Before commencing shift, the flight operations officer (FOO)/flight dispatcher (FD) should be briefed on the relevant safety information such as:~~

~~(a) weather charts;~~

~~(b) weather reports;~~

~~(c) NOTAM;~~

~~(d) operational restrictions in force;~~

~~(e) flights in the air and flights for which operational flight plans have been issued but which have not yet started and for which the FOO/FD will be responsible;~~

~~(f) the forecast flight schedule; and~~

~~(f) other relevant safety information as listed in GM 28 Annex I Definitions.~~

Rationale:

This GM is deleted and its content moved to AMC1 ORO.OCP.105(c).

AMC3~~2~~ ORO.GEN.110(f)~~(e)~~ Operator responsibilities

GROUND OPERATIONS WITH PASSENGERS BOARDING, ON BOARD OR DISEMBARKING IN THE ABSENCE OF FLIGHT CREW

For ground operations, whenever passengers board, disembark, or~~are embarking,~~ are on board ~~or disembarking~~ in the absence of flight crew members, the operator should:

(a) establish procedures to alert the aerodrome operator ~~services~~ in the event of ground emergency or urgent need; and

(b) ensure that at least one person on board the aircraft is qualified to apply these procedures and ensure proper coordination between the aircraft and the ground handling organisation responsible for aircraft turnaround coordination ~~serviceste~~.

Rationale:

The numbering of this AMC is amended as its content is related to point (f) of the rule which is related to the instructions and procedures rather than training. Its subtitle is also amended to better reflect the content of the introductory sentence.

The terminology is updated and in line with Regulation (EU) No 139/2014 (by replacing 'aerodrome services' with 'aerodrome operator') and with the aerodrome operator's emergency response plan. In point (b) the text is aligned with the ground handling requirements and the responsibility of the turnaround coordination function provided by the ground handling organisation.

~~AMC2 ORO.GEN.110(f) Operator responsibilities~~

~~**INSTRUCTIONS ABOUT DUTIES AND RESPONSIBILITIES OF PERSONNEL — BRIEFING OF FLIGHT OPERATIONS OFFICERS/FLIGHT DISPATCHERS BEFORE ASSUMING DUTIES**~~

~~In the context of an ongoing flight following, flight monitoring, or flight watch activity, an FOO/FD, before assuming duties, should be briefed on the elements related to the safety of the operations the FOO/FD will be performing as part of the operational control.~~

Rationale:

This AMC is deleted and its content moved under the new AMC1 ORO.OCP.105(c) 'Assignment to duty | Briefing of operations control personnel before assuming duties'.

GM1 ORO.GEN.110(j) Operator responsibilities

DANGEROUS GOODS TRAINING PROGRAMME

(a) The dangerous goods training programme is a means to ensure that the personnel acquire and apply knowledge, skills and attitudes to perform their function competently.

(b) It includes the following elements:

(1) the result from the training needs analysis,

(2) the training plan,

(3) the assessment plan,

(4) the evaluation measures.

Rationale:

This new GM is proposed to support the operator's DGs training programme to achieve its purpose of preparing competent personnel to perform their functions, in line with a competency-based training and assessment process.

GM2 ORO.GEN.110(j) Operator responsibilities

APPROVAL OF THE DANGEROUS GOODS TRAINING PROGRAMME — OPERATIONS PERSONNEL

The approval of the dangerous goods training programme is required for operations personnel only, according to the ICAO Technical Instructions.

The term 'operations personnel' comprises the following (non-exhaustive list):

(a) Personnel performing functions during flight:

(1) flight crew,

(2) cabin crew,

(3) technical crew,

(4) task specialist (for SPO).

Note: In point (a), 'during flight' also includes the time interval when the aircraft is on the ground, with all the doors closed and engines running, either before departure or after landing, between the runway and the parking stand.

(b) Personnel performing the following functions:

(1) passenger and baggage acceptance;

(2) cargo acceptance (dangerous goods and general cargo);

(3) various functions of operations control personnel, related to the operational control system (e.g. flight operations officers (FOOs), flight dispatchers (FDs), load planners, etc.);

(4) handling of passengers, baggage and cargo (dangerous goods and general cargo);

(5) operational point of contact for dangerous goods as required by ICAO Annex 6 Part I and Appendix 6 to Annex 6 Part I;

(6) if applicable, dangerous goods manager and other personnel with managing responsibilities.

Rationale:

A new GM is proposed to point ORO.GEN.110(j) to clarify the term 'operations personnel' for the purpose of dangerous goods training.

The legal requirement for the approval of the dangerous goods training for operations personnel is in point ORO.GEN.110(j). This is a transposition of the ICAO Technical Instructions and Annex 6 SARPs. Furthermore, AMC3 ORO.MLR.100 'Contents of the operations manual for CAT operations', and in particular OM-D (Training) point 2.4 specifies that OM-D should detail the content of the training syllabi and checking programme for the operations personnel. However, the understanding of 'operations personnel' may differ among air operators and competent authorities; therefore, the clarification of this term was considered necessary.

In point (b)(3), the term 'operations control personnel' has been used in order to align it with the rest of the proposed amendments included in NPA(C) of RMT.0392 regarding this category of personnel. According to ICAO Doc 9868 'Procedures For Air Navigation Services — Training' and Doc 10106 'Manual on Flight Operations Officers/Flight Dispatchers Competency-based Training and Assessment', which provide a competency framework and a detailed competency-based training and assessment programme for this category of personnel, there is a clear distinction between a flight operations officer (FOO) qualification (considered to be a basic qualification for generic operational control tasks) and other, more advanced qualifications, associated to various functions associated to a system of operational control of an air operator. One of these advanced qualifications is a flight dispatcher (FD) qualification; other qualifications are required for various roles such as operations (and network) controller, operational data manager, operational engineer, performance engineer, etc.

Considering the ICAO documents mentioned above in support of Annex 1 and 6 (Parts I and III), EASA proposes a full set of amendments to Regulation (EU) No 965/2012 related to this category of personnel. It will include a clarification of the terms 'FOO', 'FD' and other operational control roles, a new definition of the more generic term 'operations control personnel' to replace the more restrictive one that exists today covering only FOO/FD, as well as distinct training requirements for the FOO qualification and the advanced qualifications for the various roles involved in the operational control system of an air operator. As side note, this difference in the terms and the definition of FOO/FD currently existing in ICAO Annex 6 will be proposed to be discussed also at ICAO level.

A comment on this new GM has been rejected as it was contradicting the requirement of ORO.GEN.110(j), which makes the approval of the dangerous goods training programme mandatory also for NCC operators, regardless of whether they transport dangerous goods or not.

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

GENERAL

[...]

~~(c) Changes requiring prior approval may only be implemented upon receipt of formal approval by the competent authority.~~

Rationale:

Point (c) is proposed to be deleted because the same content is included in point (b) of point ORO.GEN.130. A comment on this change has been rejected because this stems from standardisation activities, which indicated that operators either did not conduct a management of change for a requested approval or it was conducted inadequately, and this had not been verified by their competent authority, who did not request and therefore assess the related management of change.

AMC1 ORO.GEN.130(b) Changes related to an AOC holder

MANAGEMENT OF CHANGES REQUIRING PRIOR APPROVAL

For changes requiring prior approval, the operator~~s~~ should conduct a safety risk assessment and submit ~~provide~~ it to the competent authority ~~upon request~~.

Rationale:

This amendment stems from standardisation inspections. Point ARO.GEN.330(a) mentions the verification of the operator's compliance with the applicable requirements when it submits a change for prior approval. In particular, the competent authority should assess the proper implementation of the management of change process (mentioned in AMC1 ORO.GEN.200(a)(1);(2);(3);(5) and in AMC1 ORO.GEN.200(a)(3)) for each change requiring prior approval, as part of the verification of compliance in accordance with point ARO.GEN.330(a).

However, this AMC states that the operator should submit its safety risk assessment of a change requiring prior approval 'upon request' — which implies it is not done systematically. This is why 'upon request' is proposed to be removed and AMC1 ARO.GEN.330 is proposed to be amended accordingly.

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

CHANGES REQUIRING PRIOR APPROVAL

The following GM is a non-exhaustive checklist of items that require prior approval from the competent authority as specified in the applicable Implementing Rules:

[...]

(r) maximum distance from an adequate aerodrome ~~for two-engined aeroplanes~~ without an extended diversion time ~~range~~ operations (EDTO) approval for ~~with~~ two-engined aeroplanes ~~(ETOPS) approval~~:

(1) air operations with two-engined performance class A aeroplanes with a maximum operational passenger seating configuration (MOPSC) of 19 or less ~~and a maximum take-off mass less than 45 360 kg,~~ over a route that contains a point further than 120 minutes not more than 180 minutes from an adequate aerodrome, under standard conditions in still air;

[...]

Rationale:

The change has been introduced to replace the term 'ETOPS' by EDTO and to correct the scope of items requiring prior approval in the case of EDTO without an EDTO operational approval.

AMC1 ORO.GEN.150(b) Findings and corrective actions

GENERAL

The corrective action plan defined by the operator should address the effects of the non-compliance, as well as its root cause(s) and contributing factors(s), if applicable.

In the case of level 2 findings, the operator should submit a root-cause and a corrective action plan to the competent authority within a specified period of time. This period should be shorter than the corrective action implementation period in order to provide sufficient time for the competent authority to agree on the submitted corrective action plan and for the operator to implement it before the end of the implementation period.

Rationale:

This AMC is proposed to be amended so that it is better aligned with the implementing rule and also with the amendments to Part-ARO (AMC1 ARO.GEN.350(d)). See the rationale to AMC1 ARO.GEN.350(d) for further clarification.

The text was further improved following the comments received on NPA 2022-11. Other comments suggested further changes to this text, but they have not been accepted for the time being, as they would have required additional consultation.

It is proposed to establish a 2-year transition period for the implementation of this AMC, to provide sufficient time to operators to adapt their internal procedures.

GM1 ORO.GEN.150 Findings and corrective actions

CAUSAL ANALYSIS

(a) It is important that the causal analysis do not primarily focus on establishing who or what caused the non-compliance, but why it was caused. Establishing the root cause(s) of a non-compliance often requires an overarching view of the events and circumstances that led to it, to identify all the possible systemic and contributing factors (regulatory, human factors, organisational factors, technical, operational, etc.) in addition to the direct factors.

(b) A narrow focus on single events or failures, or the use of a simple, linear model, such as a fault tree, to identify the chain of events that led to the non-compliance may not properly reflect the complexity of the issue. Such an approach might lead to ignoring or overlooking important factors that must be addressed to prevent a reoccurrence.

An inappropriate or partial causal analysis often leads to defining 'quick fixes' that only address the symptoms of the non-conformity. A peer review of the results of the causal analysis may increase its reliability and objectivity.

(c) A system description of the organisation that considers the organisational structures, processes and their interfaces, procedures, staff, equipment, facilities, and the environment in which the organisation operates will support both effective causal (reactive) and hazard (proactive) analyses.

Rationale:

Although the three terms in the current GM are used in other annexes (e.g. in Subpart ARO.RAMP) at implementing rule and AMC level, their consistent use should be ensured. Therefore, its alignment will be considered at the EASA simplification project. In the meantime the current definitionsa are presented as guidance and could be serve a reference for other Parts, such as RAMP.

The proposed new text of GM1 is aligned with GM1 CAMO.A.150. It is considered useful for operators in understanding why it matters to focus on 'why' instead of 'what/who' when performing the root-cause analysis of a non-compliance.

A new point (d) is added after receiving a MAB comment to ensure the corrections are implemented as soon as possible.

AMC1 ORO.GEN.160 Occurrence reporting

GENERAL

(a) The operator should report all occurrences defined in AMC 20-8A, and as required by ~~the applicable national rules implementing~~ Regulation (EU) No 376/2014 on occurrence reporting in civil aviation.

(b) ~~In addition to the reports required by AMC 20-8 and Regulation (EU) No 376/2014, the operator should report volcanic ash clouds encountered during flight~~.

Rationale:

A comment received for NPA 2024-02 proposed remove from the text the sentence "the applicable national rules implementing". This is because Regulation (EU) 376/2014 is directly applicable to all Member States, it does not need to be transposed into national rules. The text was updated accordingly.

Regarding point (b) a commenter proposed to delete it to avoid duplications with Regulation (EU) 2015/2018, as this is one of the occurrences to be reported mandatory.

AMC1 ORO.GEN.160(c);(e) Occurrence reporting

OCCURRENCES OR EVENTS INVOLVING HUMAN INTERVENTION

(a) The in-depth analysis of occurrences or events involving human interventions (see definition in ORO.GEN.160(b) and ORO.GEN.160(c)) requires to be fully knowledgeable of the design and certification assumptions made about the expected flight crew behaviour when approving the aircraft, so that deviations from these assumptions in the context of operation are identified. Since it is not expected that operators own this knowledge, the responsibility of such analysis therefore lies with the organisation responsible for the design of the aircraft (i.e. the design approval holder, hereafter DAH). However, the efficiency of the continuing airworthiness system implies that the DAH is made aware by operators in a systematic and comprehensive way of occurrences or events which, following DAH analysis, may reveal shortcomings related to flight deck design, operating procedures, training, or a combination of those.

(b) As part of the mandatory occurrence reporting scheme, ORO.GEN.160(b) requires also reporting safety-related occurrences involving only human intervention, even without failure, malfunction or defect of the aircraft or its engines, propellers or parts. Without prejudice to Regulation (EU) No 376/2014, the reporter of such an in-service occurrence, to both the competent authority and the DAH, is the pilot in command, or, in cases where the pilot in command is unable to report the occurrence, any other crew member next in the chain of command of the involved aircraft.

(c) In addition, ORO.GEN.160(c) requires reporting to the DAH groups of occurrences involving human intervention detected during simulator training and checking sessions when evidence shows that repeated similar flight crew behaviours highlight hazards that could have potentially endangered the safe operation of the aircraft in actual flight operations. In this specific case, the CAT operator's report to the DAH is originated by the instructor or examiner as best-placed natural person to repeatedly note similar human interventions and occurrences from conducting multiple simulator sessions with different flight crews and, therefore, to appreciate a possible risk to the safety of actual flight operations.

(d) When the operator is aware about an occurrence or group of occurrences involving human intervention and suspects it is reportable but cannot determine with certainty whether it is

linked to flight deck design or warrants evaluation by the DAH of design, operating procedures, training, or a combination of those, the operator is expected to report it.

(e) The operator should ensure that any reports sent to the DAH have been thoroughly analysed, under their management system process, and contain sufficiently detailed information, including a complete safety risk analysis, to allow the DAH to conduct its own analysis in an efficient manner.

(f) To that end, the operator's initial report to the DAH should contain at least the following supporting disidentified information, if available.

(1) A description of:

(i) the operational context at the time of the occurrence, such as air traffic control clearance and meteorological and environmental conditions;

(ii) any relevant information concerning flight crew's condition (e.g. experience on type, time on duty preceding event, fatigue);

(iii) the aircraft status, including details of any minimum equipment list items;

(iv) any relevant issue on crew resource management; and

(v) relevant pilot training details.

(2) Information on:

(i) how the occurrence was detected (whom, when and how); and

(ii) how the crew recovered from the occurrence (whom, when and how).

(3) Other relevant data, such as:

(i) pilot report (PIREP) data;

(ii) technical logbook data;

(iii) if permitted by flight data monitoring (FDM) programme requirements and by the operator's procedures regarding the protection of flight crew identity, data from the FDM programme (flight data recorder or quick access recorder) that is relevant for the analysis of the occurrence;

(iv) flight management system (FMS) data (e.g., FMS flight plan);

(v) built-in test equipment (BITE) data;

(vi) aircraft communication addressing and reporting system (ACARS) data; and

(vii) the existence of similar previous events, and whether they resulted (on those occasions) in unsafe conditions.

(4) The conclusions of the safety risk analysis performed, including risk classification.

(5) If the event or trend concerns operator simulator training and/or checking, the information provided to the DAH should include information regarding the training scenario, configuration of the simulator (Computer software configuration item (CSCI) and hardware configuration details, type representativeness of the simulator used, any simulator limitations and any other relevant information pertaining to the training and simulator used.

(g) The operator should actively cooperate with the DAH and support any investigation commenced by the organisation after reporting an occurrence/event pursuant to point (b), including timely responses to any additional requests made.

Rationale

Please refer to the rationale for ORO.GEN.160.

Additionally, following the comments received on NPA 2024-02, the AMC was correctly referenced to the rule, and it was emphasised that reports send to the DAH should be deidentified. Furthermore, the recommended content of the initial report was further clarified and refined based on comments received from DAHs. Furthermore, a same provision as in AMC20-8 was added for consistency for operator's to actively cooperate with the DAH and support any investigation commenced after reporting. Moreover, a definition for human intervention was added for consistency with Part 21 related provisions.

GM1 ORO.GEN.160(c);(e) Occurrence reporting

OCCURRENCES OR EVENTS INVOLVING HUMAN INTERVENTIONS

Human intervention refers to any action taken by a flight crew in operation that preceded the safety occurrence. It can belong to different categories such as perception, planning and decision making, response execution and communication. The same definition applies for CAT operator simulator training and checking sessions, during which similar human interventions may be noted repeatedly as groups of occurrences of flight crew behaviour that would highlight a reduction in safety margins that could have potentially endangered the safe operation of the aircraft in actual flight operations.

The following table provides a non-exhaustive list of possible human interventions that could lead or contribute to a reduction in safety margins and could therefore lead to reportable occurrences or groups of repeated occurrences.

Table – Non-exhaustive list of events and/or conditions that could lead or contribute to a reduction in safety margins

Category	Outcome	Definition
Perception	No/wrong/late visual detection	The operator's flight crew does not detect (or detects too late or inaccurately) a visual signal necessary to formulate a proper action plan or make a correct decision.
	No/wrong/late aural detection	The operator's flight crew does not detect (or detects too late or inaccurately) an aural signal necessary to formulate a proper action plan or make a correct decision.
	No/wrong/late kinaesthetic detection	The operator's flight crew does not detect (or detects too late or inaccurately) a kinaesthetic signal (e.g. stick shaker or pusher) necessary to formulate a proper action plan or make a correct decision.

Planning and decision-making	Incorrect/late/ absence of decision or plan	The operator's flight crew is not able to develop an adequate action plan or decision to manage the situation.
Response execution	Timing error	The operator's flight crew takes action that is appropriate for the perceived situation but executes it either too early or too late.
	Sequence error	The operator's flight crew carries out a series of actions in the wrong sequence.
	Correct action on the wrong object	The operator's flight crew takes action that is appropriate for the perceived situation but executes it wrongly by selecting an object (e.g. lever, knob, button, any other HMI element) different from the intended one.
	Wrong action on the right object	The operator's flight crew selects the correct object (e.g. primary and secondary flight controls, lever, knob, button, any other HMI element) but performs an action that is not the correct one.
	Lack of physical coordination	The operator's flight crew takes action that is appropriate for the perceived situation but executes it in a wrong manner (e.g.,: TOGA overshoot on thrust level setting)..
	No action executed	The operator's flight crew intends to take action that is appropriate for the perceived situation but does not execute it.
Communication	Incorrect/unclear transmission of information	The operator's flight crew transmits information to other actors' information, which is incorrect or unclear (e.g. use of incorrect entry).
	No transmission of information	The operator's flight crew does not transmit information that is necessary for other actors to operate safely/effectively.

Rationale:

Please refer to the rationale for ORO.GEN.160 and AMC1.

Furthermore, following the comments received on NPA 2024-02, *the GM was correctly referenced to the rule, and the table showing a non-exhaustive list of possible human interventions was further update and refined based on the comments received. Furthermore, a comment proposing to include examples where human intervention has been needed to improve a situation was not accepted as the proposed text does not guide operators to report pilot interventions that could or should have been made, since this kind of information should be part of the subsequent analysis conducted by the DAH using the guidance in CM-21.A.-A-003.*

AMC1 ORO.GEN.160(g) Occurrence reporting

REPORTING TO OTHER ORGANISATIONS

(a) Reporting to other organisations should depend on the type of operations, the operator's interfaces with other organisations, their respective safety policies and procedures, as well as the extent of contracting in accordance with point ORO.GEN.205.

(b) The operator should share relevant safety information from the reported occurrences, considering the relevance of each occurrence, with any of the following organisations with which it has interfaces:

(1) the continuing airworthiness management organisation managing its aircraft;

(2) the organisation responsible for the aircraft maintenance;

(3) the relevant aerodrome operators;

(4) the relevant air navigation services providers;

(5) the relevant ground-handling service providers;

(6) other operators with which it has leasing agreements;

(7) any other organisation covered by an aviation regulation, if relevant.

Rationale:

See the rationale to AMC2 ORO.GEN.160(f) below.

AMC2 ORO.GEN.160(f) Occurrence reporting

PROCEDURE FOR REPORTING TO OTHER ORGANISATIONS

(a) The operator should develop and implement a procedure for reporting to other organisations, which should be included in its management system documentation as a means to ensure a proactive approach to the management of safety risks and the continuous improvement of its safety management process.

(b) Such procedure should establish an interface between the organisations and should include as a minimum:

(1) the identification of the applicable requirements for reporting;

(2) the scope of such reporting, considering the operator's interfaces with other organisations, including organisations contracted in accordance with point ORO.GEN.205;

(3) means to identify the relevant safety issue;

(4) a description of the process of sharing relevant safety information, including any forms used, means, and timelines, considering the safety management policies and procedures in place;

(5) details on how to ensure the effective and timely exchange of information relating to occurrences ;

(6) criteria to determine which party is responsible for taking further action, if so required;

(7) safeguards to ensure confidentiality of the person reporting and protection of personal data; and

(8) the responsibilities of the organisations and personnel involved in reporting.

Rationale:

The text of this AMC was previously part of AMC1 ORO.GEN.160(c), which was consulted with NPA 2016-19[3] under RMT.0681, which dealt with the transposition of Regulation (EU) No 376/2014 into the EU aviation regulations.

AMC1 and AMC2 to ORO.GEN.160(f) are proposed to be further amended, compared to the version published in NPA 2016-19, with the purpose to improve the exchange of safety-relevant information between the air operator and the organisations with which it interacts, and which have a safety-critical role to play. The more accurate reference to new point (f) proposed to be added to point ORO.GEN.160 has also been included in the title of both AMC.

Regulation (EU) No 376/2014 requires that the air operator report to its competent authority and the design approval holder. It does not require that organisations report or share safety-relevant information with each other. Nevertheless, point 8.1(c) of Annex V 'Essential requirements for air operations' to Regulation (EU) 2018/1139 (the Basic Regulation) includes the obligation for the air operator to manage the safety risks and aim for continuous improvement of its management system. The air operator may fulfil this obligation by adopting a proactive and predictive approach to its SMS by sharing safety-relevant information with other organisations.

AMC1 and AMC2 to ORO.GEN.160 aim to simplify the process applied by the air operator to comply with the occurrence reporting obligations laid down in Regulation (EU) 376/2014 and with the improvement of its management system required by Annex V to the Basic Regulation. The AMC enable the air operator to share the safety-relevant information already included in the mandatory report also with other organisations, with the purpose of improving the safety of their common processes and procedures (interfaces).

GM1 ORO.GEN.160(f) Occurrence reporting

REPORTING TO OTHER ORGANISATIONS

(a) The operator may develop a customised list of occurrences to be reported to other organisations, adapted to their aircraft or operation and the organisations they interface with. Such customised list is included or referenced in the organisation's management system documentation. Any such lists should, however, not be considered definitive or exhaustive, and the reporter's judgement of the degree of risk or potential hazard involved is essential.

(b) A non-exhaustive list of reportable occurrences is detailed in the annexes to Commission Implementing Regulation (EU) 2015/1018.

(c) Examples of other organisations with which the operator may exchange safety relevant information, which may have a safety-critical role to play for the safety of flights:

(1) aerodrome operators,

(2) ground handling organisations,

(3) organisations involved in aircraft continuing airworthiness activities,

[3] Alignment of implementing rules and acceptable means of compliance/guidance material with Regulation (EU) No 376/2014 — Occurrence reporting (https://www.easa.europa.eu/en/document-library/notices-of-proposed-amendment/npa-2016-19).

(4) training organisations,

(5) ATM/ANS providers,

(6) other operators.

Rationale:

This GM was drafted under RMT.0681 except for points (b) and (c). Point (c) has been added following the comments received on NPA 2022-11.

AMC2 ORO.GEN.200(a)(3) Management system

RISKS ASSOCIATED WITH FLYING OVER OR NEAR CONFLICT ZONES- CAT OPERATIONS WITH AEROPLANES

(a) When intending to operate over or near conflict zones, the CAT operator of ~~an operator of commercial air transport operations with~~ aeroplanes should conduct a risk assessment to identify, evaluate and manage the associated risks, and take appropriate risk-mitigation measures.

(b) The risk assessment and mitigation measures ~~put in place~~ should ensure that a flight does not commence or continue as planned unless it has been verified by every reasonable means available that the airspace containing the intended route from the aerodrome of departure to the aerodrome of arrival, including the intended take-off, destination and en-route alternate aerodromes, can be safely used for the planned operation.

~~Note: The term 'reasonable means' is meant to denote the use, at the point of departure or while the aircraft is in flight, of information available to the operator either through official information published by the aeronautical information services or readily obtainable from other sources.~~

~~(b) ICAO Doc 10084 'The Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones' provides further guidance on the risk assessment to be conducted when flying over or near conflict zones.~~

(c) The operator should establish a process and define the responsibilities for monitoring the risks resulting from the evolution of conflict zones and for taking the decision to operate over or near conflict zones

Rationale:

The text has been further amended compared to the version published in NPA 2022-11, and published in ED Decision 2025-01 to transpose ICAO standard 4.1.2 of Annex 6 Part I, issued with Amendment 44, to restrict the scope of this AMC to CAT operators of aeroplanes only,, to add more concrete requirements for the monitoring of risks, and to improve its understanding.

Moreover, stakeholders commented that the AMC and GM related to this topic should remain applicable only to CAT operators (of aeroplanes), in alignment with Annex 6 Part I. The main reason is

that NCC and SPO operators may not have means of communication between the flight crew and the ground (e.g., an operational control centre or flight operations personnel) available during flight and consequently the 'reasonable means' as explained in the GM (as per the Note to the ICAO Standards 4.1.2) cannot be ensured.

AMC3 ORO.GEN.200(a)(3) Management system

SAFETY RISK MANAGEMENT OF TRANSPORTING ITEMS IN THE AEROPLANE CARGO COMPARTMENT

When carrying items in the cargo compartment of an aeroplane, the CAT operator should:

(a) conduct a safety risk assessment that addresses at least the following elements, as applicable:

(1) hazards associated with the properties of the items to be transported;

(2) capabilities of the operator;

(3) operational considerations (e.g. area of operations, diversion time, as applicable);

(4) capabilities of the aeroplane and its systems (e.g. cargo compartment fire suppression capabilities) provided by the aircraft manufacturer;

(5) containment characteristics of ULDs;

(6) packing and packaging;

(7) safety of the supply chain for items to be transported; and

(8) quantity and distribution of dangerous goods to be transported;

(b) establish policies and procedures for the safe transport of items in the cargo compartment based on the results of the safety risk assessment conducted. Such items include baggage, mail, cargo, company material, as well as other equipment used in cargo transportation such as unit load devices (ULDs), tracking devices, etc.

(c) revise its risk assessment to address new hazards introduced in its operations.

Rationale:

This AMC and the GM on this topic transpose the ICAO SARPs of Annex 6 Part I Chapter 15, included in Amendment 44, which became applicable on 5 November 2020.

Changes compared to NPA 2022-11, considering the comments received on the NPA 2022-11, where this proposal was first published:

The text shas been shortened. Previous paragraphs (b) and (c) published in the NPA have been deleted as they are not within the responsibility of the air operator but of the aircraft manufacturer and will be addressed in the initial airworthiness requirements. The EASA RMT.0740 proposes to require the design approval holders to make available to the operator the information on cargo compartment fire protection capabilities of aeroplanes and helicopters as certified. RMT.0740 proposes a wider coverage than the scope of Annex 6 Part I. It is proposed to cover also helicopters; therefore, the operational rules can voluntarily be applied also by SPO operators. The airworthiness rules will not distinguish between the commercial/non-commercial regime of a flight. However, the aircraft manufacturers will have to include this information in their documentation. All operators will receive it and will be able to

develop a safety risk assessment when using aircraft with a CofA (production cut-off date) starting Jan 2025.

The comments submitted on this AMC and GM in NPA 2022-11 indicated that they should be moved under the management system requirements, as part of the operator's SMS. The text was initially published as AMC3 CAT.OP.MPA.160(b) and respectively GM1 CAT.OP.MPA.160(b). EASA accepted those comments. Also, commentors had divergent opinions on whether the AMC and GM should be extended to other than CAT operators. The rules have been kept with their initial scope (to cover only CAT operators of aeroplanes), which is not clearly stated in the introductory sentence of the AMC. Nothing prevents NCC operators from using the AMC and GM and apply them to their own safety risk management process.

GM2 ORO.GEN.200(a)(3) Management system

RISK MANAGEMENT OF FLIGHT OPERATIONS WITH KNOWN OR FORECAST VOLCANIC ASH CONTAMINATION

[...]

(c) Volcanic activity information and operator's potential response

[...]

(3) ~~On-going~~ Ongoing eruption

[...]

For the purpose of flight planning, the operator should treat the horizontal and vertical limits of the temporary danger area (TDA) or airspace forecast to be contaminated by volcanic ash as applicable, to be overflown as it would mountainous terrain, modified in accordance with its safety risk assessment. The operator should take account of the risk of cabin depressurisation or engine failure resulting in the inability to maintain level flight above a volcanic cloud, especially when conducting EDTO~~ETOPS~~ ~~operations~~. Additionally, minimum equipment list (MEL) provisions should be considered in consultation with the TCHs.

[...]

Rationale:

The change has been introduced to replace the term 'ETOPS' by 'EDTO'.

GM6 ORO.GEN.200(a)(3) Management system

ADDITIONAL GUIDANCE ON ASSESSING THE RISKS OF FLYING OVER OR NEAR CONFLICT ZONES

(a) The CAT operator should ensure that the risk assessment for flying over or near conflict zones is conducted on a continuous basis for the whole network of the operator, including alternate aerodromes. Regular monitoring should define the intervals for the periodic assessment and the need for ad-hoc evaluations, to ensure that each flight is operated in safe and secure environment and any new or emerging threats are identified and taken into consideration.

(b) The risk assessment should include at least the following elements:

(1) collection and analysis of information related to airspace, such as NOTAMs, airspace restrictions and recommendations issued by relevant aviation authorities and regulators in relation to the airspace of their operations. Relevant authorities include at least the State of the operator, the State managing the airspace to be used, and neighbouring States;

(2) collection and analysis of information related to conflict zones, obtained from credible sources. This information should be up to date and refer to ongoing or emerging conflicts, insurgent activities, military operations, and any activities of violent non-state actors which can negatively impact safety of airspace and operations. The following sources are considered to provide credible information:

(i) European Information Sharing and Cooperation Platform on Conflict Zones;

(ii) information sharing initiatives organised by States or industry bodies;

(iii) open-source intelligence providers, offering real-time data and regular updates on armed conflicts, events and situations which could impact civil aviation;

(iv) news agencies and press providing verified coverage of the events world-wide;

(v) information shared by international organisations, state authorities and their services;

(vi) any other source considered appropriate by the operator;

(3) an assessment of threats against civil aviation, which is understood as the likelihood of an aircraft being targeted, either intentionally or unintentionally, when operating in or flying over or near a conflict zone. The assessment should take into consideration the following elements:

(i) the likelihood of an intentional attack to be determined based on the presence of terrorist organizations and/or violent non-state actors. Their capability and intention to conduct an attack against civil aviation should be assessed to the extent possible based on information available to the operator;

(ii) the likelihood of an unintentional attack to be determined based on the existence and intensity of a conflict or situation of heightened state of military activities, heightened alert posture and/or elevated regional tensions, which are the key elements contributing to an inadvertent risk of striking a civil aircraft due to misidentification or miscalculation. The operator should understand the nature, intensity, and geographic extent of the conflict or state of heightened tensions, as well as any potential spillover effects or escalation risks;

(4) an assessment of the capability of relevant authorities to manage the airspace to be overflown in order to ensure safety of operations and react promptly to potential overflight risks. In that respect, issuance of aeronautical publications or restrictions in case of a conflict or emerging risks, including security related incidents or military exercises as well as their time, date and geographical scope should be considered;

(5) the outcome of the risk assessment process should allow to reasonably determine the level of risk for flights at low (including take-off and landing), medium and high altitude. The outcome should enable the operator to take a decision on whether:

(i) not to operate in the affected airspace at certain flight level or not to enter that airspace; or

(ii) to continue the operations subject to the implementation of mitigations or additional contingency measures.

(c) The term 'reasonable means' used in AMC2 ORO.GEN.200(a)(3) is meant to denote the use, at the point of departure or while the aircraft is in flight, of information available to the operator either through official information published by the aeronautical information services or readily obtainable from other sources.

(d) The operator may consult ICAO Doc 10084 'The Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones' for further guidance on the risk assessment when flying over or near conflict zones.

(e) CAT operators of helicopters, as well as NCC and SPO operators may apply the content of AMC2 on a voluntary basis.

Rationale:

This new GM transposes the notes to the ICAO standard 4.1.2 of Annex 6 Part I, issued with Amendment 44, which became applicable on 5 November 2020. The text has been enhanced with further guidance to perform the risk assessment.

Point (e) is added to ensure that any operator outside the scope of AMC2 ORO.GEN.200(a)(3) may also use that AMC to improve safety of their operation.

GM7 ORO.GEN.200(a)(3) Management system

ADDITIONAL GUIDANCE ON SAFETY OF THE AEROPLANE CARGO COMPARTMENT

With regard to the safety risk assessment of carrying items in the aeroplane's cargo compartment, the operator should take the following into account:

(a) It is not expected that the operator conducts a risk assessment for every single flight, but rather for all operations that involve the transport of items in the cargo compartment, based on the specific type of operation. Thus, the safety risk assessment could be developed considering the following aspects:

(1) types of operations;

(2) types of items carried: their specific properties (flammability, toxicity, physical state: liquid, solid, gas) and in which quantities;

(3) other individual items carried in the cargo compartment that could be a potential source of fuel and easily ignite (e.g., cardboard packaging, lithium batteries or battery-powered devices);

(4) whether the carriage of cargo material involves a longer supply chain, such as postal operators, shippers, freight forwarders, ground-handling service providers, and other air operators, or other modes of transport;

(5) whether the items are carried in passenger baggage, or as cargo/mail items, or company material, including types of containers and packaging standards;

(6) implementation of new aircraft systems;

(7) revision of existing systems;

(8) development of operational procedures based on the relevant class of the cargo compartment of the aircraft in the operator's fleet;

(9) any deviation from the operation for which the initial risk assessment was defined;

(10) monitoring of the effectiveness of existing mitigation measures.

(b) The operator may consult ICAO Doc 10102 'Guidance for Safe Operations Involving Aeroplane Cargo Compartments' for more guidance on the following aspects:

(1) the hazards associated with the transport of items in the cargo compartment;

(2) the conduct of a specific safety risk assessment in accordance with the Safety Management Manual (SMM) (ICAO Doc 9859), and the responsibilities as regards the transport of dangerous goods;

(3) examples of mitigation measures;

(4) the elements of cargo compartment fire protection and associated demonstrated standards.

(c) Further guidance may also be found in the FAA Advisory Circular (AC) No 120-121 'Safety Risk Management Involving Items in Aircraft Cargo Compartments'[4].

Rationale:

The driver for this new GM is alignment with ICAO and the transposition of the SARPs from new Chapter 15 of Annex 6 Part I into the EU rules. See the rationale to AMC3 ORO.GEN.200(a)(3) above. This GM contains elements from ICAO Doc 10102 and FAA AC 120-121.

AMC1 ORO.GEN.200(a)(6) Management system

COMPLIANCE MONITORING — GENERAL

(a) Compliance monitoring

[...]

(b) ~~Organisations~~ The operator should monitor compliance with the procedures it has ~~they have~~ designed to ensure safe activities. The planning cycle of the operator's compliance-monitoring activities should not exceed 24 months or the duration of the oversight planning cycle established by the competent authority for each operator, whichever is shorter. ~~In doing so, they~~ The operator should as a minimum, and where appropriate, monitor compliance with the following:

[…]

(5) activities of the organisation carried out under the supervision of the nominated persons in accordance with point ORO.GEN.210(b); and

(6) any outsourced activities in accordance with point ORO.GEN.205~~,~~ for compliance with the contract. In the case of declared ground handling activities, the compliance monitoring may be conducted at intervals established on a risk assessment as referred to in AMC3 ORO.GEN.205 and aligned with the relevant requirements of point ORGH.MGM.200(b)(6) of Regulation (EU) 2025/20 on compliance monitoring. Risk-based compliance monitoring may comprise of sampling of some of the ground handling organisations during each cycle, but not necessarily all of them.

(c) Organisational set-up

[...]

(3) The compliance-monitoring manager should:

[4] https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_120-121.pdf

(d) Compliance-monitoring documentation

[...]

(2) In addition, relevant documentation should also include the following:

[...]

(vi) the compliance-monitoring programme, reflecting:

[...]

(B) audit and inspection procedures including an audit and inspection plan that is implemented, maintained, and continually reviewed and improved;

(C) [...]

(D) root-cause analysis for the findings identified during internal compliance-monitoring activities;

(E) [...]

(F~~E~~) [...]

[...]

Rationale:

The new text in point (b) is proposed following a suggestion from a Member State to establish a period for an audit cycle performed by the operator, similarly to the ARO requirement.

The root-cause analysis for the findings has been also added in point (d)(D) for a better tracing of the findings and the corrective actions.

***On point (b)(6):** The operator keeps the responsibility to comply with all applicable requirements. However, when organisations providing services to the operator are already subject to oversight by the competent authority under another EU aviation regulation, this interval of compliance monitoring by the air operator to the provider of ground handling services may be based on an assessment of risk and safety performance of those organisations. For large operators operating to numerous airports, it may be challenging to cover the verification of ground handling activities at all outstations within the same cycle as for the internal processes. Therefore, some flexibility was introduced for the ground handling activities, based on a risk assessment.*

It is proposed to establish a 2-year transition period for the implementation of point (b)(6) on the duration of the internal compliance monitoring cycle, to provide sufficient time to operators to adapt their procedures.

AMC1 ORO.GEN.200(b) Management system

SIZE, NATURE AND COMPLEXITY OF THE ACTIVITY — AEROPLANES

(a) An operator should be considered ~~as~~ complex when it has a workforce of more than 20 full-time equivalents (FTEs) involved in the activity subject to Regulation (EU) 2018/1139 and its delegated and implementing acts ~~(EC) No 216/2008[5] and its Implementing Rules~~.

~~[5] 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.~~

(b) Operators with up to 20 FTEs involved in the activity subject to Regulation (EU) 2018/1139 and its delegated and implementing acts ~~(EC) No 216/2008[6] and its Implementing Rules~~ may also be considered complex based on an assessment of the following factors:

(1) in terms of complexity, ~~the~~ extent and scope of the contracted activities subject to the approval or declaration;

[...]

Rationale:

The scope of AMC1 is proposed to be restricted to aeroplanes.

The wording 'activities subject to the approval' is amended to also include 'declarations' for consistency with Parts NCC and SPO.

The implementation of the current AMC1 ORO.GEN.200(b) can lead authorities to define the majority of small and very small helicopter operators as complex. However, the development and implementation of a full-scale management system expected from a complex organisation is unnecessarily burdensome for such operators.

For small organisations, verbal communication in the context of management systems is efficient. The cost of extensively documenting a management system outweighs the benefits. Most of the resources needed to document safety and compliance could be better employed for the benefit of safety.

The efficiency of a management system relies heavily on the competence of key personnel and on effective verbal communication, and less on documentation.

It is believed that current AMC1 ORO.GEN.200(b) is not appropriate for smaller helicopter operators and, therefore, new AMC and GM have been developed while the current AMC1 remains applicable for aeroplane operators only.

The proposed amendments to AMC1 ORO.GEN.200(b) enable helicopter operators to better tailor their management systems to their operations, without amending the other AMC and GM to point ORO.GEN.200.

It was discussed whether all other AMC and GM to point ORO.GEN.200 should become restricted in scope to aeroplanes only. This might have helped define new AMC and GM applicable to helicopter operators. Such an approach was taken when reviewing the AMC and GM to point CAMO.A.200 of Annex Vc (Part-CAMO) to Regulation (EU) No 1321/2014, resulting in much leaner AMC. This option was considered and was rejected. Keeping the existing AMC and GM to point ORO.GEN.200 and using them with a more performance-based approach was considered more efficient for helicopter operations.

The proposal establishes the required proportionality as well as the appropriate level of harmonisation with the recently amended regulations applicable to management systems of maintenance and continuing airworthiness organisations (Part-145 and Part-M of Regulation (EU) No 1321/2014).

Several comments were submitted on this AMC and AMC2 ORO.GEN.200(b), suggesting various ways to improve or adjust the current versions. Comments also suggested that there should be a similar

~~[6] 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.~~

approach for aeroplane and helicopter operations with appropriate consideration of the specific character of the operation. This is supported by EASA and the comments are duly noted. The favoured approach towards harmonisation of management systems will be taken into account in future rulemaking tasks. Also, the commentors are invited to add their input and provide more feedback as part of EVT.0013, which seeks to elucidate specific rules that impose complexity and administrative burden.

AMC2 ORO.GEN.200(b) Management system

SIZE, NATURE AND COMPLEXITY OF THE ACTIVITY — HELICOPTERS

(a) The operator should assess the nature and complexity of its activities to ensure that the complexity of its management system is appropriate to the attributes of the organisation (system description).

(b) If the operator holds a HEMS, HOFO or HHO specific approval, it should implement all the elements and processes of a management system applicable to complex operators.

(c) If the operator has a workforce of 9 or less full-time equivalents (FTEs) involved in the activity subject to Regulation (EU) 2018/1139 and its Implementing Rules and does not hold a HEMS, HOFO or HHO specific approval, it should implement all the elements and processes of a management system applicable to non-complex complex operators.(d) In all other cases the operator should implement all the elements and processes of a management system applicable to a complex operator, unless it has determined that, based on the assessment in point (a), a simpler management system can effectively:

(1) monitor compliance of its activities, including compliance of all contracted activities, which are subject to Regulation (EU) 2018/1139 and its delegated and implementing acts;

(2) assess and manage risks associated with its operations.

(e) When the operator has assessed that a simpler management system may suffice, all the following should apply:

(1) The operator should implement the management system elements and processes to an appropriate degree to address the particular challenges related to the complexity posed by the size of the operator and the nature and safety risks of its activity. This might require the implementation of certain elements or processes of a management system applicable to complex operators.

(2) The operator should implement at least all the elements and processes of a management system applicable to a non-complex operator, including those described in AMC1 ORO.GEN.200(a)(1);(2);(3);(5), AMC1 ORO.GEN.200(a)(4), AMC1 ORO.GEN.200(a)(5) and AMC1 ORO.GEN.200(a)(6) 'Management system'.

(3) The management system documentation should clearly describe the scale and method of implementation.

(4) The operator should review the elements in points (1) and (3) together with the effectiveness of its management system on a regular basis. The operator should also review the elements in points (1) and (3) in case of any significant change to the organisation, as part of its change management process.

Rationale:

*New **AMC2 ORO.GEN.200(b)** reinforces the need for operators to assess the nature and complexity of their activities in order to establish an appropriate management system that effectively monitors compliance, and assesses and manages operational risks (see proposed point (a)).*

The principle established in AMC2 is that the operator's management system should in principle follow the elements and processes that are appropriate for a complex operator, unless the operator's assessment of its activities clearly indicates that a simpler management system would be sufficient. This clarifies that it is up to the operator to demonstrate to the competent authority that a simpler management system still allows its compliance with the rules, particularly regarding the efficiency of its safety management and compliance-monitoring functions, both during certification and oversight (see proposed point (c)).

Point (b) clarifies that if the operator holds specific approvals under Part-SPA, it should be considered complex as regards its management system:

- *Operators that perform HEMS, HHO, and offshore operations should be considered complex as the associated risks are higher than those of other CAT operations.*
- *SPA-LVO is accessible to NCO and should not be included in the list. SPA-PinS VFR is similar in nature.*
- *EFBs should be widely adopted without particular difficulties. Although there are associated risks to manage, a SPA.EFB approval should not require a complex management system.*
- *NVIS has underlying risks which should be managed. A management system is needed but it does not make an operator 'complex'. NVIS has safety benefits but brings no operational credits. It should not become too burdensome, or the safety benefit will never materialise.*

It is proposed to delete the criterion of the number of FTEs of the operator (set at 20 FTEs in AMC1). However, with the new criterion proposed, most (if not all) operators with more than 20 FTEs should be considered complex. Therefore, the criterion of number of FTEs was not considered necessary, except possibly in the case of a large operator with an immature management system and an immature competent authority. No criterion based on the number of FTEs was adopted in the recently amended AMC to Regulation (EU) No 1321/2014 on management systems.

A gap analysis between the elements of the management systems of non-complex and complex operators is provided below. It may help define which elements of a management system applicable to a complex operator can be substituted with equivalent elements applicable to a non-complex operator.

Typical elements of the management system of a very small operator (simplified and provided as an example):

(1) Highly competent staff, including a highly competent safety manager, and no excessively complex risks need to be managed. All contractors are subject to an approval and are required to have their own management system.

(2) Adoption of a just culture adapted to the size and nature of the operation.

(3) Close interaction among the staff. No temporary or permanent outbases.

Example of a (simplified) gap analysis between the elements applicable to complex and non-complex operators:

AMC/GM applicable to complex operators	Gap analysis Elements not included in the AMC/GM applicable to non-complex operators	Justification that these elements need not apply to this operator / equivalent risk mitigation measures in the case of this operator
AMC1 ORO.GEN.200(a)(1)	More detailed functions of the safety manager	See (1) above
AMC1 ORO.GEN.200(a)(1)	Safety review board	See (3) above
GM2 ORO.GEN.200(a)(1)	Safety action group	See (3) above
AMC1 ORO.GEN.200(a)(2)	Safety policy	See (1), (2) and (3) above
AMC1 ORO.GEN.200(a)(3)	More detail regarding internal safety investigation	See (2) and (3) above
AMC1 ORO.GEN.200(a)(3)	More detail regarding safety performance measurement	See (2) and (3) above
AMC1 ORO.GEN.200(a)(3)	More detail on management of change	No real difference in the context of this operator
AMC1 ORO.GEN.200(a)(3)	More detail on continuous improvement	See (1), (2) and (3) above
AMC1 ORO.GEN.200(a)(3)	More detail on the emergency response plan	No real difference in the context of this operator
GM4 ORO.GEN.200(a)(3)	Interface between organisations	See (1) and (2) above
AMC2 ORO.GEN.200(a)(5)	Safety management manual	See (1) and (3) above
GM2 ORO.GEN.200(a)(6)	More detailed compliance-monitoring programme	See (1), (2) and (3) above

*New **GM1 ORO.GEN.200(b)** provides a comprehensive list of factors that might influence the complexity of the operator, and consequently of its management system.*

11 comments were received from national competent authorities and aeroplane operator associations, addressing AMC2 ORO.GEN.200(b). Helicopter operators and their associations did not comment.

The comments received showed that the intent of the proposal was good, but the proposal failed to achieve the intent. By requiring the smaller operators to demonstrate to that a simple management system would suffice, such operators would need the staff of a complex management system.

EASA decided to further consult national competent authorities and of a helicopter operator association in order to address the comments. This consultation led to the conclusion that performance-based regulations are good in principle but are not always adapted to the smallest operators, especially in the case where the demonstration of compliance to a given level of performance is more resources-consuming than the application of prescriptive rules at low scale.

This additional consultation led to further simplify AMC2 ORO.GEN.200(b) as follows:

- *Helicopter operators of 9 full time employees or less should always be considered simple, unless they hold a SPA HEMS, SPA.HHO or SPA.HOFO approval.*
- *Larger helicopter operators with good reason not to consider themselves complex will no longer be expected to justify or record why they do not apply all AMC and GM applicable to complex management systems. However, their management systems are still required to be adapted to their operations and to be efficient.*

GM1 ORO.GEN.200(b) Management system

SIZE, NATURE AND COMPLEXITY OF THE ACTIVITY — HELICOPTERS

The following factors may be considered by the operator when assessing the nature and complexity of its activities to establish the level of complexity required for the management system:

(a) Size of the operator:

(1) number of personnel employed,

(2) number of passengers carried per flight and per year,

(3) type(s) of operation(s).

(b) Complexity of the risks to be managed:

(1) risks associated with operations requiring a specific approval,

(2) risks associated with specialised operations,

(3) risks associated with a fleet consisting of different types or groups of types of aircraft,

(4) operations in challenging environments,

(5) staff competency.

(c) Ability to effectively communicate, report and decide at the correct level of the organisation:

(1) permanent and temporary outbases,

(2) complexity of the organisational structure,

(3) effectiveness of just culture.

(d) Complexity of the management of contracted activities:

(1) extent and scope of contracted activities,

(2) impact on safety management,

(3) impact on compliance.

(e) Any other factor that is relevant to the operation.

Rationale:

See the rationale to AMC2 ORO.GEN.200(b).

AMC1 ORO.GEN.200(c) Management system

INTEGRATED MANAGEMENT SYSTEM

To ensure the implementation of an integrated management system, the operator should identify the following elements in its management system structure and documentation:

(a) the organisations certified, approved or declaring their activity under Regulation (EU) 2018/1139 and its delegated and implementing acts that are covered by its management system;

(b) the areas of activities that are integrated in its management system, with the proper interfaces that enable effective functioning and communication between them; and

(c) applicable requirements for each area of activity.

***Rationale*:**

This new AMC is proposed to bring more details to support the implementation of an integrated management system by an organisation that holds an AOC and also other certificates, authorisations, or submits a declaration – all of which covering different aviation domains. The purpose is to streamline the integration of one or more areas into an existing management system and avoid unnecessary duplications.

AMC1 ORO.GEN.205 Contracted activities

RESPONSIBILITIES ~~Y~~ WHEN CONTRACTING ACTIVITIES

(a) (…)

(b) A written agreement should exist between the operator and the contracted organisation clearly defining the contracted activities, accountability for safety and authority, ~~and~~ the applicable requirements, and each party's responsibilities. In the case of ad hoc operations carried out without a prior ground handling agreement, ground handling services may be provided at short notice by the operator or the commander/pilot-in-command.

[…]

Rationale:

The amendment to point (b) is particularly relevant for today's reality as aircraft operators are more and more reliant on external service providers. The service level agreements include each party's responsibilities; the responsibilities of each party as regards the safety of an activity where more than one stakeholder is involved will have to be included in the oversight of the competent authority. In the absence of requirements for authority oversight, the air operator needs to verify the safety of services provided by the contracted organisations. Point (d) has been recently amended with ED Decision 2025/008/R which was part of the ground handling regulatory package.

GM1 ORO.GEN.310 Use of ~~aircraft~~ aeroplanes or helicopters listed on an AOC for flight operations other than commercial air transport ~~non-commercial operations and specialised operations~~

EXAMPLES OF POSSIBLE SCENARIOS FOR THE USE OF AIRCRAFT LISTED ON AN AOC

[…]

(a) The same AOC holder providing the aircraft, using the aircraft either:

(1) as a declared operator for SPO (commercial or non-commercial, including high-risk SPO) in accordance with Part-ORO and Part-SPO for operations with complex motor-powered aircraft. In such a case, the provisions of Part-SPO and Part-ORO apply. This implies that the operator submits a declaration for its SPO activities and applies for an authorisation if it performs high-risk commercial SPO; or

[…]

(b) Another AOC holder:

(1) as a declared operator, using complex motor-powered aircraft for NCC operations in accordance with Part-ORO and Part-NCC or for SPO activities (commercial or non-commercial), including high-risk SPO in accordance with Part-ORO and Part-SPO~~,~~. This implies that the operator applies for an authorisation if it performs high-risk commercial SPO;

[…]

Rationale:

The changes in points (a) and (b) have been introduced following the comments received on NPA 2022-11, to make the explanations clearer with regard to the existing requirements of SPO high-risk commercial operators, which continue to apply.

AMC1 ORO.GEN.310(b);(e) Use of ~~aircraft~~ aeroplanes or helicopters listed on an AOC for flight operations other than commercial air transport ~~non-commercial operations and specialised operations~~

RESPONSIBILITIES OF THE AOC HOLDER

[…]

~~GM1 ORO.GEN.310(a)(2) Use of aircraft listed on an AOC for non-commercial operations and specialised operations~~

~~**EXCEEDING 30 DAYS OF CONTINUOUS OPERATION**~~

~~When the other operator uses or intends to use the aircraft without returning it to the AOC holder for a duration that exceeds 30 days, then the provisions of ORO.GEN.310 no longer apply; instead, the provisions of ORO.AOC.110 apply and the AOC holder has to remove that aircraft from its AOC.~~

Rationale:

This GM is deleted as the restriction of 30 days is proposed to be deleted from the implementing rule.

GM2 ORO.GEN.310 Use of ~~aircraft~~ aeroplanes or helicopters listed on an AOC for flight operations other than commercial air transport ~~non-commercial operations and specialised operations~~

SPECIFIC APPROVALS

(a) *Specific approvals (SPA) of the AOC holder using its aircraft for non-commercial operations and specialised operations*

(1) When the AOC holder performs operations in accordance with Part-NCC or Part-NCO, the SPA granted for the AOC extend over these operations, as in such cases the provisions of point ORO.AOC.125 apply.

(2) When the AOC holder performs operations in accordance with Part-SPO, as a declared operator, either:

(i) the SPA applicable to its SPO activities for the same aircraft are already granted within its AOC;~~.~~ ~~I~~in this case, the operator does not need to apply for them again; or

(ii) the SPA applicable to its SPO activities for the same aircraft are partially different from the SPA already granted within its AOC;~~.~~ ~~I~~in this case, the SPA~~specific approval~~ will cover all the different aspects involved in the SPO operation or training of relevant personnel; in this case, the operator needs to apply for the approval of the different elements used in its SPO operation and indicate that the other parts that are not different from its CAT operation have already been approved; or

(iii) the SPA are not granted within its AOC;~~.~~ ~~I~~in this case, the operator applies for the relevant SPA to its competent authority, in accordance with Part-SPA;~~.~~ ~~T~~this means that all the elements required for a SPA will be provided to the competent authority: evidence of the relevant airworthiness approval, specific equipment approval, operational procedures, and training programme specific for each of the SPA applied for.

[...]

Rationale:

The new text proposed is the result of feedback received from competent authorities after 2 years of implementation of this rule. It further explains what is expected from an operator that is both an AOC holder and a SPO operator when parts of its specific approvals granted for CAT operations differ for its SPO operations. Without duplicating the already approved elements of a particular SPA used in CAT operations, it is however expected that the operator will also apply for a specific approval to cover the different elements of its SPO activities.

One comment submitted to NPA 2022-11 has been rejected as the added text in this GM does not change the operator's obligation to comply with the implementing rule regarding the approvals required under Part-SPA.

GM1 ORO.GEN.310(e)(1) Use of aeroplanes or helicopters listed on an AOC for flight operations other than commercial air transport

DETAILS OF AIRCRAFT USED IN ACCORDANCE WITH ORO.GEN.310(e)(1) INCLUDED IN THE OPERATIONS MANUAL

It is recommended that the operator include details required under point ORO.GEN.310(e)(1), such as the registration mark and the type of operation, as well as any other information specified in AMC1 ORO.GEN.310(b);(e) in its Operations Manual Part A, chapter 2.5 – Operational control and supervision.

Rationale:

This new GM is added for clarification as a result of feedback from the EASA Advisory Bodies. This is new compared to NPA 2022-11. For consistency, a new point 2.5 has been added in the content of the Operations Manual in AMC3 ORO.MLR.100

Subpart AOC

AMC1 ORO.AOC.100 Application for an air operator certificate ~~AOC~~

[…]

AMC1 ORO.AOC.110 Leasing agreement

GENERAL

~~(a)~~ The operator intending to lease-in an aircraft should provide the competent authority with the following information:

(a) For wet lease of aircraft from a third-country operator and all dry-lease operations:

(1) the aircraft type, registration markings and serial number, as soon as they are available;

(2) the name and address of the registered owner;

(3) a copy of the valid certificate of airworthiness;

(4) a copy of the lease agreement or description of the lease provisions, except financial arrangements; and

(5) duration of the lease~~;~~.

~~(b)~~ (6) In case of wet lease-in, a copy of the AOC of the third-country operator and the areas of operation.

(b~~c~~) The information mentioned in point (a) ~~above~~ should be accompanied by a statement signed by the lessee that the parties to the lease agreement fully understand their respective responsibilities under the applicable regulations.

(c) For wet leasing from an operator registered in a State where the Treaties apply:

(1) the aircraft type and registration markings as soon as they are known;

(2) a copy of the AOC and the areas of operation;

(3) the duration of the lease;

(4) for long-term wet lease (more than 7 months), a description of how the operator intends to comply with the requirements of point ORO.GEN.205.

(d) The operator may also ask the competent authority to approve in advance a list of EU operators that may be selected for wet lease-in purposes. In such a case, the operator should provide the competent authority with a copy of the AOC and areas of operation of the European operators on that list and an extract of its internal documentation that describes how the responsibilities for the wet lease-in operations are shared between the lessee and lessor, in accordance with the requirements of ORO.GEN.130 and ORO.GEN.205. The list should be included in the operations manual.

Rationale:

Point (d) reflects the content of AMC1 ORO.GEN.130(b) and ORO.GEN.205. There is no duplication, as the references only highlight the operator's obligations under those requirements, to assess the safety risk of this change and to detail the safety-relevant elements of sharing the responsibilities under the agreement between the lessor and the lessee. The operator has to provide the competent authority with a copy of its relevant internal procedures that are part of compliance with ORO.GEN.130, showing

how the responsibilities for the wet-leased operations are shared between the lessor and the lessee, so as to ensure that the wet-lease operations are correctly taken into account for the risk assessment and management of changes under its management system. The 7-month threshold in point (c)(4) is aligned with ORO.AOC.110(d)(2) on dry lease-in.

The proposed amendment has no safety impact and does not contradict the requirements of Regulation (EC) No 1008/2008; it brings benefits as regards decrease of the administrative burden on operators and competent authorities.

The proposed text has been improved following the comments on NPA 2022-11; a point (e) proposed in the NPA has no longer been maintained in this version. The other comments related to an amendment to Regulation (EC) No 1008/2008 were noted, as changes to that regulation are not within the remits of EASA.

AMC1 ORO.AOC.110(c) Leasing agreement

WET LEASE-IN AGREEMENT WITH A THIRD-COUNTRY OPERATOR

If the operator is not intending to apply EU safety requirements for air operations and continuing airworthiness when wet leasing-in an aircraft registered in a third country, it should demonstrate to the competent authority that the standards complied with are equivalent to the following requirements:

(a) […]

(d) for continuing airworthiness management of the third-country operator, Part-M[1] Subpart-B, Subpart-C and Subpart-G, excluding M.A.707, and M.A.710;

(e) for the maintenance organisation used by the third-country operator during the lease period: Part-145[2];

[…]

Footnotes:

1 ~~Commission Regulation (EC) No 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 315, 28.11.2003, p. 1). Regulation as last amended by Commission Regulation (EU) No 1149/2011 of 21 October 2011 (OJ L 298, 16.11.2011, p. 1).~~ Commission Regulation (EU) No 1321/2014 of 26 November 2014 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks

2 ~~Commission Regulation (EC) No 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 315, 28.11.2003, p. 1). Regulation as last amended by Commission Regulation (EU) No 1149/2011 of 21 October 2011 (OJ L 298, 16.11.2011, p. 1).~~ Commission Regulation (EU) No 1321/2014 of 26 November 2014 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks

GM1 ORO.AOC.125(a)(2) Non-commercial operations of an AOC holder with aircraft listed on an AOC

EXAMPLES OF DIFFERENT OPERATING PROCEDURES APPLIED TO NON-COMMERCIAL OPERATIONS

[...]

(f) Non-EDTO~~ETOPS~~/EDTO~~ETOPS~~

EDTO~~ETOPS~~ are applicable to CAT operations only and thus a flight operated according to Part-NCC/Part-NCO may be performed without the EDTO~~ETOPS~~ restrictions.

[...]

Rationale:

The change has been introduced to replace the term 'ETOPS' by 'EDTO'.

Subpart MLR

AMC3 ORO.MLR.100 Operations manual — general

CONTENTS — CAT OPERATIONS

(a) The operations manual (OM) should contain at least the following information, where applicable, as relevant for the area and type of operation:

A GENERAL/BASIC

0 ADMINISTRATION AND CONTROL OF THE OPERATIONS MANUAL

[...]

0.2 System of amendments and revisions:

(a) Details of the person(s) responsible for the issuance and insertion of amendments and revisions.

(b) A description of the revision system indicating the revised sections, revision number and date of effectiveness. ~~A record of amendments and revisions with insertion dates and effective dates.~~

(c) A statement that handwritten amendments and revisions are not permitted, except in situations requiring immediate amendment or revision in the interest of safety.

(d) ~~A description of the system for the annotation of pages or paragraphs and their effective dates.~~

~~(e) A list of effective pages or paragraphs~~

~~(f)~~ Annotation of changes (in the text and, as far as practicable, on charts and diagrams).

(e~~g~~) Temporary revisions.

(f~~h~~) A description of the distribution system for the manuals, amendments and revisions.

[...]

2 OPERATIONAL CONTROL AND SUPERVISION

2.1 Supervision of the operation by the operator. A description of the system for supervision of the operation by the operator (see ORO.GEN.110(c)). This should show how the safety of flight operations and the qualifications of personnel are supervised. In particular, the procedures related to the following items should be described:

(a) licence and qualification validity,

(b) competence of operations personnel,

(c) control, analysis and storage of the required records.

2.2 System and responsibility for promulgation of additional operational instructions and information. A description of any system for promulgating information which may be of an operational nature, but which is supplementary to that in the OM. The applicability of this information and the responsibilities for its promulgation should be included.

2.3 Operational control. A description of the procedures and responsibilities necessary to exercise operational control with respect to flight safety, including but not be limited to:

(a) responsibilities and authority concerning the initiation, continuation, diversion and termination of flights in the interest of safety;

(b) functions, duties, responsibilities and any authorisation of the flight dispatchers and other functions of the operations control personnel if the operator employs such personnel for flight preparation and safe execution of operational control; details related to the division of duties between the flight crew and flight dispatcher and/or other operations control personnel;

(c) flight following, flight monitoring and flight watch, as applicable;

(d) emergency procedures initiated by the flight dispatcher and procedures for the pilots to convey information to the flight dispatcher during the flight;

(e) responsibilities of crew members in relation to other personnel of the operator. Specific guidance on the responsibilities and authority of the commander and other aircrew members when operating at an aerodrome where the operator has no representative. When the operator has a station representative, the areas of responsibilities of the different parties should be specified, as well as the circumstances in which they should consult and advise each other. This may be included in another part of the operations manual.

(f) operator's communications network ensuring the communication of most up-to-date information to the flight crew in all phases of operation.

2.4 Powers of the authority. A description of the powers of the competent authority and guidance to staff on how to facilitate inspections by authority personnel.

2.5 If applicable under point ORO.GEN.310, registration mark, type of operation, as well as any other relevant details (e.g., name of operator(s) using the

aircraft in accordance with that requirement), to address point ORO.GEN.310(e)(1) and AMC1 ORO.GEN.310(b);(e).

3 MANAGEMENT SYSTEM

A description of the management system, including at least the following:

(a) safety policy;

(b) the process for identifying safety hazards and for evaluating and managing the associated risks;

(c) compliance-monitoring system;

(d) allocation of duties and responsibilities;

(e) documentation of all key management system processes;~~,~~

(f) support programme; alternatively, the programme can be included in Chapter 6 CREW HEALTH PRECAUTIONS.

[...]

6 CREW HEALTH PRECAUTIONS

6.1 Crew health precautions. The relevant regulations and guidance to crew members concerning health, including the following:

(a) alcohol and other intoxicating liquids,

(b) narcotics,

(c) drugs,

(d) sleeping tablets,(e) antidepressants~~anti-depressants~~,

(f) pharmaceutical preparations,

(g) immunisation,

(h) deep-sea diving,

(i) blood/bone marrow donation,

(j) meal precautions prior to and during flight,

(k) sleep and rest,

(l) surgical operations.

6.2 Policy on the prevention and detection of misuse of psychoactive substances by flight and cabin crew members and by other safety-sensitive personnel under the operator's direct control, including training and testing procedures.

6.3 Policy and procedures for the psychological assessment of flight crew.

[...]

8.3 Flight Procedures:

[...]

8.3.19 Methodology for the conduct of the in-flight check of the landing distance assessment at time of arrival (LDTA).

[...]

8.5 Extended ~~range~~ diversion time operations ~~with two-engined aeroplanes~~ (EDTO~~ETOPS~~). A description of the EDTO~~ETOPS~~ operational procedures. (Refer to SPA.EDTO~~EASA AMC 20-6~~)

(a) Brief description of EDTO,

(b) Definitions,

(c) Operator approved diversion time(s),

(d) List of aeroplanes within the scope of the EDTO operational approval,

(e) Flight crew procedures,

(i) Dispatch,

(ii) Re-routing or diversion-making,

(iii) En-route monitoring.

[...]

B AIRCRAFT OPERATING MATTERS — TYPE RELATED

Taking account of the differences between types/classes, and variants of types, under the following headings:

[...]

2 NORMAL PROCEDURES

The normal procedures and duties assigned to the crew, the appropriate checklists, the system for their use and a statement covering the necessary coordination procedures between flight and cabin/other crew members. The normal procedures and duties should include the following:

(a) pre-flight,

(b) pre-departure,

(c) altimeter setting and checking,

(d) departure briefing,

(~~d~~e) taxi, take-off and climb,

(~~e~~f) noise abatement,

(~~f~~g) cruise and descent,

(~~g~~h) approach, landing preparation and briefing,

(~~h~~i) VFR approach,

(~~i~~j) IFR approach,

(~~j~~k) visual approach and circling,

(~~k~~l) missed approach,

(~~l~~m) normal landing,

(~~m~~n) post-landing,

(~~n~~o) for aeroplanes, operations on wet and contaminated runways.

[...]

4 PERFORMANCE

4.~~0~~1 Performance data should be provided in a form that can be used without difficulty.

4.~~1~~2 Performance data. Performance material that provides the necessary data for compliance with the performance requirements prescribed in Annex IV (Part-CAT). For aeroplanes, this performance data should be included to allow the determination of the following:

(a) take-off climb limits — mass, altitude, temperature;

(b) take-off field length (for dry, wet and contaminated runway conditions);

(c) net flight path data for obstacle clearance calculation or, where applicable, take-off flight path;

(d) the gradient losses for banked climb-outs;

(e) en-route climb limits;

(f) approach climb limits;

(g) landing climb limits;

(h) landing field length (for dry, wet and contaminated runway conditions) including the effects of an in-flight failure of a system or device, if it affects the landing distance;

(i) landing field length for the purpose of the in-flight check of the landing distance at time of arrival (LDTA);

(j~~i~~) brake energy limits;

(k~~j~~) speeds applicable for the various flight stages (also considering dry, wet and contaminated runway conditions).

4.2~~1~~.1 Supplementary data covering flights in icing conditions. Any certified performance related to an allowable configuration, or configuration deviation, such as anti-skid inoperative.

4.2~~1~~.2 If performance data, as required for the appropriate performance class, is~~are~~ not available in the AFM, then other data should be included. The OM may contain cross-reference to the data contained in the AFM where such data is~~are~~ not likely to be used often or only in an emergency.

4.~~2~~3 [...]

4.4 EDTO additional performance data for aeroplanes. Additional performance data for ETOPS critical fuel reserve and area of operation, including sufficient data to support the critical fuel reserve and area of operation calculation based on approved aircraft performance data, where applicable, including the following:

(a) For two-engined aeroplanes, detailed one-engine-inoperative (OEI) performance data including fuel flow for standard and non-standard atmospheric conditions and as a function of airspeed and power setting, where appropriate, covering:

(i) drift down (includes net performance);

(ii) cruise (altitude coverage including depressurised altitude);

(iii) holding;

(iv) altitude capability (includes net performance);

(v) missed approach.

(b) Detailed all-engine-operating performance data, including nominal fuel flow data, for standard and non-standard atmospheric conditions and as a function of airspeed and power setting, where appropriate, covering:

(i) cruise (altitude coverage including depressurised altitude);

(ii) holding;

(c) Details of any other conditions relevant to EDTO that can cause significant deterioration of performance, such as ice accumulation on the unprotected surfaces of the aeroplane, ram air turbine (RAT) deployment, if such data is available.

(d) the altitudes, airspeeds, thrust settings, and fuel flow used in establishing the EDTO area of operations for each aeroplane/engine combination should be used in showing the corresponding terrain and obstruction clearances in accordance with Annex IV (Part-CAT).

5 FLIGHT PLANNING

5.1 Data and instructions necessary for pre-flight and in-flight planning including, for aeroplanes, factors such as speed schedules and power settings. Where applicable, procedures for engine(s)-out operations, EDTO~~ETOPS~~ (particularly the selected ~~one-engine-inoperative (OEI) cruise~~ speed, and the maximum distance to an adequate aerodrome determined in accordance with Annex IV (Part-CAT) and the relevant EDTO time-limited systems) and flights to isolated aerodromes should be included.

[...]

5.3 ~~When applicable, for aeroplanes, performance data for ETOPS critical fuel reserve and area of operation, including sufficient data to support the critical fuel reserve and area of operation calculation based on approved aircraft performance data. The following data should be included:~~ The altitudes, airspeeds, thrust settings, and fuel flow used in establishing the EDTO area of operations for each aeroplane/-engine combination should be used in showing the corresponding terrain and obstruction clearances in accordance with Annex IV (Part-CAT).

~~(a) detailed engine(s)-inoperative performance data, including fuel flow for standard and non-standard atmospheric conditions and as a function of airspeed and power setting, where appropriate, covering:~~

~~(i) drift down (includes net performance), where applicable;~~

~~(ii) cruise altitude coverage including 10 000 ft;~~

~~(iii) holding;~~

~~(iv) altitude capability (includes net performance);~~

~~(v) missed approach.~~

~~(b) detailed all-engine-operating performance data, including nominal fuel flow data, for standard and non-standard atmospheric conditions and as a function of airspeed and power setting, where appropriate, covering:~~

~~(i) cruise (altitude coverage including 10 000 ft);~~

~~(ii) holding;~~

~~(c) details of any other conditions relevant to ETOPS operations which can cause significant deterioration of performance, such as ice accumulation on the unprotected surfaces of the aircraft, ram air turbine (RAT) deployment, thrust reverser deployment, etc.; and~~

(~~d) the altitudes, airspeeds, thrust settings, and fuel flow used in establishing the ETOPS area of operations for each airframe engine combination should be used in showing the corresponding terrain and obstruction clearances in accordance with Annex IV (Part-CAT).~~

[...]

9 MINIMUM EQUIPMENT LIST (MEL)

The MEL for each aircraft type or variant operated and the type(s)/area(s) of operation. The MEL should also include the dispatch conditions associated with operations required for a specific approval (e.g. RNAV, RNP, RVSM, EDTO~~ETOPS~~). Consideration should be given to using the ATA number system when allocating chapters and numbers.

[...]

C ROUTE/ROLE/AREA AND AERODROME/OPERATING SITE INSTRUCTIONS AND INFORMATION

[…]

(3) Information related to EDTO

(a) EDTO routes and associated maximum diversion time or distance, including EDTO up to 180 minutes routes or areas subject to a 15 % increase of the operator approved diversion time in accordance with SPA.EDTO.105(b);

(b) EDTO en-route alternate aerodromes;

(c) Meteorological facilities and availability of information for in-flight monitoring;

(d) Low altitude cruise information, minimum diversion altitude, minimum oxygen requirements and any additional oxygen required on specified routes if MSA restrictions apply;

(e) Aerodrome characteristics (landing distance available, RFFS category and landing aids available) and weather minima for aerodromes that are designated as possible EDTO en-route alternate aerodromes.

[…]

D TRAINING

[…]

2.5 for operations personnel other than crew members (e.g. operations control personnel including flight dispatchers, ground handling personnel, etc.), all other relevant items prescribed in Annex IV (Part-CAT) and in this Annex pertaining to their duties.

Rationale:

The proposed amendments are designed to:

- *update the content of the operations manual (OM) in relation to the list of effective pages. This concept is becoming obsolete with the use of electronic versions of OMs, which use a different system to revise them, inform users about new revisions and keep OMs up to date. Therefore, point 02 in OM-A is expanded to address this scope. With this proposed amendment, several AltMoC to Section 02 of OM-A have been addressed;*
- *New text is added in Chapter 2 to reflect the requirement of ORO.GEN.110(c) for a better definition of what elements should be covered under the exercise of operational control. The additional text is based on the ICAO guidance for the preparations of an operations manual (DOC 10153, Ch. 6, 7).*
- *New section 2.5 is added in Chapter 2 of the Operations Manual Part A for clarity in relation to the requirement of ORO.GEN.310(e)(1). According to this implementing rule, the operator whose aircraft may be used by other operators for non-CAT flights must specify the registration mark of those aircraft and the type of operation for which those aircraft are used; AMC1 ORO.GEN.310(b);(e) lists other aspects that should be addressed by the operator in its operations manual in such a case. The operator may add any other relevant information in this new section 2.5. The new section is also consistent with the new GM1 ORO.GEN.310(e)(1).*
- *OM-A, ch. 3F: include some specific elements required to be described in the OM in a dedicated paragraph to ensure harmonisation among EU operators (i.e. flight crew support programme, psychological assessment, LDTA). Comments on this change were partially accepted or rejected. As this AMC did not specify where the support programmes should be added in the OM, operators may have decided to include them in various places of the manual. Chapter 6, which covers the crew health, could include the support programme, but the rules should be flexible enough to allow operators to place such details elsewhere. Therefore, the text in Ch. 6 has been amended to provide this flexibility.*
- *add the departure briefing in the list of procedures to be established by the operator to ensure alignment with ICAO Annex 6 Part I, Appendix 2 point 2.1.23.*
- *replace the previously used term 'ETOPS' by the new term 'EDTO';*
- *provide details on the data/procedures to be included in the different parts of the operations manual for an operator approved for EDTO based on provisions transferred from AMC20-6..*
- *In addition, based on comments received and accepted, aeroplanes with more than two engines have been added to the scope of EDTO and the related OM content amended to reflect this.*

GM1 ORO.MLR.105(d)(3) Minimum equipment list

SCOPE OF THE MEL

(a) Examples of special approvals in accordance with Part-SPA may be:

(1) RVSM,

(2) EDTO~~ETOPS~~,

(3) LVO.

[...]

Rationale

The change has been introduced to replace the term 'ETOPS' by 'EDTO'.

Subpart DEC

GM1 ORO.DEC.100 Declaration

[…]

MANAGED OPERATIONS

(d) When the non-commercial operation of a complex motor-powered aircraft is managed by a third party on behalf of the owner, that party may be the operator in the sense of Article 3~~(h)~~(13) of Regulation (EU) 2018/1139 ~~(EC) No 216/2008~~, and therefore has to declare its capability and means to discharge the responsibilities associated with the operation of the aircraft to the competent authority.

(e) In such a case, it should also be assessed whether the third-party operator undertakes a commercial operation, ~~in the sense of Article 3(i) of Regulation (EC) No 216/2008~~defined as the operation of an aircraft, in return for remuneration or other valuable consideration, which is available to the public or, when not made available to the public, which is performed under a contract between an operator and a customer, where the latter has no control over the operator.

Rationale

Editorial amendment. The definition of commercial operation used is the same as in Article 3(i) of Regulation (EC) No 216/2008. No impacts expected.

AMC1 ORO.DEC.100(d) Declaration

CHANGES

(a) The new declaration should be submitted before the change becomes effective indicating the date as of which the change would apply.

(b) When a declaring operator uses an aircraft registered on an AOC in accordance with point ORO.GEN.310(a)(2), it should update its declaration only once by adding that aircraft on the declaration. The aircraft remains on the declaration for as long as it is used by the declaring operator.

(c) The operator should keep clear evidence of the days and time when it uses the aircraft.

(d) For the purpose of point ORO.DEC.100(d), the obligation to notify the competent authority does not apply to changes related to point ORO.GEN.310(a)(2).

Rationale: *New text is proposed in this AMC to ensure consistency with the application of point ORO.GEN.310 and a consistent understanding of the flexibility provided by that rule while maintaining safety of operation and clear tracking of the operator that uses the aircraft at a time. The proposed text in this AMC has been further changed following the comments received on NPA 2022-11. The 30-day limitation of use of the aircraft of an AOC holder has been removed (see the explanation provided in the rationale to ORO.GEN.310). Also, the AMC now includes a new point requiring the operator to keep clear evidence of the use of that aircraft. Other comments were not in favour of the proposal based on the argument that the competent authority remains unaware of the specialised operations carried out by a declaring operator or of data on the operations necessary for correct establishment of the oversight programme. However, in relation to the comment referring to specialised operations, should the operator add a new specialised operation or require an authorisation for a new SPO activity, the other applicable rules remain valid, and the operator is required to change its declaration for these reasons, and not because it uses or stops using the aircraft listed on an AOC. The competent authority will receive the necessary information from the application of the other requirements (see also the new text proposed in point (a) of AMC1 ORO.SPO.115 Changes).*

A new point AMC1 ORO.DEC.100 (d) has been intruduced change has been made in response to a comment on NPA 2022-11 related to point ORO.GEN.310, to clarify the relationship with that rule. The comments suggested that it is unclear how the application of point ORO.GEN.310 will affect the obligations of operators regarding the update of declarations and high-risk commercial SPO authorisations.

Point ORO.GEN.310(a)(2) are proposed to be amended consistently to reflect this approach.

Subpart SPO

AMC1 ORO.SPO.115 Changes

CHANGES RELATED TO THE USE OF AN AIRCRAFT REGISTERED ON AN AOC

(a) When the operator operates high-risk commercial SPO with an aircraft registered on an AOC in accordance with point ORO.GEN.310, the operator should ensure the high-risk commercial SPO authorisation is issued for that aircraft. If the same aircraft is intended to be used for a new high-risk activity that is not included in the initial authorisation, the operator should comply with ORO.SPO.115 and apply for an updated authorisation.

(b) If the same aircraft registered on an AOC is operated by another operator for high-risk commercial SPO, that operator should apply for an authorisation in accordance with ORO.SPO.110.

(c) A change of the high-risk authorisation is not required every time the operator returns the aircraft to the AOC holder. The registration mark of the aircraft may be listed in the operations manual instead of the authorisation, as specified in Appendix IV to Annex II Part-ARO, Note 6.

(d) Each operator using the aircraft registered on an AOC for SPO operations should keep clear evidence of the days and time when it operates that aircraft.

Rationale: *A new AMC is proposed to ensure consistency with the application of point ORO.GEN.310 and a consistent understanding of the flexibility provided by that rule. The entire concept of point*

ORO.GEN.310 was efficiency gains on both sides: for the AOC holder and the declaring organisation(s) (or ATOs) that use the AOC holder's aircraft. If the AOC holder is relieved from the administrative burden of removing the aircraft from its AOC as long as the other operator(s) us(es) it, the same principle should apply for the operators that have an authorisation for high-risk SPO too.

Furthermore, the limitation of 30 days has been removed, as there is no safety data to justify it. Please see the rationale to ORO.GEN.310 for more explanations. The justification mentioned in 2 comments on NPA 2022-11, stating that the competent authority may remain unaware of the specialised operations carried out by the authorised SPO operator is not supported because the SPO high-risk authorisation is issued to the operator (i.e. the aircraft user), not to the aircraft, because the authorisation also verifies the OPS procedures and type of high-risk operation, and any additional pilot training, not just the aircraft equipment and limitations. Furthermore, the registration mark can be added in the OPS manual, not on the authorisation (as per Note 6 of Appendix IV to Part-ARO). The declaration is not a proper tool to track the whereabouts of the aircraft and it was not created with this purpose.

Additionally, new text has been added in point (d) to request the operators to keep clear track of days and time when they operate the aircraft listed on an AOC.

Subpart FC

AMC1 ORO.FC.105(b)(2);(c) Designation as pilot-in-command / commander

[…]

ROUTE, AREA AND AERODROME KNOWLEDGE FOR COMMERCIAL OPERATIONS

(…)

(b) Aerodrome knowledge

[…]

(3) All aerodromes to which an operator operates should be categorised in one of these three categories:

(i) category A — an aerodrome that meets all the following conditions:

[..]

(B) at least one runway with no performance-limited procedure for take-off ~~and/~~or landing, such as no requirement to follow a complex contingency procedure for obstacle clearance in the event of an engine failure on take-off ~~from any runway expected to be used for departure~~; and

Rationale:

This proposal was first published in NPA 2023-01. Point (b)(3)(i)(B) of AMC1 ORO.FC.105(b)(2);(c) is proposed to be amended for editorial reasons and to ensure clarity. The word 'complex' is proposed to be added as all or almost all runways have a contingency procedure in case of an engine failure on take-off. Even the simplest runway (e.g. runway with a take-off path to the sea) has a contingency procedure in case of engine failure on take-off (e.g. climb straight ahead to 2 000 ft and then turn back to the VOR of the airport).

The phrase 'from any runway expected to be used for departure' is proposed to be deleted as it duplicates the first sentence ('one runway'). The text that is proposed to be deleted (containing 'any runway') does not bring any additional value and can create confusion between the first sentence ('one runway)' and this one ('any runway').

The proposed amendments are expected to increase clarity with no negative safety or economic impacts.

AMC1 ORO.FC.140(a) Operation on more than one type or variant

GENERAL

[...]

(c) ODRs methodology

[...]

(3) The ODR tables should be presented as follows:

GENERAL OPERATOR DIFFERENCES REQUIREMENTS TABLE										
DIFFERENCE AIRCRAFT: BASE AIRCRAFT:				COMPLIANCE METHOD						
				TRAINING					CHECKING/ CURRENCY	
General	Differences	Flt char	Proc chg	A	B	C	D	E	FLT CHK	REC EXP
GENERAL	Range EDTO~~E TOPS certifie d~~capability	No	Yes		CBT					
DIMENSIONS	Configuration per AFM, FCOM	Yes	No		CBT					

[...]

Rationale:

The change has been introduced to replace the term 'ETOPS' by 'EDTO'.

AMC1 ORO.FC.145(a) Provision of training, checking and assessment

TRAINING AND CHECKING PROGRAMMES AND SYLLABI

(a) (...)

(b) Further details on the training and checking programmes and syllabi should be included in the operations manual depending on the complexity of the operations (e.g. further contextualisation of the training programme, details of the airport in which some items will be

covered, time allocation to brief and debrief, whether the item to be trained is a legal requirement or an SMS item, what is the validity of such training, check or assessment, etc.).

Rationale:

NPA 2024-02 proposed changes to training provisions in ORO.FC. One comment requested to be "more clear in the exams, assessment, check and test". This small editorial amendment that introduces further examples intends to clarify such a point.

AMC1 ORO.FC.220 Operator conversion training and checking

OPERATOR CONVERSION TRAINING SYLLABUS

[...]

(d) Flight training

(1) Flight training should be conducted to familiarise the flight crew member thoroughly with all aspects of limitations and normal, abnormal and emergency procedures associated with the aircraft and should be carried out by suitably qualified class and type rating instructors and/or examiners. For specific operations, such as steep approaches, EDTO~~ETOPS~~, or operations based on QFE, additional training should be carried out, based on any additional elements of training defined for the aircraft type in the operational suitability data in accordance with Commission Regulation (EU). No 748/2012, where they exist.

[...]

Rationale:

The change has been introduced to replace the term 'ETOPS' by 'EDTO'.

GM1 ORO.FC.230 Recurrent training and checking

LINE CHECK AND PROFICIENCY TRAINING AND CHECKING

[...]

(b) (...) The line check is not intended to determine knowledge on any particular route. As operators should consider line checklineers' expertise and experience when adjusting their training, development, and policies; thus, line checkers are appointed and are the responsibility of the training department.

GROUND TRAINING PROGRAMME

(e) Training on aircraft systems. It is recommended that training on aircraft systems referred to in point (a)(1)(i)(A) of AMC1 ORO.FC.230 is carried out at least every 12 calendar months so that all the systems are covered over a period not exceeding 3 years.

(f) Training on abnormal and emergency procedures. It is recommended that the training on abnormal and emergency procedures referred to in point (a)(1)(i)(C) of AMC1 ORO.FC.230 is carried out at least every 12 calendar months so that all such procedures are covered over a period not exceeding 3 years. Since operators cover major failures of aircraft systems in the FSTD/aircraft training programme, the ground training may focus on those other abnormal and emergency procedures that are not classified as major failures but have an impact on the safety

of the flight. The ground training programme may not cover all abnormal and emergency procedures: lower-risk abnormal procedures may not be included.

COMPUTER-BASED TRAINING

(h) Computer-based training (CBT) may be used for ground training. CBT is any interactive means of structured training that uses a computer to deliver content. CBT provides a valuable source of theoretical instruction, allowing the students to progress at their own pace within specified time limits. Such systems may allow self-study or distance learning if they incorporate adequate knowledge testing procedures. It is recommended that the operator provide a suitably qualified ground instructor at an agreed time and day (e.g. at the next briefing of a simulator session) to assist with areas of difficulty for the student.

Rationale

The new text in this GM was first published in NPA 2024-02.

The proposed point (b) serves as guidance for operators in the development of both initial and recurring training programs for line checkers. These line checkers are nominated by the operator's training department to ensure they are training-oriented, and free from any operational pressures during the line check (OPS matter are important in a line check but they cannot undermine the learning elements both for the pilot and the airline intended in the line check. Furthermore, it is important to recognize that the training department plays a crucial role in overseeing training, checking and evaluation activities within the airline, making it logical for line checks to adhere to the same standards. Notably, experts consulted by EASA have observed that only a limited number of airlines in Europe—approximately two—have line checkers under the responsibility of the operations (OPS) department.

The proposed new points (e) and (f) provide guidance on the frequency that should be applied to ground training on aircraft systems and abnormal and emergency procedures. The wording of points (e) and (f) assumes that at least two elements of the training (aircraft systems in point (e), abnormal and emergency procedures in point (f)) are covered every 12 months.

The new point (g) clarifies that CBT is possible in the context of ground training and includes some guidance on CBT. The definition of CBT comes from the EASA publication Guidance for allowing virtual classroom instruction and distance learning, and the remaining elements mirror AMC2 ORA.ATO.125, with the necessary adaptations to suit the needs of Subpart ORO.FC.

These proposals are intended to add clarity to the current provisions. A low positive impact on safety is expected.

During the NPA consultation, EASA received comments about the exclusion of Points (a)(1)(i)(B) and (a)(1)(i)(D) of AMC1 ORO.FC.230 from the GM. As these points must be completed annually, they are intentionally excluded from the GM. In addition another comment requested to clarify checks. One of this elements is the line check.

The text is slightly changed from the NPA to improve understanding.

AMC2 ORO.FC.231(a) Evidence-based training

UPSET PREVENTION AND RECOVERY TRAINING (UPRT) FOR COMPLEX MOTOR-POWERED AEROPLANES WITH A MAXIMUM OPERATIONAL PASSENGER SEATING CONFIGURATION (MOPSC) OF MORE THAN 19 AND FLIGHT PATH MANAGEMENT DURING UNRELIABLE AIRSPEED INDICATION AND OTHER FAILURES AT HIGH ALTITUDE IN AEROPLANES WITH A MAXIMUM CRUISING ALTITUDE ABOVE FL300

Operators approved for EBT should follow the provisions for upset prevention and recovery training (UPRT) contained in AMC1 ORO.FC.220&230 ~~'Operator conversion training and checking & recurrent training and checking'~~ and for training on flight path management during unreliable airspeed indication and other failures at high altitude in aeroplanes with a maximum cruising altitude above FL300 contained in AMC1 ORO.FC.120&130. These provisions ~~should be~~ are included in the tables of assessment and training topics detailed in ORO.FC.232. Further guidance can be found in the EASA EBT manual.

Rationale

The amendments proposed aim to clarify that operators approved for EBT need to include in their training programmes elements related to training on flight path management during unreliable airspeed indication and other failures at high altitude, as detailed in AMC1 ORO.FC.120&130. Compliance with AMC1 ORO.FC.120&130 is already required by EBT operators (and non-EBT operators); therefore, the amendments to AMC2 ORO.FC.231(a) simply clarify:

— *that the provisions in AMC1 ORO.FC.120&130 can be integrated in the EBT programme;*

— *how to integrate them, which is provided in the amendments proposed in AMC2 ORO.FC.232 (see below).*

The proposed amendments add clarity to the text, and a low positive impact on safety is expected.

AMC1 ORO.FC.231(a)(5) Evidence-based training

CONTINGENCY PROCEDURES FOR UNFORESEEN CIRCUMSTANCES THAT MAY AFFECT THE DELIVERY OF THE MODULE

[…]

(c) In case the pilot misses modules and does not meet the requirements of recent experience (FCL.060):

[…]

(4) […]

~~In such case, the 3-month separation requirement between modules may not apply;~~

(5) when the pilot misses two or more modules and the pilot's rating is expired by less than 1 year:

[…]

(ii) training topics B and C of the other module(s) missing should be rescheduled before the pilot can resume line operations.

~~In such case, the period of 3-month separation between modules may not apply;~~ and

[…]

Rationale

These changes were first published in NPA 2024-02 and there were no comments.

The purpose of the proposed amendments is to clarify that the provisions of point (c)(5) of the AMC also apply to cases in which the pilot has missed two modules or more.

The proposed amendments add clarity to the text, and no impact is expected.

GM1 ORO.FC.231(a)(5) Evidence-based training

CONTINGENCY PROCEDURES — RATINGS RENEWAL

(a) […]

(2) […]

(ii) Two or more modules are missing: the pilot must complete one module (two simulator sessions) and training topics B and C of the other missing module (an extra simulator session) with a total of three simulator sessions. Training data is gathered in a short time period; therefore, an EBT instructor with examiner privilege is involved to ensure the proficiency of the pilot.

[…]

Rationale

Please refer to the rationale for the amendments to AMC1 ORO.FC.231(a)(5).

AMC1 ORO.FC.231(c) Evidence-based training

TRAINING SYSTEM PERFORMANCE — FEEDBACK PROCESS

(a) Feedback process is the continuous process of collecting and analysing assessment and training data from an EBT programme as part of the continuous improvement of the programme.

[…]

(c) The following defined metrics should be collected as a minimum:

(1) level 0 grading metrics (competent/binary metrics): data metrics providing the information whether the pilot(s) is (are) competent or not (for training: whether the pilot 'completed' the training or not);

[…]

Rationale

These changes were first published in NPA 2024-02 and there were no comments.

Level 0 grading is a binary grading. The purpose of the first proposed amendment is to clarify that level 0 can be used to grade training sessions (e.g. scenario-based training). The wording 'competent/not competent' was perceived as confusing as it is usually used in the context of evaluation or checking. A few existing paragraphs of GM to ORO.FC.231 clearly cover the possibility of using level 0 grading in scenario-based training, and proposed amendments are consistent with that.

The wording used ('whether the pilot 'completed' the training or not') follows the philosophy described in point (a)(3)(i) of ORO.FC.231.

The proposed amendments add clarity to the text, and no impact is expected.

AMC3 ORO.FC.231(d)(1) Evidence-based training

RECOMMENDED CONDUCT OF COMPETENCY ASSESSMENT ~~OF THE GRADING~~ — ORCA

[…]

(b) As a minimum, the instructor should grade all the observed competencies at:

[…]

(3) at the end of the EBT module (de-briefing) by providing ~~at least~~ level 1~~0~~ grading metrics (level 0~~1~~ grading metrics are allowed ~~recommended~~ provided other level grading metrics are recorded for the use of the training system performance (data protected), and an automated system is used for the selection of individual tailor training and additional training).

Rationale

These changes are introduced as a consequence of the comments received in the AMC4 ORO.FC.231(d)(1). They are both related and should be seen in combination.

This editorial change addresses the comments in AMC4 ORO.FC.231(d)(1) and clarifies the differences between the two AMCs. The AMC4 ORO.FC.231(d)(1)is titled "grading" as well, and it may cause confusion.

AMC4 ORO.FC.231(d)(1) Evidence-based training

RECOMMENDED GRADING SYSTEM METHODOLOGY ~~— VENN MODEL~~

(a) To grade a competency, the instructor should:

(1) assess the associated OBs of ~~each~~ the competency against the following dimensions by determining:

~~(1) what was the outcome of the threat management, error management and undesired aircraft state management relating specifically to the competency being assessed;~~

~~(2) how well the flight crew member demonstrated the OB(s) when they were required. This includes:~~

(i) how many OBs (NUMBER) the flight crew member demonstrated ~~over the EBT phase (e.g.EVAL, MT, SBT)~~ when they were required; ~~and~~

(ii) how often (FREQUENCY) the flight crew member demonstrated the OB(s) when they were required; and

(iii) what was the outcome of the threat & error management model (TEM).

(2) based on the assessment in (1), the instructor allocates a value to the performance achieved by the pilot in the competency.

~~Abbreviated word picture VENN model~~		
	~~TEM~~	~~Observable behaviours~~

~~Grading~~	~~OUTCOME (1)~~	~~HOW WELL (2) =~~	~~HOW MANY (i)+~~	~~HOW OFTEN (ii)~~
~~1~~	~~unsafe situation~~	~~ineffectively~~	~~few, hardly any~~	~~rarely~~
~~2~~	~~not an unsafe situation~~	~~minimally acceptable~~	~~some~~	~~occasionally~~
~~3~~	~~safe situation~~	~~adequately~~	~~many~~	~~regularly~~
~~4~~	~~safe situation~~	~~effectively~~	~~most~~	~~regularly~~
~~5~~	~~enhanced safety, effectiveness and efficiency~~	~~in an exemplary manner~~	~~all, almost all~~	~~always~~

Observable Behaviour		TEM
NUMBER how many	FREQUENCY how often	OUTCOME led to
all, almost all	always, almost always	enhanced safety
most	very often	safe situation*
many	regularly	safe situation
some	occasionally	not an unsafe situation
few, hardly any	rarely	unsafe situation

Grading	
PERFORMANCE how well	GRADE
in an exemplary manner	5
effectively	4
adequately	3
minimally acceptable	2
ineffectively	1

OBs (when required)	* a more proactive safety level

(b) Grades should be determined during each EBT module as follows:

(1) EVAL — overall performance of the phase at level 1 grading metrics.

(2) MT — overall performance of the phase at level 0 grading metrics. When the phase is graded 'not competent' or 'not completed', it requires level 2 grading metrics.

[…]

Rationale

These changes were first published in NPA 2024-02 for which EASA received comments, the comment implied further changes in AMC & GM related to the same point (ORO.FC.231(d)(1))

The replacement table improves the presentation of the existing table and moves the TEM column to the end of the table in accordance with the latest amendments from ICAO.

Additionally, it is proposed to introduce new wording to point (b), to reflect the practice used by many operators, which consider 'not completed' more appropriate for this training phase, as 'not competent'

is wording traditionally used in a checking environment. See the rationale for the proposed amendments to AMC1 ORO.FC.231(c).

The proposed amendments add clarity to the text, and no impact is expected.

The proposed table slightly differ from the NPA (comments received) as follows:

The terms for "how many" and "how often" have been refined for greater precision and clarity. Additionally, consistency with the term "TEM OUTCOME" as a noun has been established.

The term "how many" simply describes the NUMBER of required OBs (observations), so this substantive has been retained.

Furthermore, "how often" does not accurately describe the regularity of required OBs, as "often" refers to frequency rather than regular intervals. Consequently, the noun "FREQUENCY" has been added to this column.

Additionally, the content of this column needed adaption:

The term "almost always" has been included to align with ICAO and IATA standards, ensuring consistency with the highest frequency category in the "number" dimension.

The previous asterisk note ("regularly is interpreted as 'very often') will be replaced with "very often" for a clearer and more consistent terminology.*

Although "regularly" is not typically associated with frequency, it has not been changed to avoid confusion for operators and instructors.

In the column describing performance levels, the title "performance" has been added. The word pictures now describe "how well" the performance in each respective competency is demonstrated.

Due to the comment received which amongst others, it is related to the parallel work that ICAO is developing under the PTPL Panel (write here the full name), the proposal in the NPA was amendment for this opinion to include the latest development and wording on the topic, as well as to further clarify when the SBT is graded at level 0.

GM1 ORO.FC.231(d)(1) Evidence-based training

RECOMMENDED CONDUCT OF COMPETENCY ASSESSMENT ~~THE GRADING~~ — ORCA

[…]

(c) At the end of each training phase, it is recommended to record at least level 1 grading metrics unless just culture and the necessary non-jeopardy environment during training may be compromised. In that case, the following alternative may be recommended: level 0 grading metrics are ~~for all competencies may be~~ recorded ~~(exceptionally 'not observed' or 'left in blank' may be recorded)~~, and other de-identified ~~level 1~~ grading metrics are ~~may be~~ recorded for ~~the~~ data collection and analysis purposes as part of the training system performance that aims the continuous improvement of the EBT programme to improve operator's safety performance.

Rationale

See AMC4 ORO.FC.231(d)(1).

GM2 ORO.FC.231(d)(1) Evidence-based training

RECOMMENDED GRADING SYSTEM METHODOLOGY ~~— VENN MODEL~~

(a) Grades may be determined during each EBT module as follows:

(…)

(5) At the completion of the module, grades should be assigned for each competency (level 1), based on the overall assessment of training during the SBT. When the operator has developed procedures to grade the SBT at level 0, determining the individual tailor training and additional training should be based on an automated system; this avoids the need for manual intervention or anyone to view the already de-identified grades.

(…)

(b) Examples of the application on the grading system methodology (e.g. word picture) can be found in the EASA EBT manual. ~~The word pictures are standardised according to the VENN model but may be simplified once instructors become familiar with the system.~~

~~Word picture VENN model~~	
~~Application of procedures (PRO)~~	
~~5~~	~~The pilot applied procedures in an exemplary manner, by always demonstrating almost all of the observable behaviours to a high standard when required, which enhanced safety, effectiveness and efficiency~~
~~4~~	~~The pilot applied procedures effectively, by regularly demonstrating most of the observable behaviours when required, which resulted in a safe operation~~
~~3~~	~~The pilot applied procedures adequately, by regularly demonstrating many of the observable behaviours when required, which resulted in a safe operation~~
~~2~~	~~The pilot applied procedures at the minimum acceptable level, by only occasionally demonstrating some of the observable behaviours when required, but which did not result in an unsafe situation~~
~~1~~	~~The pilot applied procedures incorrectly, by rarely demonstrating any of the observable behaviours when required, which resulted in an unsafe situation~~
~~Communication (COM)~~	
~~5~~	~~The pilot communicated in an exemplary manner, by always demonstrating almost all of the observable behaviours to a high standard when required, which enhanced safety, effectiveness and efficiency~~
~~4~~	~~The pilot communicated effectively, by regularly demonstrating most of the observable behaviours when required, which resulted in a safe operation~~
~~3~~	~~The pilot communicated adequately, by regularly demonstrating many of the observable behaviours when required, which resulted in a safe operation~~
~~2~~	~~The pilot communicated at the minimum acceptable level, by only occasionally demonstrating some of the observable behaviours when required, but which did not result in an unsafe situation~~
~~1~~	~~The pilot communicated ineffectively, by rarely demonstrating any of the observable behaviours when required, which resulted in an unsafe situation~~

~~Flight path management — automation (FPA)~~	
~~5~~	~~The pilot managed the automation in an exemplary manner, by always demonstrating almost all of the observable behaviours to a high standard when required, which enhanced safety, effectiveness and efficiency~~
~~4~~	~~The pilot managed the automation effectively, by regularly demonstrating most of the observable behaviours when required, which resulted in a safe operation~~
~~3~~	~~The pilot managed the automation adequately, by regularly demonstrating many of the observable behaviours when required, which resulted in a safe operation~~
~~2~~	~~The pilot managed the automation at the minimum acceptable level, by only occasionally demonstrating some of the observable behaviours when required, but which did not result in an unsafe situation~~
~~1~~	~~The pilot managed the automation ineffectively, by rarely demonstrating any of the observable behaviours when required, which resulted in an unsafe situation~~
~~Flight path management — manual control (FPM)~~	
~~5~~	~~The pilot controlled the aircraft in an exemplary manner, by always demonstrating almost all of the observable behaviours to a high standard when required, which enhanced safety, effectiveness and efficiency~~
~~4~~	~~The pilot controlled the aircraft effectively, by regularly demonstrating most of the observable behaviours when required, which resulted in a safe operation~~
~~3~~	~~The pilot controlled the aircraft adequately, by regularly demonstrating many of the observable behaviours when required, which resulted in a safe operation~~
~~2~~	~~The pilot controlled the aircraft at the minimum acceptable level, by only occasionally demonstrating some of the observable behaviours when required, but which did not result in an unsafe situation~~
~~1~~	~~The pilot controlled the aircraft ineffectively, by rarely demonstrating any of the observable behaviours when required, which resulted in an unsafe situation~~
~~Application of knowledge (KNO)~~	
~~5~~	~~The pilot showed exemplary knowledge, by always demonstrating almost all of the observable behaviours to a high standard when required, which enhanced safety, effectiveness and efficiency~~
~~4~~	~~The pilot showed adequate knowledge, by regularly demonstrating most of the observable behaviours when required, which resulted in a safe operation~~
~~3~~	~~The pilot showed adequate knowledge, by regularly demonstrating many of the observable behaviours when required, which resulted in a safe operation~~
~~2~~	~~The pilot showed knowledge at the minimum acceptable level, by only occasionally demonstrating some of the observable behaviours when required, but which did not result in an unsafe situation~~
~~1~~	~~The pilot showed inadequate knowledge, by rarely demonstrating any of the observable behaviours when required, which resulted in an unsafe situation~~

~~Leadership & teamwork (LTW)~~	
~~5~~	~~The pilot led and worked as a team member in an exemplary manner, by always demonstrating almost all of the observable behaviours to a high standard when required, which enhanced safety, effectiveness and efficiency~~
~~4~~	~~The pilot led and worked as a team member effectively, by regularly demonstrating most of the observable behaviours when required, which resulted in a safe operation~~

~~3~~	~~The pilot led and worked as a team member adequately, by regularly demonstrating many of the observable behaviours when required, which resulted in a safe operation~~
~~2~~	~~The pilot led and worked as a team member at the minimum acceptable level, by only occasionally demonstrating some of the observable behaviours when required, but which did not result in an unsafe situation~~
~~1~~	~~The pilot led or worked as a team member ineffectively, by rarely demonstrating any of the observable behaviours when required, which resulted in an unsafe situation~~
~~Problem-solving & decision-making (PSD)~~	
~~5~~	~~The pilot solved problems and made decisions in an exemplary manner, by always demonstrating almost all of the observable behaviours to a high standard when required, which enhanced safety, effectiveness and efficiency~~
~~4~~	~~The pilot solved problems and made decisions effectively, by regularly demonstrating most of the observable behaviours when required, which resulted in a safe operation~~
~~3~~	~~The pilot solved problems and made decisions adequately, by regularly demonstrating many of the observable behaviours when required, which resulted in a safe operation~~
~~2~~	~~The pilot solved problems and made decisions at the minimum acceptable level, by only occasionally demonstrating some of the observable behaviours when required, but which did not result in an unsafe situation~~
~~1~~	~~The pilot solved problems or made decisions ineffectively, by rarely demonstrating any of the observable behaviours when required, which resulted in an unsafe situation~~
~~Situation awareness (SAW)~~	
~~5~~	~~The pilot's situation awareness was exemplary, by always demonstrating almost all of the observable behaviours to a high standard when required, which enhanced safety, effectiveness and efficiency~~
~~4~~	~~The pilot's situation awareness was good, by regularly demonstrating most of the observable behaviours when required, which resulted in a safe operation~~
~~3~~	~~The pilot's situation awareness was adequate, by regularly demonstrating many of the observable behaviours when required, which resulted in a safe operation~~
~~2~~	~~The pilot's situation awareness was at the minimum acceptable level, by only occasionally demonstrating some of the observable behaviours when required, but which did not result in an unsafe situation~~
~~1~~	~~The pilot's situation awareness was inadequate, by rarely demonstrating any of the observable behaviours when required, which resulted in an unsafe situation~~
~~Workload management (WLM)~~	
~~5~~	~~The pilot managed the workload in an exemplary manner, by always demonstrating almost all of the observable behaviours to a high standard when required, which enhanced safety, effectiveness and efficiency~~
~~4~~	~~The pilot managed the workload effectively, by regularly demonstrating most of the observable behaviours when required, which resulted in a safe operation~~
~~3~~	~~The pilot managed the workload adequately, by regularly demonstrating many of the observable behaviours when required, which resulted in a safe operation~~
~~2~~	~~The pilot managed the workload at the minimum acceptable level, by only occasionally demonstrating some of the observable behaviours when required, but which did not result in an unsafe situation~~
~~1~~	~~The pilot managed the workload ineffectively, by rarely demonstrating any of the observable behaviours when required, which resulted in an unsafe situation~~

Rationale

See AMC4 ORO.FC.231(d)(1). The amendment to the GM is introduced as a consequence of the comments received in the AMC4 ORO.FC.231(d)(1)

GM3 ORO.FC.231(d)(1) Evidence-based training

EXPANDED GRADING SYSTEM METHODOLOGY

(a) The grading of competencies relies on the facilitated debriefing conducted by the Instructor and is not the result of a simple matrix application. Therefore, the Instructor must be able to assess the overall competency after the session, based on the debriefing and illustrated by the application of OBs and the TEM Outcome as explained in AMC4 ORO.FC.231(d)(1).

(b) If needed for clarification or instructor training and standardisation, operators have the possibility to add a column to consider 'how well' the required Observable Behaviours have been demonstrated (QUALITY).

Observable Behaviour			TEM	Grading	
NUMBER how many	**FREQUENCY how often**	**QUALITY how well**	**OUTCOME led to**	**PERFORMANCE how well**	**GRADE**
all, almost all	always, almost always	exemplary	enhanced safety	in an exemplary manner	5
most	very often	effectively	safe situation*	effectively	4
many	regularly	adequately	safe situation	adequately	3
some	occasionally	acceptably	not an unsafe situation	minimally acceptable	2
few, hardly any	rarely	ineffectively	unsafe situation	ineffectively	1

OBs (when required) | * a more proactive safety level

Rationale

See AMC4 ORO.FC.231(d)(1). A new GM is created to resolve the comments received in AMC4 ORO.FC.231(d)(1).

GM1 ORO.FC.231(h)(4) Evidence-based training

LINE EVALUATOR

(a) (…)

(b) As operators should consider line evaluators' expertise and experience when adjusting their training, development, and policies; thus, line evaluators are appointed and are the responsibility of the training department. The line evaluator training may be included in the EBT instructor standardisation and concordance programme. This option (concordance programme) is, however, limited (…)

Rationale

This GM is introduced to resolve the comment received in GM1 ORO.FC.230.

The proposed point (b) serves as guidance for operators in the development of both initial and recurring training programs for line evaluators. These line evaluators are nominated by the operator's training department to ensure they are training-oriented, and free from any operational pressures during the line check (OPS matter are important in a line check but they cannot undermine the learning elements both for the pilot and the airline intended in the line evaluation. Furthermore, it is important to recognise that the training department plays a crucial role in overseeing training, checking and evaluation activities within the airline, making it logical for line checks to adhere to the same standards. Notably, experts consulted by EASA have observed that only a limited number of airlines in Europe—approximately one—have line evaluators under the responsibility of the operations (OPS) department.

AMC2 ORO.FC.232 EBT programme assessment and training topics

GENERATION 4 (JET) — TABLE OF ASSESSMENT AND TRAINING TOPICS

[…]

Section 5 — UPRT training topic with frequency (B). Evaluation phase, manoeuvres training phase or scenario-based training phase (EVAL, MT or SBT)																				
EVAL, MT or SBT	Upset prevention training	B	N/A	Compliance with AMC1 or AMC2 to ORO.FC.220&230 and AMC1 ORO.FC.120&130 Include 'upset prevention elements' in 'Table 1' and 'unreliable airspeed indication' and other failures for the recurrent training programme in at least every cycle, such that all the elements are covered over a period not exceeding 3 years. The elements are numbered with letters from A to I in Table 1 of AMC1 ORO.FC.220&230. Each element is made up of several numbered components. […]	[…]	See Table 1 of AMC1 ORO.FC.220&230: Elements and respective components of upset prevention training.	Intentionally blank									
			CRZ			[…]			X					x	x
			TO APP			[…]			x	x		x	x		
			CRZ			[…]				X			x		x
			CRZ			[…]	X		x	x			x		
			CRZ			[…]			X	x			x		X
			CRZ			High-altitude ACAS RA (where the RA is required to be flown in manual flight)	x			x			x	x	
			CRZ			Basic flight physics principles concerning flights at high altitude, with a particular emphasis on the relative proximity of the critical Mach number and the stall and pitch behaviour, and an understanding of the reduced stall angle of attack when compared with low-altitude flight. Note: By executing at high altitude any of components A.3, A.4, A.5, A.6 or A.7 of Table 1 (prevention) of AMC1 ORO.FC.220&230 or component A.3 of Table 2 (recovery), this element may be credited.	Intentionally blank									
			CRZ			Interaction of automation (autopilot, flight director, auto-throttle/autothrust) and the consequences of failures inducing disconnection of the automation. Note: By executing at high altitude any of the components F.3, F.6 or H.5 of Table 1 of AMC1 ORO.FC.220&230, this element may be credited.	Intentionally blank									
			CRZ			Consequences of an unreliable airspeed indication and other failures at high altitude and the need for the flight crew to promptly identify the failure and react with appropriate (minimal) control inputs to keep the aircraft in a safe envelope. Note: By executing at high altitude any of the components H.1, H.2, H.3, H4, H5, H6 or H7 of Table 1 of AMC1 ORO.FC.220&230, this element may be credited.	Intentionally blank									

			CRZ			Unreliable airspeed indication or other failures at high altitude and the need for the flight crew to promptly identify the failure and react with appropriate (minimal) control inputs to keep the aircraft in a safe envelope.	X	X		X	X		X	X	X
			CRZ			Degradation of fly-by-wire (FBW) flight control laws/modes and its impact on aircraft stability and flight envelope protections, including stall warnings. Note: By executing at high altitude component H.6 of Table 1 AMC1 ORO.FC.220&230 this element may be credited.	Intentionally blank												
			CRZ			Practical training, using appropriate simulators, on manual handling at high altitude in normal and non-normal flight control laws/modes, with particular emphasis on pre-stall buffet, the reduced stall angle of attack when compared with low-altitude flight and the effect of pitch inputs on the aircraft trajectory and energy state. Note: By executing at high altitude any of the components A.3, A.4, A.5, A.6, A.7, F.3, G.5, H.7 or I.1 of Table 1 of AMC1 ORO.FC.220&230, this element may be credited.	Intentionally blank												
			CRZ			The requirement to promptly and accurately apply the stall recovery procedure, as provided by the aircraft manufacturer, at the first indication of an impending stall. Differences between high-altitude and low-altitude stalls must be addressed. Note: By executing at high altitude component A.2 of Table 1 of AMC1 ORO.FC.220&230, this element may be credited.	Intentionally blank												
			CRZ			Procedures for taking over and transferring manual control of the aircraft, especially for FBW aeroplanes with independent side-sticks. Note: By executing at high altitude any of the components F.1, F.6, H.3 or H.4 of Table 1 of AMC1 ORO.FC.220&230, this element may be credited.	Intentionally blank												
			N/A			Task sharing and crew coordination in high workload/stress conditions with appropriate call-out and acknowledgement to confirm changes to the aircraft flight control law/mode. Note: By executing at high altitude the training topic 'workload distraction, pressure, stress', this element may be credited.	Intentionally blank												

[…]

EVAL or SBT	Terrain	B	ALL	Alert, warning, or conflict	Anticipate terrain threats. Prepare for terrain threats. Recognise unsafe terrain clearance. Take appropriate action. Apply the appropriate procedures correctly. Maintain aircraft control. Restore safe flight path. Manage consequences.	ATC clearance giving insufficient terrain clearance	x	x			x				X
			ALL			Demonstration of terrain avoidance warning systems (TAWS) (this scenario element may be done in an ISI.)						x	x	x	
			TO CLB			Engine failure where performance is marginal leading to TAWS warning		x		x				x	
			DES APP			ATC provides a wrong QNH		x					x		
			DES			'Virtual mountain' refers to the surprise element of an unexpected warning. Care should be exercised in creating a level of realism, so this can best be achieved by an unusual and unexpected change of route during the descent.						X	x	x	
	Workload, distraction, pressure, stress	B	ALL	This is not considered a topic for specific attention on its own, but more as a reminder to programme	Manage available resources efficiently to prioritise and perform	Intentionally blank	Intentionally blank								

			TO CLB	developers to ensure that pilots are exposed to immersive training scenarios which expose them to manageable high workload and distractions during the course of the EBT programme, at the defined frequency.	tasks in a timely manner under all circumstances	During takeoff/climb, the senior cabin crew member (SCM) becomes incapacitated. The cabin crew's inexperience causes confusion and distracts the pilots; it's unclear if the SCM needs immediate medical assistance. There are marginal weather conditions and/or performance limitations at the landing aerodromes.		X			X	X		X	

Rationale

These changes were first published in NPA 2024-02, and no comments were received.

The proposed additions to Section 5 of the table, on UPRT training, improve the link with AMC1 ORO.FC.120&130 and AMC1 ORO.FC.220&230. See the rationale for the amendments to AMC2 ORO.FC.231(a).

The proposed amendments add clarity to the text, and a low positive impact on safety is expected.

Additionally this opinion proposes a new 'example scenario element' because they are necessary to help EBT programme designers in developing better scenarios, especially regarding WLM and LTW. The focus of this new example scenario element is to observe the flight crew's actions and how they manage their resources onboard and their cabin crew to address situations effectively. This includes choosing the best course of action to assist the Senior Cabin Crew Member (SCM) while maintaining focus on the flight during periods of heavy workload and possible diversion.

AMC3 ORO.FC.232 EBT programme assessment and training topics

GENERATION 3 (JET) — TABLE OF ASSESSMENT AND TRAINING TOPICS

[…]

Section 5 — UPRT training topic with frequency (B). Evaluation phase, manoeuvres training phase or scenario-based training phase (EVAL, MT or SBT)																				
EVAL, MT or SBT	Upset prevention training	B	N/A	Compliance with AMC1 or AMC2 to ORO.FC.220&230 and AMC1 ORO.FC.120&130 Include 'upset prevention elements' in 'Table 1' and 'unreliable airspeed indication' and other failures for the recurrent training programme in at least every cycle, such that all the elements are covered over a period not exceeding 3 years. The elements are numbered with letters from A to I in Table 1 of AMC1 ORO.FC.220&230. Each element is made up of several numbered components. […]	[…]	[…]	Intentionally blank										
			CRZ			[…]			X					x	x				
			TO APP			[…]			x	x		x	x						
			CRZ			[…]				X			x		x				
			CRZ			[…]	X		x	x			x						
			CRZ			[…]			X	x			x		X				
			CRZ			[…]	x			x			x	x						
			CRZ			Basic flight physics principles concerning flights at high altitude, with a particular emphasis on the relative proximity of the critical Mach number and the stall and pitch behaviour, and an understanding of the reduced stall angle of attack when compared with low-altitude flight. Note: By executing at high altitude any of the components A.3, A.4, A.5, A.6 or A.7 of Table 1 (prevention) of AMC1 ORO.FC.220&230 or component A.3 of Table 2 (recovery), this element may be credited.	Intentionally blank										
			CRZ			Interaction of automation (autopilot, flight director, auto-throttle/autothrust) and the consequences of failures inducing disconnection of the automation. Note: By executing at high altitude any of the components F.3, F.6 or H.5 of Table 1 of AMC1 ORO.FC.220&230, this element may be credited.	Intentionally blank										
			CRZ			Consequences of an unreliable airspeed indication and other failures at high altitude and the need for the flight crew to promptly identify the failure and react with appropriate (minimal) control inputs to keep the aircraft in a safe envelope. Note: By executing at high altitude any of the components H.1, H.2, H.3, H4, H5, H6 or H7 of Table 1 of AMC1 ORO.FC.220&230, this element may be credited.	Intentionally blank										
			CRZ			Unreliable airspeed indication or other failures at high altitude and the need for the flight crew to promptly identify the failure and react with appropriate (minimal) control inputs to keep the aircraft in a safe envelope.	x	x		x	x		x	x	x			

			CRZ			Degradation of fly-by-wire (FBW) flight control laws/modes and its impact on aircraft stability and flight envelope protections, including stall warnings. Note: By executing at high altitude component H.6 of Table 1 of AMC1 ORO.FC.220&230, this element may be credited.	Intentionally blank
			CRZ			Practical training, using appropriate simulators, on manual handling at high altitude in normal and non-normal flight control laws/modes, with particular emphasis on pre-stall buffet, the reduced stall angle of attack when compared with low-altitude flight and the effect of pitch inputs on the aircraft trajectory and energy state. Note: By executing at high altitude any of the components A.3, A.4, A.5, A6, A7, F.3, G.5, H.7 or I.1 of Table 1 of AMC1 ORO.FC.220&230, this element may be credited.	Intentionally blank
			CRZ			The requirement to promptly and accurately apply the stall recovery procedure, as provided by the aircraft manufacturer, at the first indication of an impending stall. Differences between high-altitude and low-altitude stalls must be addressed. Note: By executing at high altitude component A.2 of Table 1 of AMC1 ORO.FC.220&230, this element may be credited.	Intentionally blank
			CRZ			Procedures for taking over and transferring manual control of the aircraft, especially for FBW aeroplanes with independent side-sticks. Note: By executing at high altitude any of the components F.1, F.6, H.3 or H.4 of Table 1 of AMC1 ORO.FC.220&230, this element may be credited.	Intentionally blank
			N/A			Task sharing and crew coordination in high workload/stress conditions with appropriate call-out and acknowledgement to confirm changes to the aircraft flight control law/mode. Note: By executing at high altitude the training topic 'workload distraction, pressure, stress', this element may be credited.	Intentionally blank

[…]

Rationale

These changes were first published in NPA 2024-02, and no comments were received.

The proposed additions to Section 5 of the table, on UPRT training, improve the link with AMC1 ORO.FC.120&130 and AMC1 ORO.FC.220&230. See the rationale for the amendments to AMC2 ORO.FC.231(a).

The proposed amendments add clarity to the text, and a low positive impact on safety is expected.

AMC1 ORO.FC.430 Recurrent training and checking

RECURRENT TRAINING AND CHECKING SILLABUS

[…]
(2)[…]
(iii)[…]
(F)[…]
[…]
The provision of further specialist training should be considered, such as underwater escape training. Where operations are ~~predominately~~ predominantly conducted over water at hostile or non-hostile sea at a distance from land corresponding to more than 10 minutes flying time at normal cruise speed, operators should provide VCA underwater escape training every 3 years at an appropriate facility.
[…]

Subpart CC

AMC1 ORO.CC.100 Number and composition of cabin crew

DETERMINATION OF THE NUMBER AND COMPOSITION OF CABIN CREW

[...]
(b) When scheduling cabin crew for a flight, the operator should establish procedures that take account of the experience of each cabin crew member. The procedures should be supported by a risk assessment and should specify that the required cabin crew composition includes some cabin crew members who have ~~at least~~ ~~3 months~~ experience that is equivalent to at least 3 months of active and busy rosters as an operating cabin crew member.

A 3-month period should not be taken as the only possible reference to measure cabin crew experience. The number of sectors or flight hours considered necessary for the cabin crew member to be experienced should be equivalent to at least 3 months of active and busy rosters.

Each operator should have the possibility to make the choice of either sectors or flight hours, whichever suits them best. The decision process should be conducted in coordination with the competent authority and should be supported by a risk assessment.

The operator should take the following elements into account, as a minimum:

(1) Sufficient time provided to all newly joined cabin crew members to build up the necessary knowledge and skills, and to practise their role of ensuring the safety of the aircraft occupants in actual flight operations.

(2) The peak and low operational seasons and the operator's type of operations (short/medium/long/ultra-long-haul).

(c) In addition to the senior cabin crew member, the minimum required cabin crew should not consist only of newly joined cabin crew members. Where the minimum CC consists of only two CC, one of them being the senior, at least one of them should be experienced.

Rationale:

Point ORO.CC.100 specifies the requirements for the number and composition of cabin crew.

It is complemented by AMC1 ORO.CC.100, which states in point (b) that for scheduling cabin crew for a flight, the operator should establish procedures that take into account the experience of each cabin crew member. The procedures should specify that the required cabin crew comprises some cabin crew members who have at least 3 months' experience as operating cabin crew member. This was a requirement in JAR-OPS1, it was transposed into EU-OPS, and then into an AMC to the AIR OPS Regulation. The reference to '3 months' experience' has been one of the most challenged aspects of the AMC on cabin crew due to its ambiguity. Several EU MSs have approved alternative means of compliance (AltMoC) through which the operators under their oversight may determine whether a cabin crew member is adequately experienced to exercise their role, based on a specified number of either sectors or flight hours.

EASA sought the advice of the CSEG on how to address this topic. The CSEG could not conclude whether prescribing a number of sectors is preferred over applying flight hours due to the diverse conditions of individual operators. The CSEG, therefore, advised EASA that since each operator represented an individual case, each operator should be provided with the possibility to make the choice of either sectors or flight hours, whichever suits the operator best. The number of sectors or flight hours should represent a figure equal to the experience a cabin crew member would gain through active and busy rosters (i.e. not an occasional flying activity) within the span of minimum 3 months. The operator should consider realistic possibilities with regard to its type of operation, i.e. from short-haul to ultra-long-haul, and its operational activity during peak as well as during low operational seasons. The decision process should be conducted in coordination with the competent authority and should be supported by a risk assessment. EASA took the CSEG's advice into consideration when developing the proposal for the NPA. With the proposed amendment to point (b) of AMC1 ORO.CC.100, the intent of the 3 month's experience specification is made clearer and the operator is provided with an alternative means to consider the experience of cabin crew to has been gained.

The amendment proposed intends to involve the authority earlier in the process. Additionally, it is now required that, the minimum required cabin crew does not consist of only newly joined cabin crew members, not considering the senior cabin crew and only in cases where the total minimum cabin crew consists of more than two. The change to point (c) took into account the comments received on NPA 2022-11. The comments requesting that the competent authority should be removed from the decision process (in point (b), third paragraph) were not accepted, as it was intentional that the competent authority be involved earlier in the process (the proposed change does not result in an additional approval).

AMC1 ORO.CC.125(d) Aircraft type-specific training and operator conversion training

TRAINING PROGRAMME — OPERATOR CONVERSION TRAINING

The following training elements should be covered as relevant to the aircraft type and the related operator's specifics:

[...]

(e) Fire and smoke training

(1) Each cabin crew member should receive realistic and practical training in the use of all firefightingfire-fighting equipment, including protective clothing representative of that carried in the aircraft.

(2) Each cabin crew member should:

(i) extinguish an actual fire typicalcharacteristic of an aircraft interior fire except that, in the case of halon extinguishers, an alternative extinguishing agent may be used with an extinguishing agent representative of that carried in the aircraft or with an environmentally friendly extinguishing agent; and

[...]

Rationale:

Halons are fire-extinguishing agents that have been used in aircraft protection systems. The Montreal Protocol (1987)[7] ,dealing with the phaseout of production and use of ozone-depleting substances, including halogenated hydrocarbons, also known as halons, prohibits the production or import of halon as of 1 January 1994.

Regulation (EU) No 744/2010[8] established a cut-off date, i.e. halon no longer being acceptable in new applications for type certification, and an end date, i.e. halon no longer being acceptable for use in aircraft. For handheld fire extinguishers, the cut-off date was 31 December 2014, and the end date was 31 December 2015.

In 2012, EASA revised the applicable certification specifications and issued Amendment 12 to CS-25[9]. References to halon were removed and AMC 25.851(c) was introduced to provide guidance on the certification of fire protection systems installed on large aeroplanes. The AMC clarifies that, historically, Halon 1211 was the most common agent in handheld (portable) fire extinguishers to be used in aircraft compartments and cabins.

Regulation (EU) 2019/133[10] introduced point 26.170 that states the following: 'Operators of large aeroplanes shall ensure that the following extinguishers do not use halon as an extinguishing agent: […] (b) portable fire extinguishers in large aeroplanes for which the first individual certificate of airworthiness is issued on, or after 18 May 2019.'

In recent years, EASA has certified the installation of halon-free handheld fire extinguishers on several large aeroplane models to meet customer requests and to comply with the requirements of the above-mentioned EU regulations. The subject extinguishers use stabilised 2-bromo-3,3,3-trifluoro-propene, also known as 2-BTP, as an extinguishing agent.

Points ORO.CC.125 and ORO.CC.140 require that each cabin crew member receive fire and smoke training including the use of all firefighting equipment representative of that carried on board. The

[7] The Montreal Protocol on Substances that Deplete the Ozone Layer | Ozone Secretariat (unep.org)

[8] Commission Regulation (EU) No 744/2010 of 18 August 2010 amending Regulation (EC) No 1005/2009 of the European Parliament and of the Council on substances that deplete the ozone layer, with regard to the critical uses of halons (OJ L 218, 19.8.2010, p. 2) (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32010R0744&qid=1667838438741).

[9] Certification Specifications and Acceptable Means of Compliance for Large Aeroplanes — CS-25 Amendment 12 published on 6 July 2012 (CS-25 Amendment 12 | EASA (europa.eu)).

[10] Commission Implementing Regulation (EU) 2019/133 of 28 January 2019 amending Regulation (EU) 2015/640 as regards the introduction of new additional airworthiness specifications (OJ L 25, 29.1.2019, p. 14) (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R0133&qid=1667837833102).

requirements are further complemented by AMC1 ORO.CC.125(d) and AMC1 ORO.CC.140 that refer to the use of halon fire extinguishers in training. In view of the above explanation on the phaseout of halon extinguishing agents, EASA proposes the amendment of AMC1 ORO.CC.125(d) and AMC1 ORO.CC.140 to remove the reference to 'halon'. When developing the proposed text, EASA considered the wording used by ICAO in Doc 10002 'Cabin Crew Safety Training Manual'[11] and aligned it accordingly.

AMC1 ORO.CC.140 Recurrent training and checking

TRAINING PROGRAMMES

(a) Elements of the annual recurrent training programme

[...]

(4) Training in aero-medical aspects and first aid, including related equipment, should include a review of all the elements specified in point 5 of Appendix 1 to Part-CC to Regulation (EU) No 1178/2011.

(b) Additional triennial elements of the recurrent training programme

[...]

(2) Training in the use of all firefighting equipment, including protective clothing, representative of that carried in the aircraft should include ~~individual~~ practice by each cabin crew member to extinguish a fire typical~~characteristic~~ of an aircraft interior fire with an~~the~~ extinguishing agent representative of that carried in the aircraft or with an environmentally friendly extinguishing agent. ~~except that, in the case of halon extinguishers, an alternative extinguishing agent may be used~~ Training should place particular emphasis on identifying the actual source of fire or smoke.

[...]

Rationale:

Point (d)(1)(viii) of ORO.CC.140 states that recurrent training shall include annually 'aero-medical aspects and first aid including the related equipment'. Currently, no AMC exists on the content of this recurrent training.

EASA, therefore, proposes new point (a)(4) in AMC1 ORO.CC.140, stating that the training in aero-medical aspects and first aid including related equipment should include a review of all the elements specified in point 5 'Aero-medical aspects and first-aid' of Appendix 1 to Annex V (Part-CC) to Regulation (EU) No 1178/2011. This amendment follows the advice of the CSEG. The CSEG placed emphasis on the difference between the training when studying the subject and acquiring the knowledge for the first time versus a review or update of that knowledge/subject on a recurrent basis to maintain competence. Regarding the aero-medical aspects/first-aid training and the related equipment, due to the individual subjects and their nature, some elements would require a shorter review time than others. The CSEG advised that the specific duration of each element of the training should be determined by the operator, in cooperation with its competent authority.

[11] ICAO Doc 10002 Cabin Crew Safety Training Manual

Numerous comments were submitted on this AMC. EASA particularly appreciates the comment from easyjet sharing information about the content of their training. At this point in time, however, EASA suggests not including this content in the AMC and instead suggests that the operator discusses with its competent authority on the possibility to use the flexibility provisions (AltMoC). EASA will also consider this point for future rulemaking on the subject, and for this reason most comments on this AMC have been noted and not addressed at this moment. For several other comments, further coordination with the flight crew specialists is necessary.

The title reflects the amendment to the IR.

AMC1 ORO.CC.200(c) Senior cabin crew member

TRAINING PROGRAMME

The senior cabin crew member training course should at least cover the following elements:

(a) Pre-flight briefing:

(1) operating as a crew;

(2) allocation of cabin crew stations and responsibilities; and

(3) consideration of the particular flight, aircraft type, equipment, area and type of operation, including extended diversion time~~range~~ operations ~~with two-engine aeroplanes~~ (EDTO~~ETOPS~~) and special categories of passengers with emphasis on passengers with disabilities or reduced mobility, infants and stretcher cases.

[...]

Rationale

The change has been introduced to replace the term 'ETOPS' by 'EDTO'.

~~GM1 ORO.CC.210(d)~~ AMC1 ORO.CC.210(d) Additional conditions for assignment to duties

OPERATOR'S CABIN CREW UNIFORM

The uniform to be worn by operating cabin crew should be such as not to impede the performance of their duties, as required for the safety of passengers and flight during operations, and should allow passengers to identify the operating cabin crew including in an emergency situation.

Rationale:

Point (d) of point ORO.CC.210 requires cabin crew members to wear the operator's cabin crew uniform. The requirement is complemented by GM1 ORO.CC.210(d), which explains that the uniform should not impede cabin crew in the performance of their duties and should allow passengers to identify the operating cabin crew.

In both normal circumstances of a flight operation and in abnormal and emergency situations, a cabin crew member needs to act promptly, and the uniform should not become a hazard to the cabin crew member or a reason for a delayed action. In an emergency, the visibility of a uniform or cabin crew arm movements may become the only means for passengers to see and provide instructions on how

to proceed; therefore, the uniform should be such that passengers can immediately recognise a cabin crew member. The design and material of cabin crew uniforms should be complementary to their role and duties in flight operations. A couple of comments were submitted on this proposal in NPA 2022-11, but they were rejected as the objective of using uniforms is to differentiate cabin crew members who have been properly trained and prepared for any emergency situation from any other person on board. The implementing rule states that cabin crew shall only be assigned to duties wearing the operator's cabin crew uniform. Passengers should be able to recognize such cabin crew members over any other staff member of the operator who may, for example, only be hired to provide service on board but did not receive safety training. This is more than a clarification; it is a means of compliance and this is why the text has been moved at AMC level.

Subpart OCP – Operations Control Personnel –

GM1 ORO.OCP.100 Scope

OPERATIONS CONTROL PERSONNEL

(a) The operator may establish various functions for flight preparation and execution of operational control, some of which are listed below. Different names may be used for these functions or combinations thereof; it is recommended to use the terminology established by ICAO Doc 10106 when possible:

(1) flight dispatcher: the typical tasks are listed in point ORO.OCP.115. A flight dispatcher submits the flight plan to the unit designated by the appropriate ATS authority, evaluates operational risks and takes immediate decisions based on the operator's standards and procedures, briefs the flight crew and initiates emergency procedures. When the aircraft is moving under its own power and the flight is within the ultimate control of the commander/PIC, the flight dispatcher performs flight monitoring and flight watch and continues to support, brief and/or assist the commander/PIC in the safe conduct of the flight.

(2) operations controller: applies operational risk management processes to the network, specific areas and flights. This function is responsible for the initiation of problem-solving and decision-making processes by integrating safety, operational risks, direct operating costs and customer experience;

(3) operational data manager: integrates navigation and operator data and policies for the application of flight planning, performance calculations, electronic flight bag (EFB) and flight management systems.

(4) generalist: performs general tasks and duties in support of flight preparation and execution of the operational control, but is not authorised to take decisions in the initiation, planning, continuation, diversion or termination of a flight.;

(5) network analyst;

(6) weather analyst;

(7) air traffic specialist;

(8) navigation analyst;

(9) flight planner, flight planning specialist;

(10) operations coordinator;

(12) flight operations assistant;

(14) flight operations manager;

(15) operations control centre (OCC) manager.

(b) Most of the functions listed in point (a) carry out activities providing or processing data and information necessary for flight preparation and safe execution of operational control. All of them are responsible to perform their tasks and assigned duties in accordance with the standards established by the operator. Only some of them are authorised by the operator to take decisions in the safe execution of operational control.

(c) Depending on the complexity of the operation, the different tasks and responsibilities specific to various functions can be performed by one or more individuals.

(d) The following functions, although providing or processing necessary data and support for the flight preparation and execution of operational control, are usually not authorised for fully integrated operational risk evaluation and decision making and are not considered to be part of operations control personnel (the list is not exhaustive):

(1) crew control including crew rostering: personnel responsible for resource control for flight crew and cabin crew;

(2) maintenance control (providing data related to aircraft and maintenance resources),

(3) operations engineers: integrate AIP, operator, airport, airspace and aircraft data into a database to be used for performance calculations, flight planning and aircraft allocation. The operational engineer is responsible for data and policies integrated in flight planning applications, electronic flight bags (EFB) and flight management systems;

(4) aircraft performance engineers: provide technical support and calculations/evaluations in relation to aircraft performance, fuel consumption evaluations and general flight planning services;

(5) load control, load planning.

(e) Operations control personnel are different from ground handling personnel, which are covered by Regulation (EU) 2025/20 on ground handling.

Rationale:

This new GM explains the terms used by ICAO Doc 10106 for various roles with associated tasks in the operational control which should be used by an air operator when defining the different functions of its operations control personnel. This would further enable an easier identification and description of the tasks associated with each of those roles, helping the operator to establish training targets associated with each of those functions.

GM1 ORO.OCP.100(a) Scope

RESPONSIBILITY WHEN OUTSOURCING FUNCTIONS, DUTIES AND TASKS RELATED TO THE OPERATIONAL CONTROL

When functions, duties and tasks of operations control personnel are outsourced to a third party, the operator remains responsible and accountable for their execution in accordance with the standards established and described in its operations manual, in accordance with point ORO.GEN.205.

AMC1 ORO.OCP.105 Assignment to duty

RECENCY OF OPERATIONS CONTROL PERSONNEL

Operations control personnel should not be assigned to duty after 12 consecutive months of absence from duty in their assigned role unless they have been requalified in accordance with ORO.OCP.135(d).

Rationale:

This proposed new AMC covers ICAO Recommendation 10.5 of Annex 6 Part I.

~~AMC2 ORO.GEN.110(f) Operator responsibilities~~AMC1 ORO.OCP.105(c) Assignment to duty

~~INSTRUCTIONS ABOUT DUTIES AND RESPONSIBILITIES OF PERSONNEL —~~ BRIEFING OF ~~FLIGHT OPERATIONS OFFICERS/FLIGHT DISPATCHERS~~ OPERATIONS CONTROL PERSONNEL BEFORE ASSUMING DUTIES

(a) ~~In the context of an ongoing flight-following, flight-monitoring, or flight-watch activity, an FOO/FD~~, ~~b~~Before assuming operational control duties, the operations control personnel should be briefed, upon shift change, on actual ~~the~~ elements that may impact ~~related to~~ the safety of operation~~s the FOO/FD will be performing as part of the operational control~~.

(b) The relevant safety information to be included in the briefing should include, as a minimum:

(1) weather charts, forecasts and reports;

(2) NOTAMs, AIP data and airspace capacity restrictions;

(3) ground handling restrictions, industrial actions, security issues;

(4) technical aircraft restrictions and limitations;

(5) crew capacity constraints, specific additional duty- and rest time requirements;

(6) filed, delayed, diverted, re-routed and cancelled flights, active flights on ground and in the air;

(7) the forecast flight schedule and allocated resources; and

(8) other relevant safety information, to cover any factors of influence in the context of flight following, flight monitoring and flight watch activities.

Rationale:

This AMC was previous AMC2 ORO.GEN.110(f). It has been moved to this new Subpart and better linked to the specific point in the implementing rule.

Additionally, the content of current GM2 ORO.GEN.110(f) has been included in this AMC as it is related to the same topic. Consequently, GM2 ORO.GEN.110(f) is deleted. Additional relevant elements have been added to the briefing.

AMC1 ORO.OCP.110 Responsibilities of operations control personnel

TASK FAMILIES AND TASK CATEGORIES FOR OPERATIONS CONTROL PERSONNEL

(a) The operations control personnel should perform their tasks for all flights, for a time interval specified in the operator's OM-A, but at least within the day of operation. Whenever necessary, operations control personnel should consult other stakeholders before taking a decision related to the operational control.

(b) The following non-exhaustive task families and categories from ICAO Doc 10106 Appendix B should be used, as applicable, when defining the functions, duties and responsibilities of the operations control personnel. The list may be adapted to the specific needs of the operator and its operational control system and tools and further enhanced with other tasks. The operator may assign some of these tasks to the flight dispatchers.

(c) **Task family: Risk assessment**

Task categories:

(1) Analyse weather data. Assess the operational risks identified through the analysis of weather reports and forecasts in context with traffic regions, airports, runways and specific approach procedures. Coordinate with meteorological experts and units for the selection of optimum heights and routes.

(2) Analyse AIP / NOTAM data. Assess operational risks in view of:

(i) ATM infrastructure and availability,

(ii) airport and airspace capacities,

(iii) flight permits, and a potential control mechanism initiated by appropriate air traffic control (ATC) units,

(iv) restrictions published in the aeronautical information publication (AIP);

(3) Analyse OPS engineering data. Assess the operational risks in view of actual or expected aircraft technical status, aircraft equipment, deferred items, and operational or performance limitations. This may involve additional support from specialised, non-operational control functions.

(4) Assess the influence of specific requirements for required navigation performance (RNP), extended diversion time operations (EDTO), cold-weather operations, all-weather operations (AWOs) in relation to the type of operation and condition, the assignment of fleet or aircraft and flight crew qualifications; check and apply aircraft and aircrew restrictions.

(5) Assess political unrest and security threats; flying over or near conflict zones.

(6) Assess organisational resources.

(7) Assess the capacity of reserve/standby aircraft and aircrews in relation to the expected risks of delays and diversions.

(8) Assess the probability of flight delays and diversions in specific regions, airports, and time intervals.

(9) Initiate and perform proactive and reactive problem-solving and decision-making in view of risk predictions and in line with the standard operating procedures described in the

operations manual. Develop alternative scenarios based on the available information, the operational procedures and limitations published in the operations manual.

(d) **Task family: Post-flight assessment**

Task categories – assessment of:

(1) Fuel consumption deviation.

(2) Irregular operations (return to ramp, diversions, air turnback, incidents, accidents).

(3) Aeronautical data management, i.e. weather, AIP/NOTAM, ATM.

(4) Market-related aspects and passenger experience.

(5) Areas of responsibility in the operational control environment: CAMO, MRO.

(6) Areas of responsibility in the operational control environment: crew planning and crew scheduling.

(7) Data flow and data quality in the OCC.

(8) Route profitability and the factor of influence on the operational risk and the commercial result.

(9) Communication standards and risk factors.

(10) Decision-making process in the OCC.

(11) Safety management aspects in the OCC.

(12) Air operator certificate, standards and approvals – potential consequences caused by incomplete or missing certificates, standards, approvals.

Rationale

This new AMC provides a list of tasks and task families that the operator should use for its operations control personnel. The list is not exhaustive and of course the operator may adapt the tasks to its specific operational context. The text was published in NPA 2023-01 in AMC2 and GM2 to ORO.GEN.110(c).

Once those tasks, duties and roles are clearly established, they can be used as checkpoints to assess the performance of operations control personnel against those standards and role-specific tasks.

AMC1 ORO.OCP.110(c) Responsibilities of operations control personnel

TASK FAMILIES AND TASK CATEGORIES

Persons referred to in point ORO.OCP.100(c) should constantly know the position and monitor the progress of all flights in their area, and this involves a constant process of analysis, evaluation, consultation and decision.

These specific OCP should perform their tasks for all flights, for a time interval specified in the operator's OM-A, but at least within the day of operation. Whenever necessary, they should consult other stakeholders before taking a decision related to the operational control.

The following non-exhaustive task families and categories from ICAO Doc 10106 Appendix B should be used, as applicable, when defining the duties, responsibilities and tasks of flight dispatchers. The

list extends beyond flight planning tasks and may be adapted to the specific needs of the operator and its operational control system and tools and further enhanced with other tasks.

(a) **Task family: Flight planning**

Task categories:

(1) Prepare and execute or provide support to the commander in preparing the preliminary flight plan by analysing the data and information regarding the following:

(i) route selection;

(ii) selection of aerodromes, airport suitability for departure, destination, alternates, en-route alternates;

(iii) apply the operator fuel policy. Calculate the fuel required to consider minimum reserve fuel components, i.e., contingency fuel, final reserve fuel, minimum additional fuel;

(iv) determine the landing and planning minima;

(v) MEL items; configuration deviation list (CDL);

(vi) aircraft suitability;

(vii) mass & balance calculations; payload;

(viii) weather data;

(ix) AIP/NOTAM data;

(x) performance data;

(xi) slot restrictions;

(xii) delay forecast.

(2) Prepare, coordinate, file and re-file the flight plan to the unit designated by the appropriate ATS authority.

(3) Perform pre-flight briefing of the flight crews.

(4) Suggest or decide about flight delay or cancellation.

(5) Schedule or initiate aircraft maintenance activities.

(6) Schedule or initiate ferry flights, sub-contracting (ACMI) for operational reasons.

(b) **Task family: Flight monitoring, flight following, in-flight assistance**

Task categories:

(1) Continually monitor and verify weather, aerodrome conditions, navigation facilities and NOTAMs that may affect operational safety in the area of operation and take necessary action.

(2) Monitor active flights (aircraft moving under their own power) in relation to flight planning and flight safety risks and variables (including flight following, flight monitoring and flight watch).

(3) Monitor the data flow of flight planning data, ground handling, ATC and crew briefing, initiate problem-solving and decision-making if required.

(4) Coordinate and communicate, provide relevant operational information to flight crew during flight, as well as data and recommendations as necessary for the safe conduct of the flight.

(5) Coordinate with the other units involved (ATC, CAMO/MRO (maintenance and repair organisation), ground handling, aircrew) and support during in-flight incidents/medicals.

(6) Perform rescheduling and/or rerouting; inform the flight crew of any amendments to the flight plan that may become necessary during the flight. During in-flight scenarios, the final decision about appropriate course of action rests with the commander/PIC.

(7) Assist the flight crew during flight when technical problems require a recalculation of the flight plan (e.g., increased fuel consumption).

(8) Assist the flight crew with in-flight re-routing re-routings and in-flight diversions, by providing weather and other operational information, minimum fuel calculations;

(9) Cooperate with flight crew in case of security threats.

(10) Notify the appropriate ATS unit when the position of the aircraft cannot be determined by aircraft tracking capability and attempt to establish communication are unsuccessful.

(11) Provide support and take the necessary decision to launch the emergency response procedures as established in the operator's ERP.

Rationale

The content of this AMC was published in NPA 2023-01, in the AMC2 and GM2 to ORO.GEN.110(c), not being differentiated from the tasks of other operations control personnel. Since there are now two implementing rules proposed separately, to distinguish flight dispatchers from the rest of operations control personnel, similarly the AMC listing the task families and task categories should be distinctive for flight dispatchers.

Flight dispatchers (FD) exist only in relation to the operational control. The operational control 'method' may involve FD or not, depending on the type and complexity of the operation. When this function or another operations control personnel function is used, these need to be well defined in terms of specific tasks, responsibilities and any assigned authority because the training has to be customised to reflect them in order to be effective. The defined operational control tasks will be used by the operator to set up the training programme for the operations control personnel with the most adequate role-specific competency targets, establish realistic and achievable training target descriptions, and develop realistic and adequate exercises.

GM1 ORO.OCP.110 Responsibilities of operations control personnel

OPERATIONS CONTROL PERSONNEL

Typical tasks are, but are not limited to, provision of technical support, provision and analysis of safety and operational data and information, integration and aggregation of data and information from various sources.

GM1 ORO.OCP.110(c) Responsibilities of operations control personnel

The operations control personnel whose tasks are specified in point ORO.OCP.110(c) are normally named flight dispatchers.

AMC1 ORO.OCP.120 Training and assessment programme for operations control personnel and Additional training requirements for flight dispatchers

COMPONENTS OF THE TRAINING PROGRAMME IN CONVENTIONAL TRAINING AND CBTA

(a) The training programme should include the following elements:

#	Training programme elements	CBTA	Conventional training
1	Clear tasks and duties to be performed for flight preparation and safe execution of operational control. Allocation of respective functions of operations control personnel.	X	X
2	Training objectives per function	X	X
2a	Target level of competency	X	-
3	A training gap analysis process	X	X
4	Established competency framework	X	-
5	Defined competency targets and assessment standards for all functions of operations control personnel	X	-
6	Training syllabus, adjusted to the function	X	X
7	Training and assessment plans	X	X
8	Means of delivery of training	X	X
9	Selection of the appropriate tasks for each training objective/target competency and for realistic exercises	X	X
10	Training duration	X	X
11	Training material, communication and progress monitoring	X	X
12	Assessment of competence observing the just culture principles and a training concept based on realistic elements; procedures to cover steps to be taken when personnel do not achieve or maintain the required standards	X	X
13	The methods and intervals for the periodic proficiency checks and refresher training and subsequent retraining	X	X
14	Instructor and assessor selection criteria of their competencies and qualification	X	X
15	A description of procedures for evaluation, feedback and improvement of the training programme to ensure the training meets its scope	X	X

(b) The training and assessment programme should be flexible enough to cater for specific needs related to delivery methods such as distant learning, online training or part-time training.

Rationale

This new AMC structures the steps in building the training programme for operations control personnel. The steps apply to both CBTA and conventional training, with slight differences. This AMC uses text from other AMCs previously proposed in NPA 2023-01 and adds a few more elements for completion.

AMC1 ORO.OCP.120(c)(2) Training and assessment programme for operations control personnel

TRAINING GAP ANALYSIS AND CREDITING OF PREVIOUS TRAINING

(a) The training gap analysis should be performed to each individual before enrolling them for training. Each subtask could be used as a blueprint for exercises. An exercise applies detailed information to a subtask, e.g. flight and situational information, data, rules, tools and references relevant to execute the exercise or assessment.

(b) If the operator chooses to accept previous training received by an individual of its operations control personnel, the operator should develop a procedure for crediting such training. Details of such a procedure should be included in the operations manual.

(c) The procedure should include measures to assess the following, as a minimum, and this assessment should be stored as part of evidence of the individual's training record:

(1) the content of the previous training;

(2) whether the previous training was delivered by suitably qualified personnel or organisations;

(3) whether the method of operational control, the type of operation and types of aircraft on which the individual was previously trained were sufficiently similar to those of the new operator; and

(4) whether the operating procedures used during such previous training were sufficiently representative of the procedures used by the new operator.

(d) The previous training should be documented.

(e) Where previous training delivered by other suitably qualified personnel or organisations is found to satisfy all or some of the requirements of ORO.OCP.120 or ORO.OCP.125 related to the operator-specific, function-specific training, on-the-job and continued competence training, that previous training may be credited, and the operator may apply only a difference training to cover the operator-specific and function-specific elements. Such a difference training should cover all items not credited from previous training.

(f) When the operator accepts previous training, it should be satisfied that the individual is competent to perform the assigned tasks as per the objectives and standards established by the operator and included in its operations manual.

Rationale

This new AMC has been added to enable a more efficient recognition of training already received by a new employee. The text has been adapted from the similar AMCs to ORO.FC.

AMC1 ORO.OCP.120(c)(3);(d) Training and assessment programme for operations control personnel ~~AMC1 ORO.GEN.110(c)(&(e) Operator responsibilities~~

~~PERSONNEL RESPONSIBILITIES — OPERATIONAL CONTROL PERSONNEL THAT PERFORM TASKS RELATED TO FLIGHT MONITORING AND FLIGHT WATCH — TRAINING PROGRAMME~~

~~(a) When a CAT operator uses flight monitoring or flight watch as functions of a system for exercising operational control, FOOs/FDs should perform those functions.~~

~~(b) The CAT operator should develop a training programme, based on the relevant parts of ICAO Annex 1, ICAO Documents 10106 and 9868, for FOOs/FDs that perform those functions~~.

~~(c) The training programme specified above should be detailed in the OM of the CAT operator and should be delivered by an instructor for operational control personnel.~~

INITIAL TRAINING OF OPERATIONS CONTROL PERSONNEL – KNOWLEDGE, SKILLS AND ATTITUDES (KSA)

The training subjects listed below should be adapted to each individual function of the operations control personnel. The operator should use the learning objectives of Appendix A to ICAO Doc 10106 to develop the necessary theoretical and practical knowledge and skills of the individual. The learning objectives and the KSA used should be adapted to the specific duties assigned to each function, including the flight dispatcher function and, when CBTA is applied, targeted competency.

(a~~d~~) The initial training should include, where relevant to the intended operation, any of the following knowledge elements and~~that~~ should be adapted~~tailored~~ to the specific duties and tasks assigned to each ~~person~~ function:

(1) air law:

(i) purpose and function of relevant international and national aviation organisations;

(ii) rules, ~~and~~ regulations and aeronautical information products relevant to the task assignment, appropriate ATS practices and procedures;

(iii) safety management systems and concepts at an aircraft operator;

(2) aircraft general knowledge and instrumentation:

(i) principles of operation of aeroplane engines, ~~/~~systems and ~~/~~instruments;

(ii) operating limitations of aeroplanes and engines; and

(iii) MEL and configuration deviation list (CDL);

(3) flight performance calculation, planning procedures, and loading:

(i) principles of flight relating to the appropriate category of aeroplane;

(ii) effects of loading and mass distribution on aircraft performance and flight characteristics; mass and balance calculations;

(iii) operational flight planning; fuel consumption and endurance calculations; alternate aerodrome selection procedures; en route cruising control; extended distance time ~~range~~ operations;

(iv) take off performance including field length, climb and obstacle criteria and limitations;

(v) cruise performance including minimum altitudes, decompression/engine out/gear down scenario planning;

(vi) landing performance including approach climb and field length criteria and limitations;

(vii~~i~~) preparation and filing of ATS flight plans; and

(viii~~iv~~) basic principles of computer-assisted planning systems;

(4) human factors~~performance~~:

(i) health and well-being, stress and fatigue, and their effects on human performance, including the detection and mitigation of errors and threats~~human performance related to operational control duties, including principles of threat and error management (TEM);~~ guidance material on how to design training programmes on human performance, including on TEM, is provided in ICAO Doc 9683 Human Factors Training Manual;

(5) meteorology:

(~~A~~i) aeronautical meteorology; relevant elements of climatology and their effects on aviation; movement of pressure systems; structure and effects of fronts; origin and characteristics of significant weather phenomena ~~that~~ affecting flight operations and safety~~take-off, en route, and landing conditions~~;

(~~B~~ii) interpretation and application of aeronautical meteorological reports, charts, and forecasts; codes and abbreviations; use of, and procedures for, obtaining, meteorological information;

(~~C~~iii) effects of meteorological conditions on aircraft operation and on radio reception in the aircraft that is used by the operator; and

(~~D~~iv) all-weather operations;

(6) navigation:

(~~A~~i) principles of air navigation with particular reference to IFR; and

(~~B~~ii) navigation and radio equipment in the aircraft that is used by the operator;

(7) operational control~~procedures~~:

(~~A~~i) use of aeronautical documentation, operational control procedures, and SOPs;

(~~B~~ii) procedures for operations beyond 60 minutes from an adequate aerodrome, including, if applicable, extended-diversion-time operations (EDTO~~s~~);

(~~C~~iii) operational procedures for the carriage of cargo and dangerous goods;

(~~D~~iv) de-icing/anti-icing;

(~~E~~v) ~~procedures related to~~ aircraft accidents and incidents; emergency flight, communication failure and contingency procedures; and

(~~F~~vi) security procedures related to unlawful interference and sabotage of aircraft;

~~(8) principles of flight:~~

~~(i) principles of flight related to the appropriate category of aircraft;~~

(8~~9~~) radio communication~~s~~:

(i) ~~procedures for~~ communication~~ng~~, radiotelephony and phraseology procedures for communicating with ~~other~~ aircraft and ground stations; and

(9~~10~~) special aerodromes.

(b) The skills component should be adjusted to the assigned function and the operator specificities. Both technical and non-technical skills should be developed, commensurate with the level of proficiency or competence expected to be achieved. For the development of the skills adequate to each function of the operations control personnel, the operator should use the list of tasks provided in Appendix B to ICAO Doc 10106.

(c) The 'attitude' component should be integrated as early as possible into the training process and developed along with the skills and knowledge. The instructor should include this component in the exercises developed for the training. The attitude should be monitored and guided through exercises based on realistic tasks and feedback provided during formative assessments.

Rationale:

This AMC, first published in NPA 2023-01, has been moved in this new Subpart as ORO.OCP covers the training requirements for all operations control personnel. Appendix A to Doc 10106 is comprehensive and easy to use as it contains many samples of learning objectives, which enable an easy customisation of the training competency targets for each role of the operations control personnel.

The text has been further adjusted to include the amendments proposed to training elements in ICAO Annex 1 for flight dispatchers.

AMC1 ORO.OCP.120(k) Training and assessment programme for operations control personnel

ADDITIONAL TRAINING FOR PERSONNEL ASSIGNED TO PERFORM THE TASKS SPECIFIED IN POINT ORO.OCP.110(C)

(a) The training and assessment may be delivered by means of a conventional method or a competency-based training and assessment (CBTA) method compliant with the relevant parts of the latest effective edition of ICAO Doc 9868 Procedures for Air Navigation Services – Training (PANS-TRG).

(b) If the training is delivered by means of CBTA, it may be adjusted from the beginning to the operator's specific operational control method and type of operation, as well as to the function to be assigned to the individual undergoing the training.

GM1 ORO.OCP.120(c)(3);(d) Training programme for operations control personnel

INITIAL TRAINING – HUMAN PERFORMANCE AND ATTITUDE COMPONENTS OF THE TRAINING OF OPERATIONS CONTROL PERSONNEL

(a) Guidance material to design training programmes to develop knowledge and skills in relation to human performance can be found in ICAO Docs 9868 and 10106 and in ICAO Doc 9683 (Human Factors Training Manual).

(b) The training on human factors is intended to enhance attitudes conducive to safe and efficient flight operations. The development of soft skills such as:

(1) interpersonal and communication skills,

(2) team player skills,

(3) ability to work well under pressure and manage stressful situations, and

(4) capacity to focus and avoid distractions,

(c) increases in turn the likelihood of the candidate successfully completing the operator- and role-specific training programmes.

(d) The attitude is closely linked to the trainee's motivation. It can be assessed from the quality of their preparation during the training or by designing exercises that require them to use attitude-related competencies, such as communication, situational awareness, problem-solving and decision-making. For the development of the proper attitude, the instructor is essential in providing feedback and guidance to the trainee, encouraging or discouraging elements in the trainee's behaviour.

AMC1 ORO.OCP.120(c)(3)(i) Training programme for operations control personnel

OPERATOR-SPECIFIC AND FUNCTION-SPECIFIC TRAINING OF OPERATIONS CONTROL PERSONNEL

(a) The operator-specific and function-specific training for operations control personnel should cover at least the following areas and should be adapted to the specific duties and tasks of each function:

(1) the operator's SMS, its organisational structure, including the hierarchical command;

(2) the operator's operational control system;

(3) the operational standards and procedures, policies and data, relevant parts of the emergency response plan, and any other relevant information from the operations manual;

(4) the fleet, specific aircraft performance;

(5) the type of operation (CAT, NCC) and business model, e.g. A-to-A flights, hub operations, on-demand operations, etc.;

(6) aerodromes of operation;

(7) aviation security procedures;

(8) management and operation of any data and computerised tool, platform or application used by the operator in relation to its system of operational control;

(9) the operating systems and programmes used for the completion of the individual's tasks and responsibilities.

AMC1 ORO.OCP.120(c)(5) Training programme for operations control personnel

OTHER TRAINING

Other training courses for operations control personnel include, but are not limited to:

(a) SMS and emergency response,

(b) dangerous goods,

(c) load planning,

(d) information security management (Part-IS),

(e) aviation security.

Rationale

This AMC has been added to cover any other training that is necessary for compliance with other applicable regulations or requirements. Some of these training courses may not be specific to operational control tasks, however they may apply also to operations control personnel.

AMC1 ORO.OCP.120(f) Training programme for operations control personnel

PROVISION OF TRAINING BY CONTRACTED TRAINING PROVIDERS

(a) The initial training, including the operator-specific and function-specific training, may be provided by the aircraft operator's qualified instructors or outsourced to a third-party training provider. If the training is provided by a third-party training provider, the operator should provide the training standards defined in its operations manual, the competency targets specific to the function to be trained, and evident-based tasks that reflect its specific operational procedures and operational control system. The operator should monitor the training results.

(b) The operator continues to remain responsible for all the training required by this Subpart, regardless of whether the training is provided by the operator, another operator or a contracted training provider.

Rationale

This new AMC clarifies the responsibility of the training compliance with the rules. Training provided by a training organisation to the operational control personnel of an aircraft operator (either employed or outsourced) is a contracted service that is covered under the management system of the aircraft operator.

The air operator needs to support the training organisation with actual realistic tasks and competence criteria for the basic FOO competence level. The AOC holder is still responsible to ensure that there is a standardised set of competencies available before the beginning of operator and role-specific trainings. A close cooperation with the training organisation providing basic FOO training, whether internal or external, reduces the potential effort caused by unexpected and additional training and assessment requirements. This cooperation could include regular audits of the basic FOO training and assessment standards by the AOC holder or by other accepted competent units or authorities. A

regional or state-wide FOO-basic standard supports the standardisation of competencies available in a wider pool of pre-qualified labour.

AMC1 ORO.OCP.120(g) Training programme for operations control personnel

EVALUATION OF EFFECTIVENESS OF THE TRAINING PROGRAMME

The evaluation of the training programme should ensure that:

(a) the training and assessment plans are relevant to the work in the specific context and environment to which they may be assigned after training;

(b) the tasks and methods of exercises and regularly reviewed for relevance and completeness;

(c) the programme enables the trainees to achieve the interim and final competency standards; and

(d) remedial actions are taken if in-training and post-training evaluation indicates evident criteria to do so;

(e) the training and assessment programme is continually improved.

AMC1 ORO.OCP.125 Additional training requirements for flight dispatchers

OPERATOR-SPECIFIC AND FUNCTION-SPECIFIC TRAINING FOR FLIGHT DISPATCHERS

(a) The operator-specific and function-specific training for flight dispatchers should cover at least the following knowledge elements:

(1) relevant content of the air operator's operations manual;

(2) radio equipment in the aircraft used;

(3) navigation equipment in the aircraft used;

(4) seasonal and regional meteorological conditions and the sources of meteorological information;

(5) weather phenomena and their effects on operations;

(6) aircraft loading instructions;

(7) human performance and dispatch resource management; and

(8) principles, use, and limitations of FD operational control systems, software and associated equipment.

(b) The trainee for the flight dispatcher function should be able to demonstrate the achievement of the following skills, which may be developed from the initial phase of the training and further enhanced through the operator-specific and function-specific training:

(1) identify and retrieve aeronautical data and other information relevant for the analysis of operational situations and risks;

(2) identify and evaluate the risk factors and the possible consequences for flight operations;

(3) identify and evaluate actions considering risk, the effect on flight safety and regularity of the operation;

(4) determine an appropriate course of action based on the responsibilities and policies described in the operations manual;

(5) apply appropriate standard and non-standard procedures from the operations manual for the planning, initiation, continuation, diversion or termination of flights in the interest of safety;

(6) make an accurate and operationally acceptable weather analysis; provide an operationally valid briefing on weather conditions of a specific air route; forecast weather trends pertinent to air transportation with particular reference to destination and alternates;

(7) identify and apply operational limitations and minimums in relation to the weather, aircraft status and appropriate navigation procedures;

(8) determine the optimum flight path for a given segment, and create accurate manual and/or computer-generated flight plans;

(9) provide supervision and all other assistance to a flight in actual or simulated adverse weather conditions, as appropriate to the FD duties;

(10) recognise and mitigate errors and threats; and

(11) prioritise and organise workload.

(c) The KSA should be trained and assessed in realistic scenarios, by involving trainees in realistic tasks based on the operator's specific SMS, processes, procedures, type of operation, day-to-day operation and past situations or events. Appendix B to ICAO Doc 10106 may be used to develop realistic training tasks, for both conventional training or CBTA.

(d) When the training is conducted using CBTA, it should be based on an adapted competency model based on the ICAO competency framework described in ICAO Doc 9868 (PANS-TRG) for flight dispatchers. The achievement of the skills set should be met during the formal summative assessment.

(e) The demonstration of the acquired KSA should be conducted in a live operational environment.

(f) The time between the moment when a trainee completes the operator-specific and function specific training and the final assessment should not be longer than 6 months.

Rationale:

This new AMC is adding the new proposed knowledge content of the operational control rating for flight dispatchers in ICAO Annex 1 and PANS-TRG, as proposed by the subgroup working on the FOO /FD training under the PTLP. It proposes further development of skills applied to the operator's specific operational control system in which the individual will exercise their FD function. The skill component addresses the skills referred to in ICAO Annex I SARP 4.6.1.4, which are specific to the execution of operational control. Point (f) is added to reduce the likelihood of skill fade between the time of the demonstration and the time when it would be possible for a new flight dispatcher to being assigned to duty without supervision

GM1 ORO.OCP.125(a) Additional training requirements for flight dispatchers

ICAO COMPETENCY FRAMEWORK FOR FLIGHT DISPATCHERS

(a) The competency framework of ICAO Doc 9868 can be used for developing the operator-specific training for flight dispatchers. The competencies and observable behaviours used will describe the entry and the target competencies and develop an adequate competency model specific to the FD function.

(b) The competency criteria are applied both during the initial phase of training, which focuses on the development of general knowledge, skills and attitudes, and during the OJT. The intended level of competency will be controlled by the design and the complexity of exercises and tasks.

Example: The application of the observable behaviour OB 1.1 'Interprets SOPs appropriately' will be tailored by the selection of a basic/simple SOP for the basic training and a SOP with interpretations and complex variable conditions for the advanced training. In both cases the OB does not change. An example of an exercise that is adjusted to fit 2 different levels of competency (generic and advanced) can be found in GM3 ORO.OCP.125(b).

ICAO competency	*Observable behaviours (OB)*
Application of procedures and regulations Identifies and applies procedures effectively in accordance with the published operating instructions and applicable regulations	OB 1.1 Accurately identifies and understands applicable procedures
	OB 1.2 Correctly applies procedures across all flight phases and operational conditions
	OB 1.3 Executes procedures in a timely manner
	OB 1.4 Complies with the applicable regulations
Technical expertise Applies and improves individual technical knowledge and skills	OB 2.1 Retrieves the applicable data and operating procedures
	OB 2.2 Explains to other stakeholders the intent of the applicable procedure for a given context when necessary
	OB 2.3 Uses appropriate operational information (meteorological, airports, crew, aircraft, network, general) to make optimum decisions
	OB 2.4 Uses standard and non-standard information distribution systems and sources
	OB 2.5 Keeps up to date with changes to operational standards
Communication Communicates effectively and without bias in all operational situations	OB 4.1 Confirms the recipient's readiness and ability to receive and process information
	OB 4.2 Selects appropriately what, when, how and with whom to communicate
	OB 4.3 Conveys messages clearly, accurately and concisely

	OB 4.4 Recognises and responds to body language, facial expressions, and other non-verbal signals to support effective communication
	OB 4.5 Confirms that the recipient correctly understands important information
	OB 4.6 Listens actively when receiving information
	OB 4.7 Asks meaningful questions to obtain accurate and relevant information
	OB 4.8 Adheres to standard radiotelephone phraseology and procedures
	OB 4.9 Accurately interprets communication in the language used in the operation manuals and in the operational environment
Situational awareness Comprehends the current operational situation and anticipates future events	OB 5.1 Monitors and cross-checks actions
	OB 5.2 Adjusts the operation in response to changes in the available resources (infrastructure, IT systems, personnel)
	OB 5.3 Assesses the status of the operation for impacts to operational control based on information acquired (technical status of aircraft, weather conditions, NOTAMs, industrial action, ATFM restrictions, etc.)
	OB 5.4 Monitors current operations to identify hazards, potential threats or risks
	OB 5.5 Develops contingency plans sufficiently in advance of an identifiable hazard, threat or risk
	OB 5.6 Conducts flight monitoring or flight watch effectively within area of responsibility
	OB 5.7 Verifies that received information is accurate and correct
	OB 5.8 Uses available tools to monitor, scan, comprehend and anticipate operational situations
	OB 5.9 Monitors the meteorological conditions that impact on area of responsibility
	OB 5.10 Verifies that tasks are completed with expected outcome
Workload management Manages available resources to prioritise and perform tasks in an efficient and timely manner	OB 6.1 Plans, prioritises and schedules tasks effectively and efficiently
	OB 6.2 Manages time efficiently when carrying out tasks
	OB 6.3 Maintains self-control in all situations
	OB 6.4 Collaborates to balance workload
	OB 6.5 Delegates tasks when necessary
	OB 6.6 Recognises overload and asks for help when necessary
	OB 6.7 Accepts assistance when necessary
	OB 6.8 Manages interruptions, distractions and failures effectively and efficiently
	OB 6.9 Selects appropriate tools, equipment and resources to support the effective and efficient achievement of tasks

Problem-solving and decision-making Develops and implements solutions for identified hazards, threats, risks and associated undesired states	OB 7.1 Identifies relevant information required for the analysis of operational situations
	OB 7.2 Applies an appropriate mitigation strategy for hazards, threats, and risks identified
	OB 7.3 Makes appropriate decisions when confronted with conflicting, unexpected or incomplete information
	OB 7.4 Adapts decision-making process to available time
	OB 7.5 Evaluates options in view of safety, costs and operational stability
	OB 7.6 Define the deadlines that limit the available options
	OB 7.7 Uses appropriate decision-making processes and tools
	OB 7.8 Evaluates own decision-making to improve performance
Leadership and teamwork Collaborates up, down and across the organisation to foster and promote a clear vision and common goals in an unbiased manner. Energises others to achieve the operational goals. Contributes to a non-discriminatory and respectful environment.	OB 8.1 Manages professional relationships
	OB 8.2 Gains the trust and confidence of others
	OB 8.3 Inspires others to collaborate and strive towards excellence
	OB 8.4 Resolves conflicts and disagreements in a constructive manner
	OB 8.5 Takes responsibility for mistakes
	OB 8.6 Provides relevant information and solutions to others
	OB 8.7 Provides and seeks effective and constructive feedback
	OB 8.8 Anticipates and responds appropriately to the needs of others
	OB 8.9 Raises relevant concerns in an appropriate manner
	OB 8.10 Encourages team participation and open unbiased communication
	OB 8.11 Manages cultural and language differences, as applicable
	OB 8.12 Shows respect and tolerance for other people

Rationale:

This GM contains the ICAO list of competencies and observable behaviours for the operations control personnel included in ICAO Doc 9868 PANS-TRG. It is updated with the latest proposed amendments to the PANS-TRG by the ICAO FOO/FD subgroup under the PTLP. The list of competencies is a basic list, which can be used for any function within an air operator's organisation. That is why for each of those competencies, the operator has to develop specific tasks, to enable the trainee to apply and develop those competencies in practical exercises.

- Description for competency 'Application of procedures and regulations' modified with the word 'effectively'; OBs reworded to achieve clarity (the word 'SOPs' changed with 'procedures' to include non-standard procedures also, flexible usage of SOPs deleted to avoid misinterpretation of not following published procedures, etc.).

- Process improvement competency deleted as process improvement is not required for the work of a FD, and any relevant competencies are adequately identified within OBs for Leadership and Teamwork.

- Description for competency 'Communication' was modified with words 'operational' and 'without bias'. OBs reworded to enhance clarity for observation.

- Description for competency 'Situational Awareness' was harmonised with other disciplines' language; new OBs inserted (e.g. effective monitoring/watch, weather monitoring), several OBs from workload management transferred to this competency (monitors and cross-check actions, verifies that tasks are completed with the expected outcome).

- Description for competency 'Workload management' was harmonised with other disciplines' language; several OBs transferred to 'Situational Awareness' competency (monitors and cross-check actions, verifies that tasks are completed with the expected outcome), some OBs were reworded to achieve more clarity, OB 'maintain self-control in all situations' was deleted (as not relevant to this competency), emphasis given to efficiency rather than effectiveness.

- Description for competency 'Problem-solving and decision-making' was harmonised with other disciplines' language; one OB reworded to achieve more clarity.

- Description for competency 'Leadership and teamwork' was modified to accommodate 'unbiased'; new OBs inserted following review of OBs with function requirements (Anticipates and responds appropriately to the needs of others; Raises relevant concerns in an appropriate manner); new OBs after coordination with the other domains covered by PANS-TRG (Encourages team participation and open unbiased communication; Manages cultural and language challenges, as applicable; Shows respect and tolerance for other people).

It is recommended that the operator uses all competencies listed above in the ICAO competency framework when developing a competency model adapted to its specific operation, but the depth of each competency should be varied depending on the level of qualification that an operator requires for a specific function in the operational control. The operator does not need to use all the observable behaviours, but only those that it considers to be most relevant to develop a competency framework and an assessment programme.

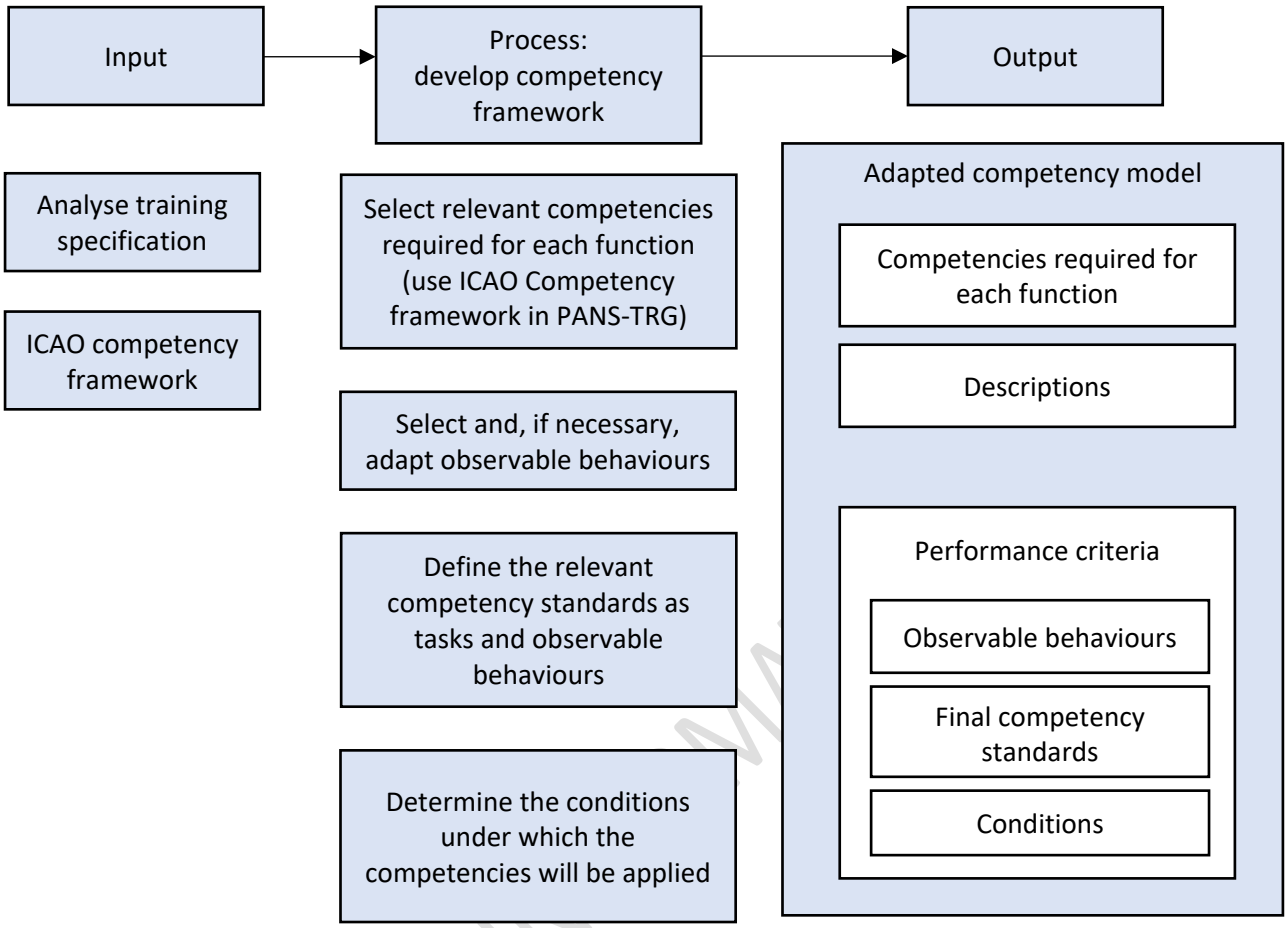
GM2 ORO.OCP.125(a) Additional training requirements for flight dispatchers

CBTA – ADAPTED COMPETENCY MODEL

(a) The CBTA elements in ICAO Doc 10106 defined for the FOO training cover up to 80 % of the tasks accomplished by the flight dispatcher function. These elements can be used for the development of the operator-specific and function-specific training programme in an adapted competency model.

(b) The training objectives and standards should be adjusted to the flight dispatcher function and the specifics of the operator. They should be realistic, based on actual and relevant safety risks in operation, as well as other criteria observed during the operation of aircraft. Safety events and data from daily operation and from public accident reports can be used for this purpose.

Figure 1: Designing the adapted competency model (source: ICAO Doc 10106)



(c) Further clarifications:

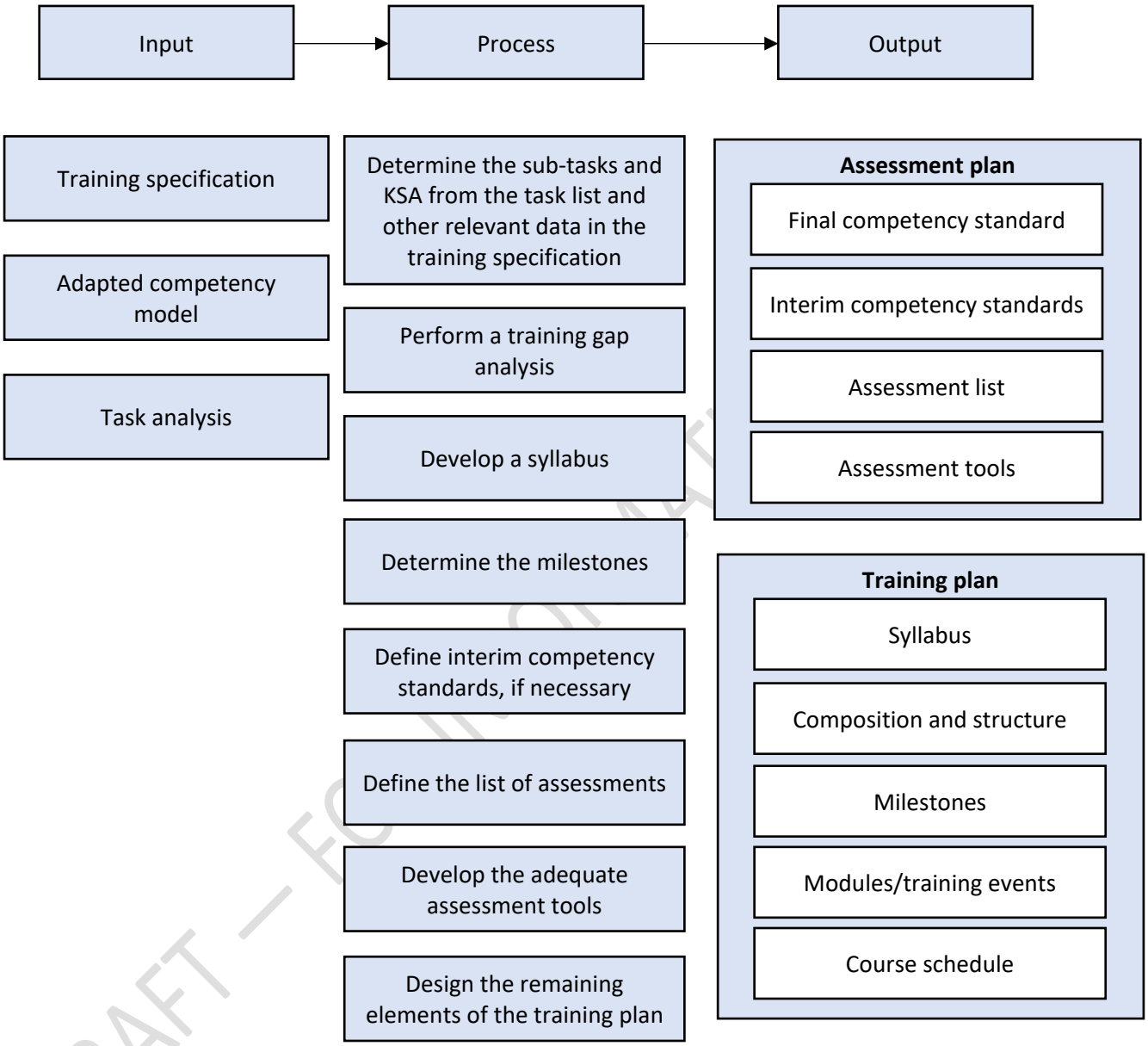
(1) The relevant competency standards will be the threshold that has to be achieved as a minimum.

(2) The conditions under which the competencies will be demonstrated are the operational and environmental context in which the operations take place and the tools used for the operational control (equipment, systems, etc.). These conditions should include realistic tasks that would prompt the individual to apply and develop the selected competency criteria.

(3) For each exercise or assessment, select those observable competency behaviour markers that are required for safe, effective and efficient operations.

TRAINING AND ASSESSMENT PLAN

Figure 2: Designing the training and assessment plan for the adapted competency model (source: ICAO Doc 10106)



(d) Further clarifications

(1) Guidance on the training specifications is provided in Chapter 3.4 of ICAO Doc 10106.

(2) Task analysis: Identify and list the operational control tasks that will be accomplished in the organisation — use ICAO Doc 10106 Appendix B to select the applicable tasks and subtasks. Each subtask could be used as a blueprint for exercises. An exercise applies detailed information to a subtask, e.g. flight and situational information, data, rules, tools and references relevant to execute the exercise or assessment.

(3) Allocate functions related to the system of operational control. Such functions should automatically enable grouping of tasks. These functions are usually the job titles that are indicated for recruitment purposes.

(4) Define gaps in the prerequisite learning objectives (KSA) acquired. The gap analysis should consider the qualification of the trainee before starting training.

(5) Establish the learning objectives – use ICAO Doc 10106 Appendix A.

(e) Chapter 4 of ICAO Doc 10106 provides guidance on the following steps:

(1) the design of the adapted competency model;

(2) the design of the training and assessment plans. The development of the plan should be based on the allocation of relevant tasks to each function to be trained (FD, ops controller, navigation analyst, meteorology expert, etc.)

(3) a model of a training capacity plan;

(4) a sample for establishing the training modules (Ch. 4.3).

(f) The operator may consider adding a joint CRM training session to include flight dispatchers to enable them to further practice and develop the necessary competencies in direct interaction with the flight crew.

Rationale

This AMC uses text published initially in NPA 2023-01. To make the training design and application steps easier to follow and implement, 2 workflows from ICAO Doc 10106 have been added.

Point (f) is an additional proposal for the operator to include in its training programme as was suggested by a comment received on the NPA and was found to be beneficial for the development of flight dispatchers' competencies.

GM3 ORO.OCP.125(a) Additional training requirements for flight dispatchers

EXAMPLE OF A TASK-BASED EXERCISE OF DIFFERENT COMPLEXITY LEVELS

This GM provides an example of how the same task-based exercise can be adapted to increasing difficulty in training the flight dispatcher competencies, from basic to complex , adding the operator-specific elements.

Each subtask selected from Appendix B to ICAO Doc 10106 could be used as a blueprint for exercises. An exercise applies detailed information to a subtask, e.g. flight and situational information, data, rules, tools and references relevant to execute the exercise or assessment.

Regardless of whether an exercise is designed for the initial or advanced (OJT) phase, the set-up and the described operational problem have to be as realistic as possible and based on the operations manual and other materials specific to the operator.

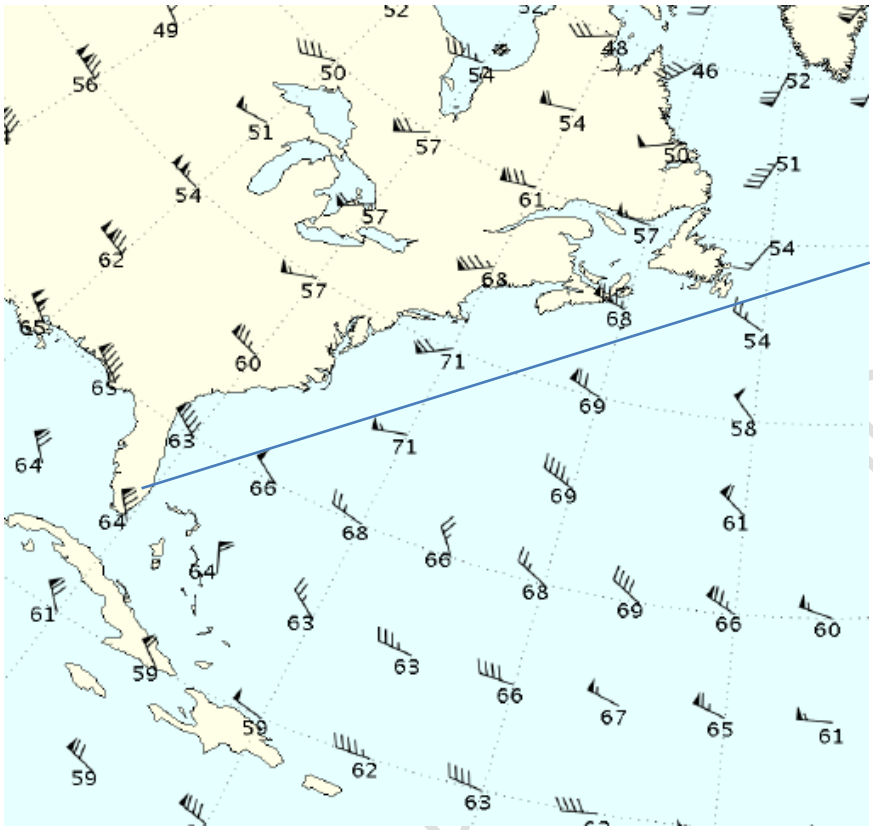
Example of a task-based exercise —normal complexity level

ICAO Doc 10106 Chapter 5, points 5.5.9 to 5.5.12 provide a sample framework and the transfer of several tasks into one exercise. An example is provided in this GM as well.

Task ref.	Task family	Task category	Task: analyse, explain, evaluate, decide	Subtasks	Training modules

97	Flight planning and flight monitoring	Route selection	Fuel freeze assessment	Identify whether the flight is subject to fuel freeze based on stage length and static air temperature (SAT)/total air temperature (TAT)	FPL&FM*

* FPL&FM = flight planning and flight monitoring



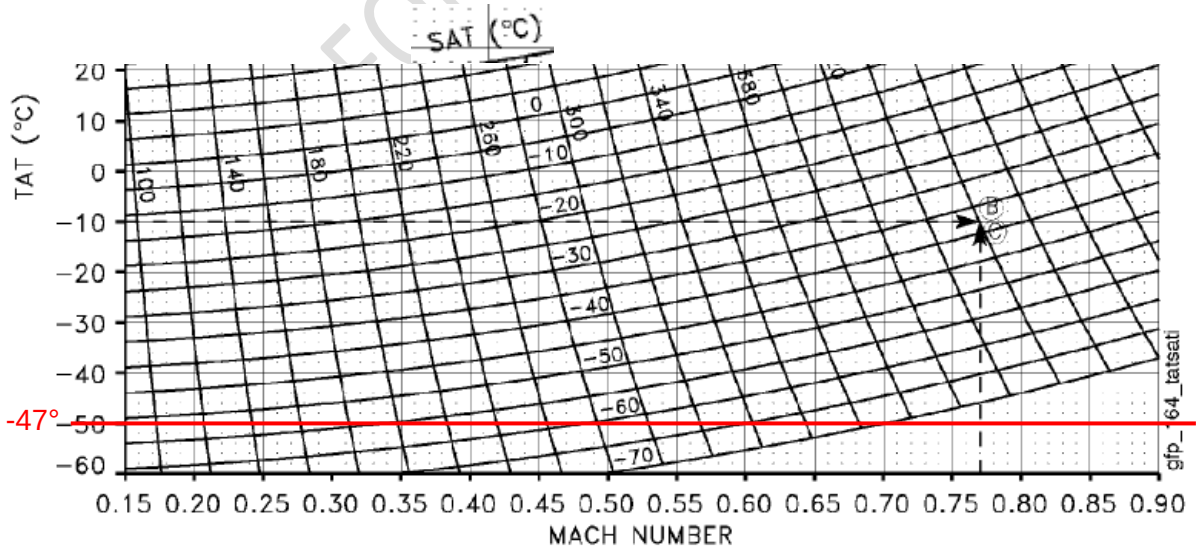
FCOM A333:
Wax build up in Jet A1 if fuel temperature is below -47°C

- Cooling rate -3°C/h realistic, max -12°C/h
- Not lower than TAT
- Up to 1 hour to stabilise

- Jet A-1
- Flame point: +38 °C
- freezing point: −47 °C

- Jet A (US only)
- Flame point: +38 °C
- Freezing point: −40 °C

- Jet B
- Flame point +20 °C
- Freezing point −60 °C



In view of forecasted OAT -71°C abeam the US East Coast, the risk of fuel freeze should be evaluated in advance. The FCOM provides general information about the development of fuel temperature during flight. The fuel temperature follows the TAT with a change rate between 3 and 12°C per hour.

It could be assumed that the rapid temperature drop during climb would provide the highest cooling rate. After reaching cruise flight level the fuel temperature should slowly decrease further.

To forecast the fuel temperature development, the TAT-development should be evaluated at least in the flight segment from a waypoint with a forecasted OAT around -70°C until the top of descent.

1. State the root cause of an untypical low supply fuel temperature if this fuel would have been provided from a storage place located above ground level.
2. Assume a fuel temperature at the top of climb, after'30' climb, based on an initial fuel temperature -10°C on ground and a -12°C/h cooling rate.
3. Extract the expected total air temperature at the top of climb based on M.80 and OAT/SAT -57°C. Apply the table provided for the completion of this exercise, enter at M.80, upwards until the curved line on -57°SAT, then straight left and read the related TAT. The red line shows the minimum fuel temperature (TAT).
4. Assume the fuel temperature after 7h cruise, cooling rate of -3°C/h.
5. Describe the further temperature development after step climb to FL410 and until the top of descent to MIA and state whether the fuel temperature could be lower than -47°C.
6. If not, after how many flight hours in -71°C OAT could the fuel temperature be lower than -47°C?
7. Evaluate the lowest permissible OAT in such a flight segment if the supplied fuel would be Jet A (e.g. MIA-LEJ) instead of Jet A1.
8. Describe adequate countermeasures in relation to speed and altitude to avoid fuel freeze.

Comment section

The primary property of a task-based exercise of a normal complexity is the generic set of data, conditions and tools. The data and the conditions should not indicate operator-specific data or procedures. The data and SOPs should be generated from a sample FCOM, MMEL/MCDL and a generic sample OM-A. The instructor could build up a simulated environment through an integration of additional students covering specific roles, e.g. ground handling, MRO or the flight crew.

Example of a task-based exercise — increased complexity level

Task ref.	Task family	Task category	Task: analyse, explain, evaluate, decide	Subtasks
97.1	Flight planning and flight monitoring	Route selection	Fuel freeze assessment	Identify whether the flight is subject to fuel freeze, evaluate countermeasures according to the operator's OM-A/B/C, electronic flight planning application and GHIS (ground handling information system).
64.3	Risk assessment	Company resources	OCC responsibility, set-up and capacity	Describe the OCC areas of responsibility in this case, describe an adequate procedure for communication with operator's load control, MRO, OPS control and an adequate method of problem-solving and decision-making.

Identify whether the flight XX1234 LEJ-MIA A332F is subject to fuel freeze and decide about adequate countermeasures during flight planning. Communicate with the operator's departments involved and exercise appropriate problem-solving and decision-making.

The situation:

XX1234 LEJ 14/2345 15/0955 MIA A332F.

Supply fuel from fuel trucks, supply fuel temperature -10°C, OAT -13°C.

MEL item: Tank #2 fuel temp sensor inop.

Abeam St. Johns CYYT climb to FL410, see map for OAT in FL410 for the remaining flight.

Extract the standard temperature elapse rates and standard fuel specifications from the operator's OM-B.

In view of forecasted OAT -71°C abeam the US East Coast, the risk of fuel freeze should be evaluated in advance. The OM-B (FCOM) provides general information about the development of fuel temperature during flight. Extract the standard fuel temperature change rate.

To forecast the fuel temperature development, the TAT-development should be evaluated at least in the flight segment from a waypoint with a forecasted OAT around -70°C until the top of descent.

1. State the root cause of an untypical low supply fuel temperature if this fuel would have been provided from a storage place located above ground level. Apply the operator's ground handling standard procedures and information and extract the required data.
2. Calculate the expected total air temperature at the top of climb according to the operator's electronic flight plan and forecasted OAT.
3. Assume the fuel temperature after 7h cruise, use the operator's actual flight planning data.
4. Describe the temperature development between step climb FL410 until the top of descent and state whether the fuel temperature could be lower than -47°C. Describe the influence and the consequences caused by the MEL item.
5. After how many flight hours in -71°C OAT could the fuel temperature be lower than -47°C?
6. Evaluate the lowest permissible OAT in such a flight segment if the supplied fuel would be Jet A (e.g. MIA-LEJ) instead of Jet A1. Extract the fuel standard information from the operator's OM-B.
7. Apply the standard procedure on the basis of the flight planning application and compare the results from the manual evaluation with the automated fuel temperature warning function provided in the application.
8. Describe adequate countermeasures in relation to fuel supply, speed and altitude to avoid fuel freeze, coordinate with other stakeholders and demonstrate problem-solving and decision-making.

Comment section

The primary property of the increased complexity level of the task-based exercise is the set of data, conditions and tools as used by a specific operator. Instead of a manufacturer FCOM, the operator's OM-B should be used, even if the same FCOM could be an integrated element here. Instead of a given flight plan or a given set of information, the student has to apply operator procedures and tools, e.g. the more sophisticated applications for flight planning and information exchange. The FD trainee must identify and extract the required information independently, may initiate communication, coordination and decision-making in a realistic or partly simulated environment.

GM4 ORO.OCP.125(a) Additional training requirements for flight dispatchers

TRAINING TIMES – CBTA

The following times may be used as guidelines to design the training phases per learning objectives (Phase I):

Training subject	CT	Q&A	SY/RI	CTA	Total
Introduction	6	0	0	0	6
HPL Human performance and limitations	6	6	6	6	24
M&B Mass & balance	6	6	6	6	24
POF Principles of flight	18	12	6	6	42
MET Meteorology	18	12	12	6	48
LAW Air law and air traffic control	18	12	12	6	48
TEC Aircraft systems and engines	18	12	12	6	48
NAV Navigation	18	12	12	6	48
OPR Operational procedures	18	12	12	6	48
PEF Flight performance	12	6	0	6	24
Total	138	90	78	54	360

Notes:

CT = classroom training, subject introduction, trainee motivation, group work

Q&A = questions and answers, discussion of open-ended questions and exercises, group work

SY/RI = student individual: self-study / remote interaction

CTA = classroom training and assessment, dialogue oriented, 2-3 trainees per group, each trainee develops questions and case studies, presentation and interaction assessment, written open questions

The following times may be used as guidelines to design the training phases per specific tasks (Phase II (operator-specific training and OJT):

Training subject	CT	Q&A	SY/RI	CTA	Total
PEFLS Performance low speed	30	12	18	6	66
PEFHS Performance high speed, special performance	12	6	6	6	30
SELA Selection of aerodromes	36	12	18	6	72
FPL & FM Flight planning and flight monitoring	36	12	18	6	72
OPSSTD Operation standards, resource limitation, risk management	36	12	18	6	72
COMCL Direct operating costs, resource planning, customer, network (commercial risks)	24	12	6	6	48
Total	174	66	84	36	360

Rationale

This GM with training timelines has been added following the comments received, to provide estimates for the duration of the training.

GM1 ORO.OCP.125(c) Additional training requirements for flight dispatchers

REPLACING A FAMILIARISATION FLIGHT FOR FLIGHT DISPATCHERS WITH AN EQUIVALENT TRAINING IN EXCEPTIONAL CASES

When it is not possible for a flight dispatcher trainee to observe a familiarisation flight due to justified circumstances such as the physical or medical condition of the trainee, unavailability of flight simulator devices, an aircraft flight compartment without an observer seat, or disproportionate costs for completing a familiarisation flight in an aeroplane or a flight simulator, the training should include either of the following:

(a) observing a line operational simulation (LOS) profile in a representative flight simulator approved by the competent authority for this purpose. Such profile should address areas or route segments where the assigned function related to the operational control will be exercised;

(b) attending a familiarisation training at another organisation that performs services connected to FD-related tasks, such as an air navigation service provider or a ground handling service provider at an aerodrome where the operator performs flights.

(1) Recommended training duration: minimum 1 working day.

(2) Recommended content: familiarisation with the activities performed by the visited organisation, which provide input and data used for the execution of the FD tasks;

(c) completion of practical exercises simulating the cockpit environment in critical phases of flight, aiming at developing and testing the FD competencies necessary to provide efficient support to the flight crew during flight. Such competencies include but are not limited to situational

awareness, communication, technical expertise, workload management, problem-solving and decision-making.

Rationale:

Several comments requested that the familiarisation flight should be done also for the recurrent training, to maintain the competence of flight dispatchers current and close to the cockpit environment. The comments have been considered pertinent and therefore accepted.

Comments noted the difficulty or even impossibility to comply with the familiarisation flight requirement for reasons of physical conditions of the trainee (e.g. pregnancy) or, in the case of mainly small or non-scheduled flight operators, for disproportionate costs (of travel, overnight expenses, days off duty) to ensure a FD trainee can observe a familiarisation flight in the cockpit or in a flight simulator which may be available only in a third country or not at all at the right time. It has also been explained by the group of experts supporting EASA on this RMT that the familiarisation flight is just a method used for the development of certain FD competencies, but it is not the only method. While a familiarisation flight is the preferred method as it exposes the FD directly to the cockpit environment and therefore makes it easier for them to see the direct challenges of the flight crew during flight and helps them to understand the relevance of their role much better, it is not the only method to develop the FD critical competencies and attitude. Therefore, 3 different alternatives have been proposed to the familiarisation flight, as suggested by the experts. This approach will address the proportionality issue highlighted by some operators in several comments and the problem of potential non-compliance with the familiarisation flight requirement.

AMC1 ORO.OCP.130 On-the-job training

ON-THE-JOB TRAINING (OJT) USING CBTA FOR FLIGHT DISPATCHERS

When the OJT instruction referred to in point ORO.OCP.130 is conducted using CBTA, the following should be included in the training programme, as a minimum:

(a) the training for, and demonstration of, the knowledge obtained during the initial phase of the training, including operator-specific and function-specific training;

(b) the demonstration of skills;

(c) the acquisition of operational experience while providing operational control service under the supervision of an OJT instructor, as referred to in point ORO.OCP.130.

Rationale:

This new AMC is added to ensure the harmonisation and completeness of CBTA programmes used for the FD training. The text is aligned with the current work done within the ICAO PTL Panel on the SARPs on flight dispatcher training in Annex 1.

GM1 ORO.OCP.130 On-the-job-training

GUIDANCE FOR DEVELOPING COMPLEX EXERCISES FOR OJT

(a) Further development of the necessary competencies can be done through a combination of more complex tasks and exercises introduced in the training programme.

(b) The complexity of the exercises may further vary by different criteria, such as, for example:

(1) short-haul, long-haul flights;

(2) frequency of operation;

(3) fleet composition and size;

(4) hub&spoke operation versus point-to-point flights; scheduled operation vs ad-hoc/on-demand flights;

(5) passenger or cargo flights.

(c) It is recommended using the following material for the development of realistic exercises or scenarios:

(i) operations manual, operational procedures, and data from safety reports;

(ii) actual safety risks, as well as incidents and accidents transformed into realistic training- and assessment-tasks;

(iii) the operator's specific operational systems, tools, and equipment used in its operational control system;

(iv) elements from the applicable regulations;

(v) the operator's lessons learned from consequences of difficult operational situations.

(d) It is recommended that the instructor or assessor integrate multiple tasks in one exercise or assessment scenario.

AMC1 ORO.OCP.130(b) On-the-job training

ON-THE-JOB TRAINING (OJT) USING CBTA FOR FLIGHT DISPATCHERS

Operational experience shall be for a period of not less than 480 hours or three months, whichever is greater.

AMC1 ORO.OCP.135 Continued competence training of operations control personnel

(a) Recurrent training; shall be performed no later than every 36 months.

(b) Refresher training; shall be performed when an individual cannot demonstrate the required competence in the assigned function or has not performed tasks in the assigned function for more than 3 but no more than 12 consecutive months. The content and the delivery form of refresher training shall be adapted by the operator to the length of the pause and shall address the gaps identified in performance.

(c) Update training, when necessary; shall be performed in any of the following cases:

(1) an individual receives new tasks in the assigned function;

(2) amendments to the regulations directly affect the execution of their tasks;

(3) there are new processes, procedures or changes to the operational environment.

(d) Requalification training shall be performed when an individual has not performed tasks in the assigned function for more than 12 but no more than 24 consecutive months. The individual shall undergo initial training.

(e) The results of the proficiency checks shall determine the most appropriate type of training to be applied, to ensure that the individuals maintain their competence.

AMC1 ORO.OCP.135(a) Continued competence training of operations control personnel

RECURRENT TRAINING

(a) For all operations control personnel:

(1) When the recurrent training is completed within the last 3 months of the 36-month validity period, the new validity period shall be counted from the original expiry date.

(2) When it is completed within the last 12 months of the 36-month validity period, the new validity period should be counted from the end of the month when the recurrent training has been completed successfully.

(b) For flight dispatchers: recurrent training should include at least one familiarisation flight compliant with ORO.OCP.125(c) or an alternative competency-training session.

(c) For all operations control personnel:

(1) The content of the recurrent training should be based on the syllabus of initial training.

(2) The operator should decide whether certain parts of the syllabus or subtopics may be skipped or abbreviated, based on the results of the periodic proficiency checks.

AMC1 ORO.OCP.135(e) Continued competence training of operations control personnel

PROFICIENCY CHECKS FOR FLIGHT DISPATCHERS

(a) The operator should develop and implement proficiency checks, including any subsequent retraining, as necessary to ensure the flight dispatchers' continued competence.

(b) The periodic proficiency checks should be performed during real-time activities (on-the-job performance) and should be based on realistic tasks specific to the role. The purpose of proficiency checks is to determine the level of performance of an individual in their daily execution of duties and responsibilities.

(c) The proficiency checks should verify knowledge, skills and attitudes simultaneously applied in the daily performance of duties and tasks. They may be conducted during normal, abnormal or emergency conditions, depending on the situation and the area of competence of the individual(s) under check.

(d) Proficiency checks may be applied to cover more than one individual at a time, if this is relevant for group performance in particular operational circumstances, and if the group check does not affect the quality and completeness of the performance check of the individuals.

(e) The individual(s) under assessment should be informed in advance of the date of the proficiency checks and the expected assessment conditions.

(f) The process should ensure provision of the anonymous and confidential results as pass or fail and a recommendation of corrective measures.

(g) If the proficiency checks show a level of performance below the required standard, the retraining session should be adjusted to address the gaps in performance.

(h) The operator should appoint OJT instructors or assessors to execute the proficiency checks. These should:

(1) be competent in the performance of the tasks and duties that will be checked;

(2) be additionally trained in human performance and limitations and;

(3) receive instructor/assessor training and instructions relevant for the purpose and method of proficiency checks and the use of checklists;

(4) remain in close contact with and provide feedback on the proficiency checks to the other FD instructors and assessors. This feedback should be used to further improve the training process. The results and recommendations should support the gap analysis to adjust tasks and the respective training to the function-related target group.

(i) The proficiency checks should occur at intervals not exceeding 24 months from the completion of their previous training, either initial or recurrent.

(j) The proficiency checks and retraining should be documented for recording and inspection purposes.

Rationale:

This phase of assessment is conceived as a continuous part of the monitoring of performance of flight dispatchers. It was previously introduced in NPA 2023-01 as continuing assessment. This assessment is done during the performance of real-time tasks and is considered a process different from that of the assessment upon completion of the CBTA programme. It actually takes place in-between two recurrent trainings or after a refresher or an update training. The period of proficiency checks can be established by the operator.

Further guidance is provided in the associated GM.

GM1 ORO.OCP.135(e) Continued competence training of operations control personnel

PROFICIENCY CHECKS AND RECURRENT TRAINING TO ENSURE CONTINUED COMPETENCE OF FLIGHT DISPATCHERS

(a) The proficiency checks reflect the integration of the assessment phase in the training programme as a whole and is viewed as a continuous process rather than a separate step. Evidence-based training methodologies are prerequisites for effective competency development and maintenance. The instructor/assessor should identify an optimum relationship between training and assessment, considering the specific needs of the target group.

(b) Additional gap analysis and the adjustment of tasks may be necessary in the case of changed scope or factors of the operation. This links the proficiency checks to the refresher and update training. Such factors could be any of the following:

(1) changes to the operational system;

(2) changes to the type of operations;

(3) changes to the fleet;

(4) changes to the routes;

(5) any significant changes that may alter the data processed during their daily tasks;

(6) results from reported operational risks, occurrences, incidents and accidents;

(7) results from past assessments.

(c) The corrective measures recommended upon the completion of a proficiency check could indicate various items. For example:

(1) the need for retraining either in full or in particular areas of performance;

(2) the need to improve certain knowledge or skills;

(3) closer monitoring of activities requiring particular knowledge or skills;

(4) the need to improve the attitude;

(5) the need to expose the individual to particular tasks.

(d) Depending on the recommended corrective measure, the operator's instructors/assessor can decide how retraining should be done.

(e) The checks should be performed using a checklist that contains tasks associated with the flight dispatcher function under assessment and the expected level of performance as specified in the operations manual of the operator. Observable behaviours can be included in the description of the tasks, regardless of the training method used during the initial training. Such a checklist can be used as a proof of assessment and also a basis for the refresher or update training for recording or inspection purposes.

AMC2 ORO.OCP.140 Assessment of operations control personnel

ASSESSMENT OF OPERATIONS CONTROL PERSONNEL

(a) The operator should define and develop an assessment method that allows a realistic presentation and assessment of competencies. It should be based on the operational standards established by the aircraft operator for its operational control system and included in its operations manual.

(b) Instructors may perform the assessment. However, the assessment should be conducted, whenever possible, by an assessor who was not exclusively involved in the training of the same subject and target group.

(c) Each training module should conclude with an assessment of the individual's competence, to ensure an error-free learning.

(d) Each assessment should cover knowledge, skills and attitude simultaneously and should provide the result at least as pass/fail and a recommendation of corrective measures.

(e) The assessment should include the on-the-job phase of the initial training programme.(f) The individual assessments should include the assessor's corrective actions required to bring the trainee closer to achieving the target competency. It should also contain recommendations on how the individual should continue the training after passing the formal summative assessment, regardless of the final result.

(g) If the candidate fails an assessment, an analysis of the failure should be performed in order to identify the causes and, if necessary, provide further training to enable another assessment.

(h) The full competence is considered to be achieved after successfully passing the assessment of the last scheduled module.

Rationale:

Assessment is a fully integrated part of the training process. The assessor observes the trainee during the training phase and has more data to assess the performance of a trainee during the assessment phase. The recommendations provided by the assessor are an accelerator for the next step.

The assessor's role is even more important in developing the attitude dimension of the training programme. The development of right attitudes depends very much on the assessor's comments and feedback to the trainee's performance.

AMC3 ORO.OCP.140 Assessment of operations control personnel

ASSESSMENT OF FLIGHT DISPATCHERS USING CBTA

(a) The assessment should collect evidence that the competency standards of the individual are appropriate to the duties and consistently achieved.

(b) The assessment should consist of a simple CBTA level reached indicator (yes/no) combined with comments on the execution of each task and a decision to pass or not pass. The comments should include recommended tasks, exercises and training methods as individual recommendations on how to continue the training. The assessor should consider the feedback through the assessment reporting to improve the training processes, methods and material used.

(c) The assessment reporting may contain, in addition, information in percentages or points such as a simple grading scale to support statistical reporting of training results, without replacing comments on specific and individual competency gaps.

GM1 ORO.OCP.140 Assessment of operations control personnel

FORMATIVE ASSESSMENTS OF OPERATIONS CONTROL PERSONNEL

(a) The purpose of the formative assessments integrated throughout the training process is to identify competency gaps to support the learning process. The application of regular and continuous assessment should aim at achieving an error-free learning – this does not mean that the trainee will not make any more mistakes but that they will learn from their mistakes and understand their causes. This ensures a meaningful learning and understanding of the trained concepts.

(b) This way the assessment is continuous and ensures the trainees learn with exercises.

(c) To avoid a subjective assessment, the assessment phase can be performed in pairs or groups, to allow trainees to assess themselves by comparing themselves to the others.

Rationale

This new GM provides clear instructions about the 2 different types of assessment. They consider the changes in progress to ICAO Annex 1 in all the training areas where the CBTA and EBT models are adopted. Doc 10106 uses the same principles, even though the 2 different types of assessment are not termed as such.

GM2 ORO.OCP.140 Assessment of operations control personnel

GRADING FOR FLIGHT DISPATCHERS USING CBTA

Table 1: Sample grading system

Grading	Meaning
5	The trainee demonstrates all the competencies to a level that significantly enhances safety, effectiveness and efficiency.
4	The trainee demonstrates all the competencies to a highly effective standard.
3	The trainee demonstrates most of the competencies to an effective standard.
2	The trainee demonstrates some of the competencies to a minimum standard.
1	The trainee demonstrates one or more competencies below the minimum standard.

A sample competency checklist is provided in ICAO Doc 10106, Table 5-2. Further guidelines on the assessment phase are contained in Chapter 5.

Rationale:

The grading system provided as a sample follows the grading used by ATOs, where 5 is the highest grade and 1 is the lowest.

GM1 ORO.OCP.140(e) Assessment of operations control personnel

FAILURE TO PASS THE FORMAL SUMMATIVE ASSESSMENT BY OPERATIONS CONTROL PERSONNEL

(a) If, after three assessments of the same training module, the trainee's competency is still inadequate, the chief instructor should initiate a process to identify an adequate course of action. The participants during this assessment should be:

(1) the chief instructor or head of operations control personnel training;

(2) the instructor involved in the affected training module; and

(3) the trainee.

(b) Discussion should include the following aspects:

(1) the root causes of the inadequate competency progress;

(2) identification of a lack of self-awareness and/or a lack of motivation and proper attitude of the trainee;

(3) identification of adequate measures to improve the motivation and attitude of the trainee;

(4) identification of inadequate training methods or material;

(5) identification of additional and/or alternative training methods; and

(6) decision and documentation about further action by the chief instructor.

(c) The possible outcomes of this review could be:

(1) additional training and assessment; or

(2) an immediate exclusion of the trainee from further training activities for operations control personnel.

AMC1 ORO.OCP.145 Instructors and assessors of operations control personnel

TRAINING OF INSTRUCTORS AND ASSESSORS OF OPERATIONS CONTROL PERSONNEL

(a) The operator should document the process and criteria for the selection, training and qualification of instructors, OJT instructors, and assessors for operations control personnel, including the training standards with the required knowledge, skills and attitude.

(b) The operator should identify a person responsible for the evaluation, coordination, and standardisation of the training activities of the instructors and assessors of the operational control personnel. This person may be an appointed chief instructor or the one responsible for the management of the operational control personnel.

(c) The operator should ensure that the instructors, OJT instructors and assessors of operations control personnel for the operator-specific and function-specific training are competent in operational control activities.

(d) The operator should have procedures for cases when an instructor or an assessor does not meet the conditions for their initial qualification or for maintaining their competence.

AMC2 ORO.OCP.145 Instructors and assessors of operations control personnel

TRAINING OF OJT INSTRUCTORS AND ASSESSORS FOR THE FLIGHT DISPATCHER FUNCTION

(a) The OJT instructor/assessor should have completed training covering the following knowledge elements:

(1) training environment (e.g., organisation, department):

(i) the learning environment;

(ii) structure of FD training;

(2) human factors:

(i) learning and motivation;

(ii) teams and interaction within teams;

(iii) communication; and

(iv) stress;

(3) structured OJT session:

(i) preparing to deliver an OJT session;

(ii) briefing;

(iii) demonstration;

(iv) trainee involvement;

(v) working position handover/takeover;

(vi) monitoring;

(vii) training techniques;

(viii) intervention (instructions, error correction, taking over control); and

(ix) debriefing;

(4) assessment methods and report writing:

(i) analysis and assessment of the trainee's performance; and

(ii) purpose and quality of training and assessment reports.

(b) The OJT instructor/assessor should have demonstrated that they have acquired the skills and are competent to:

(1) conduct a briefing prior to the start of the OJT session;

(2) apply instructional techniques during the conduct of the OJT session to aid trainee's learning;

(3) monitor and intervene to maintain safety, where necessary;

(4) assess the trainee's performance against defined performance criteria; and

(5) conduct a debriefing session.

Rationale:

This new AMC is added to reflect the new SARPs in ICAO Annex 1 developed for OJT instructors and assessors for flight dispatchers.

AMC3 ORO.OCP.145 Instructors and assessors of operations control personnel

QUALIFICATION OF INSTRUCTORS, OF OPERATIONS CONTROL PERSONNEL, INCLUDING OJT INSTRUCTORS OF FLIGHT DISPATCHERS

(a) An individual should meet the following criteria to be appointed as an instructor:

(1) have minimum 2 years of practical experience on the tasks that should be trained;

(2) be qualified as an instructor, have adequate instructional skills or, in the absence of such qualification, complete an instructor training; if more than 24 months passed since the delivery of the last FD course, they should attend a train-the-trainer course before delivering the next training;

(3) have a good performance record as an instructor, or as a subject matter expert, or both, and good interpersonal and communication skills;(4) demonstrate familiarisation with the operator's procedures;

(5) conduct a simulated training of a task-based exercise developed by the candidate.

(b) When the CBTA programme is applied to flight dispatchers, the operator should ensure that the instructors have additionally received appropriate training in the CBTA concept, covering at least teaching and learning methods, learning objectives and the applicable competencies, facilitation and motivation techniques, threat and error management, identification of adequate competency behaviour markers, and the content of the subject(s) and exercises that they are to deliver.

(c) Once qualified, the instructors should maintain their qualification and competence. They should:

(1) conduct at least one training or assessment every 24 months;

(2) if more than 24 months have passed since the last training delivered, attend a refresher and update training before conducting the next training;

(3) complete a recurrent assessment or a recurrent training not later than every 36 months.

QUALIFICATION OF ASSESSORS OF OPERATIONS CONTROL PERSONNEL

(d) An individual should meet the following criteria to be appointed as an assessor:

(1) have minimum 2 years of practical experience on conducting assessments;

(2) be qualified as an assessor or, in the absence of such qualification, complete an assessor course; if more than 24 months passed since the last assessment performed, attend an assessor course before conducting the next assessment;

(3) have a good performance record as an assessor, or as a subject matter expert, or both, and good interpersonal and communication skills;

(4) perform a simulated assessment of a task-based exercise.

(e) The operator should ensure that the assessors in the CBTA programme, in addition to point (d), have received appropriate training regarding the assessment(s) that they are to conduct, covering at least familiarisation with the performance indicators, the operator's grading methodology and assessment tool, and the debriefing techniques.

(f) Once qualified, the assessors should maintain their qualification and competence. They should:

(1) perform at least one assessment every 24 months;

(2) if more than 24 months have passed since the last assessment performed, attend a refresher and update training before performing the next assessment;

(3) complete a recurrent assessment or a recurrent training not later than every 36 months.GM1 ORO.OCP.145 Instructors and assessors of operations control personnel

SELECTION OF INSTRUCTORS AND ASSESSORS OF OPERATIONS CONTROL PERSONNEL

(a) The process for the instructor and assessor selection could include an interview with the candidate, a training scenario and a simulated instruction developed and demonstrated by the candidate.

(b) A training scenario would require the candidate to prepare and deliver a brief training presentation covering motivation of the students, an explanation of the lesson objectives, the engagement of the trainees, and an assessment. The operator is expected to establish the conditions for the proposed task, as required, including the material, the media, the time frame, the duration, and the assumed competence status of the target group (trainees).

(c) By conducting a short, simulated instruction/lecture, the candidate is expected to demonstrate to the evaluator a task in the form of an exercise (e.g. destination alternate selection by assessing the need for a destination alternate based on regulations and, for CAT operators, the operations specifications). This exercise could include the general lesson objective, a briefing of the situation, a description of the problem, a question or objective, the provision of data and the SOPs and policies required to handle this task.

(d) The evaluator, taking the role of a trainee, evaluates the effect of the selected training method used, the communication, the level of interaction, the ability to motivate the trainee, and the flexibility.

(e) The candidate is expected to demonstrate the following aspects: ability to motivate the trainee, time management, competency targets, structured process, individual interaction with the trainee, response to questions, remaining focused after disruptions.

Rationale:

The new GM1 and the GM2 below are proposed to support operators and training organisations in the selection of instructors and assessors of the operations control personnel.

GM2 ORO.OCP.145 Instructors and assessors of operations control personnel

CRITERIA FOR INSTRUCTORS AND ASSESSORS OF OPERATIONS CONTROL PERSONNEL

It is recommended to consider the following criteria during the selection of instructors and assessors of operations control personnel:

(a) General traits and abilities

(1) Strong knowledge, skills and attitudes in relation to operational control tasks

(2) Ability to transpose operational situations and experiences into tasks and exercises

(3) Combination of tasks and prerequisite learning objectives to learning concepts

(4) Combination of tasks and subtasks in a wider context, i.e. as a case study

(5) Definition of targets of case studies and of the priority and sequence of tasks and subtasks

(6) Design of the material for tasks and case studies using different tools (digital platform, software, regulations, SOPs, data)

(7) Identification of the right approach for individual students

(8) Assessment of the result of trainees' performance

(9) Identification of the right training method for individual trainees based on competency gaps

(10) Ability to provide an adequate form of feedback

(11) Ability for self-assessment during training

(12) Attitude and motivation to develop own knowledge and skills

(13) Identification and understanding of the role and responsibility of the instructor, trainee and other stakeholders

(14) Ability to manage conflicts between instructors and trainees and within the group of trainees

(15) Experience in prioritising operational tasks, time management, problem-solving and decision-making

(16) Application of different training methods based on different operator-specific standards and regulations

(b) Specific abilities related to human performance and limitations (HPL) and/or dispatch resource management (DRM):

(1) Ability to create communication standards

(2) Ability to manage conflicts

(3) Ability to apply HPL/DRM concepts

(4) Use of team synergy

(5) Leading the training focusing on error management and prioritisation

(6) Leading the training focusing on problem-solving and decision-making

(7) Ability to specify requirements for HPL/DRM concepts

(8) Identification and application of the theory of human factors

(9) Demonstration of training need analysis in relation to human factors

(10) Identification of adequate observable behaviour markers for the development of human-factor related competencies

(11) Creation of exercises to meet the training requirements related to human factors

(12) Transfer and explanation of the concept to DRM instructor

(13) Handling of intercultural issues

(c) To cope with the intercultural issues, a CBTA instructor/assessor should be aware of relevant risk driver in the training process:

(1) Understand cultural factors and background of potential conflicts

(2) Verify conflicts through adequate communication

(3) Identify the right level of information flow and the complexity level of exercises

(4) Transfer the verified conflicts into solution

(5) Apply an adequate behavioural action

(d) Quality of the initial training and its content, as described in the training manual:

(1) Introduction to the training process, responsibilities, standard procedures and tools

(2) Basics of CBTA and evidence-based training, target competencies as prerequisite learning objectives, tasks and competency-related observable behaviours

(3) Instructor and assessor tasks, methods and tools

(4) Basics of teaching and learning and student coaching/motivation

(5) Development of exercises for instructions or assessments from standard tasks or prerequisite learning objectives

(6) Transfer of evident and realistic operational criteria into a training process

(7) Basics of continuous improvement of the training process

(8) The role, tasks and methods as instructor or assessor

(9) Selection criteria for training or assessment methods, training material, infrastructure and tools

(10) Assessment grading and debriefing, including identification of adequate competency behaviour markers

(11) Communication and conflict management

(e) It is recommended that the regular instructor/assessor competency evaluation and recurrent training be based on CBTA principles per ICAO Doc 9868 and Doc 10106, where regular standard training intervals and content could be replaced by individual competency gap analysis and specific re-qualifications. The principles and procedures as described in the training manual should include:

(1) the method of a regular instructor/assessor competence evaluation and gap analysis during instructions, assessments, development of instruction or assessment units or training or assessment material;

(2) the maximum time interval for instructor/assessor competence evaluation and gap analysis, depending on delivered training or assessment activities;

(3) the selection criteria for an individual recurrent assessment and training or standard training interval and content;

(4) the role, the tasks and the responsibility within the organisation for instructor/assessor competence monitoring and control;

(5) training management standards, quality management, compliance monitoring and safety management relevant for instructors/assessors;

(6) the standard procedure for instructor/assessor checks, communication and documentation.

1.1.5. Annex IV (Part-CAT)

Subpart A: General requirements (CAT.GEN)

AMC1 CAT.GEN.MPA.105(a)(8) Responsibilities of the commander

OPERATIONAL PROCEDURES — AIRCREW BRIEFINGS

(a) Flight crew briefings should be conducted for, but not limited to, the following phases of operation:

(1) pre-flight,

(2) departure, and

(3) arrival.

(b) Cabin crew briefing should be conducted for at least the following phases of operation:

(1) pre-flight, and

(2) first departure of the day.

Rationale: *ICAO Annex 6 Appendix 2 'Organisation and contents of an operations manual' point 2.1.23, as well as one ICAO USOAP protocol question, mentions departure and approach briefings. However, the Air OPS rules mention only the approach briefing, but nothing about departure briefings.*

ICAO Doc 8168 'Procedures for Air Navigation Services (PANS) — Aircraft Operations' Volume III 'Aircraft Operating Procedures' includes provisions on the content of departure and approach briefings in Section 6 Chapter 3.

This new AMC proposes to address this issue, but the proposal is limited to CAT operations.

Several comments were submitted on the changes to this AMC first published in NPA 2022-11. The comments answering the open question on whether such an AMC should be extended also to other operations than CAT, for other multi-crew operations (such as NCC) supported such an extension. Therefore a new AMC1 NCC.GEN.106(a)(3) has been introduced with a similar content. The comments suggesting further changes that were not related to the content of this AMC (e.g., linked to the occurrence reporting obligations), or requesting further explanations to some text that was already explicit enough have been rejected.

GM1 CAT.GEN.MPA.105(a)(8) Responsibilities of the commander

AIRCREW BRIEFINGS

Guidance on aircrew briefings may be found in ICAO Doc 8168 'Procedures for Air Navigation Services (PANS) — Aircraft Operations' Volume III 'Aircraft Operating Procedures' Chapter 3.

AMC1 CAT.GEN.MPA.105(b) Responsibilities of the commander

REPORTING OF ANY DEVIATION FROM RULES, OPERATIONAL PROCEDURES AND METHODS

If required by the State in which the incident occurs, the commander should submit to the appropriate authority of that State a report on any deviation from rules, operational procedures and methods applied in the interest of safety; in that event, the commander should also submit a copy of it to the competent authority. Such reports should be submitted as soon as possible and normally within 10 days.

Rationale: *A new AMC is proposed for consistency with NCC.GEN.106(e) and the related AMC1 NCC.GEN.106(e) and their equivalents in Part-NCO, and also for compliance with ICAO Standard 3.1.6 of Annex 6 Part I. 2 comments received on this proposal, first published in NPA 2022-11, do not support this AMC justifying that the commander should report any deviation and abnormal situations to the operator, similar to the safety reports, and not to the competent authority. Audits are regularly performed by the competent authority to raise these points.*

AMC1 CAT.GEN.MPA.140 Portable electronic devices

TECHNICAL PREREQUISITES FOR THE USE OF PORTABLE ELECTRONIC DEVICES (PEDs~~s~~)

[...]

(f) Batteries in C-PEDs and cargo tracking devices

Lithium-type batteries in C-PEDs and cargo tracking devices should meet:

(1) United Nations (UN) Transport~~ation~~ Regulations: 'Recommendations on the transport of dangerous goods', UN ST/SG/AC.10/1, and 'UN M~~m~~anual of T~~t~~ests and C~~c~~riteria', UN ST/SG/AC.10/11; and

[...]

AMC1 CAT.GEN.MPA.180(a)(18) Documents, manuals and information to be carried

APPROPRIATE METEOROLOGICAL INFORMATION

The appropriate meteorological information should be relevant to the planned operation, as specified in point (a) of point MET.TR.215 of Annex V (Part-MET) to Regulation (EU) 2017/373, and comprise ~~the following:~~

~~(a)~~ the meteorological information that is specified in point (e) of point MET.TR.215 of Part-MET.~~;~~ ~~and~~ When this information is not available, complete or sufficient, it should be complemented by supplemental meteorological information, including:

(~~1~~a) information other than that specified in point ~~(a)~~ (e) of point MET.TR.215 of Part-MET, which should be based on data from certified meteorological service providers; or

(~~2~~b) information from other reliable sources of meteorological information that should be evaluated by the operator.

Rationale

The proposed amendments increase flexibility for operators, and apply a more performance-based approach. The meteorological information specified in point (e) of point MET.TR.215 might not be available or appropriate in all aerodromes (i.e. small airfields, non-certified aerodromes, private aerodromes for ATOs, etc.) or for all operations, or it may not be adequate for the intended operation. The AMC allows the use of supplemental meteorological information, adding a more technology-neutral approach as modern aircraft use software providing meteorological information, which, when certified, can provide accurate information.

Supplemental meteorological information from reliable sources can be, for example, real-time observations from trained personnel at the aerodrome. The operator has an essential role in evaluating the quality of that information and ensuring a robust process to retrieve and use it.

The proposed amendment is not expected to have any negative impacts on safety.

Similar amendments are proposed to AMC1 NCC.GEN.140(a)(17) and AMC1 SPO.GEN.140(a)(18).

GM1 CAT.GEN.MPA.180(a)(18) Documents, manuals and information to be carried

DATA FROM CERTIFIED METEOROLOGICAL SERVICE PROVIDERS

In the context of point ~~(b)(1)~~ (a) of AMC1 CAT.GEN.MPA.180(a)(18), […]

GM2 CAT.GEN.MPA.180(a)(18) Documents, manuals and information to be carried

INFORMATION FROM OTHER RELIABLE SOURCES OF METEOROLOGICAL INFORMATION

In the context of point (b)~~(2)~~ of AMC1 CAT.GEN.MPA.180(a)(18), […]

GM3 CAT.GEN.MPA.180(a)(18) Documents, manuals and information to be carried

SUPPLEMENTAL METEOROLOGICAL INFORMATION AND SUPPLEMENTARY INFORMATION

Supplemental meteorological information: when operating under specific provisions and without the meteorological information from a certified service provider, the operator should use 'supplemental meteorological information', such as digital imagery. Related information can be found in point (e)(4) of AMC1 CAT.OP.MPA.192.

Supplementary information: ~~it is included in point (a) of AMC1 CAT.GEN.MPA.180(a)(18) and~~ refers to meteorological information to be reported in specific cases such as freezing precipitation, blowing snow, thunderstorm, etc.

Rationale

The proposed amendments in GM1, GM2 and GM3 to CAT.GEN.MPA.180(a)(18) are merely editorial, and they reflect the proposed changes to AMC1 CAT.GEN.MPA.180(a)(18). They are expected to have no impact.

Subpart B: Operational requirements (CAT.OP)

GM2 CAT.OP.MPA.107 Adequate aerodrome

RESCUE AND FIREFIGHTING SERVICES (RFFS)

Guidance on the assessment of the level of an aerodrome's RFFS can be found in ICAO Annex 6, Part I, attachment 'rescue and firefighting services (RFFS) levels'.

Rationale

These changes were first published in NPA 2024-02, a comment to make a link from the text to ICAO Annex 6 was not accepted.

In its Annex 6, Part I, attachment F 12th edition July 2022, ICAO introduced guidance related to RFFS, which is guidance for the industry to implement RFFS procedures.

The new proposed GM provides a new source of information for the industry. The alignment with ICAO SARPs provides consistency, which will have a positive impact in terms of standardisation. The expected overall impact is low positive.

AMC1 CAT.OP.MPA.110 Aerodrome operating minima

TAKE-OFF OPERATIONS – AEROPLANES

[…]

Table 1

Take-off — aeroplanes (without LVTO approval)

RVR or VIS

Minimum RVR* or VIS*	Facilities
500 m (day)	Nil**
400 m (day)	Centre line markings or Runway edge lights or Runway centre line lights
400 m (night)	Runway edge lights and runway~~Runway~~ end lights~~*** and~~; or Runway edge lights ~~or~~and runway centre[]line lights, of which at least one needs to be colour-coded

*: The ~~reported~~ RVR or VIS value representative of the initial part of the take-off run can be replaced by pilot assessment.

** […]

~~*** Runway end lights may be substituted by colour-coded runway edge lights or colour-coded runway centre line lights.~~

[…]

Rationale

This change was first published in NPA 2024-02 and received no comments. However, the work on other provision lead to revised this provision again and proposed new changes from the NPA.

Table 1 was amended to clarify that the pilot can always identify the runway surface outline under all conditions, either by runway edge lights and runway end lights or, in the case that the runway end lights have failed, by runway edge lights and centre line lights, of which one needs to be color-coded to indicate the end of the runway. According to ICAO standards, runway edge lights shall be provided for a runway intended for use at night runways or, in case the runway is provided with centre line lights, these shall be color-coded providing information to the pilot that the end of the runway is approaching. There could be an unforeseen condition under which the centre line lights are not colour-coded. In that case operators may choose to develop an alternate means of compliance or may not operate under those conditions.

Furthermore, the provisions relating to the lighting facilities for LVTO according to AMC1 SPA.LVO.100(a) and those for take-off in RVR above 400 m according to AMC1 CAT.OP.MPA.110 had not been aligned. Table 1 having applicability to take-off operations at night in RVR of 400 m or above have now been aligned with the runway lighting requirements for LVTO at night in RVR not lower than 300 m as of Table 1 of AMC1 SPA.LVO.100(a).

The deletion of the word 'reported' is proposed to ensure consistency with the proposed changes to AMC3 NCC.OP.110 and AMC3 SPO.OP.110. See the rationales for those changes.

The amendment proposed aims to ensure clarity and consistency, and no impact is expected.

AMC11 CAT.OP.MPA.110 Aerodrome operating minima

EFFECT ON LANDING MINIMA OF TEMPORARILY FAILED OR DOWNGRADED GROUND EQUIPMENT

[…]

(b) Conditions applicable to Table 17:

(1) ~~multiple failures of~~failed or downgraded runway/FATO lights in more than one row of Table 17 other than those indicated with 'no effect'~~in Table 17~~ should not be acceptable;

[…]

Table 17

Failed or downgraded equipment — effect on landing minima

Operations without LVO approval

Failed or downgraded equipment	Effect on landing minima	
	Type B	Type A
[…]	[…]	
Edge lights, threshold lights ~~and~~or runway end lights*	[…]	
~~Centre line lights~~	~~Aeroplanes: No effect if flight director (F/D), HUDLS or autoland; otherwise RVR 750 m~~ ~~Helicopters: No effect on CAT I and HELI SA CAT I approach operations~~	~~No effect but the minimum RVR should be 750m~~
Centre line lights or TDZ lights	Aeroplanes: minima as in table 10 Helicopters: no effect	
[…]	[…]	
~~TDZ lights~~	~~Aeroplanes: No effect if F/D, HUDLS or autoland; otherwise RVR 750 m~~ ~~Helicopters: No effect~~	~~No effect~~
[…]		

* runway end lights may be substituted by color-coded centre line lights

[…]

Rationale

This change is made after comments from the industry.

GM1 CAT.OP.MPA.140 Maximum distance from an adequate aerodrome for aeroplanes with two or more engines without an EDTO operational approval

SELECTED DIVERSION SPEED

The selected diversion speed for two-engined aeroplanes is intended to be used solely for establishing the maximum distance from an adequate aerodrome.

Additional guidance for the selection of the all-engines-operating (AEO) speed for aeroplanes with more than two engines and for the determination of the OEI speed for two-engined aeroplanes can be found in ICAO Doc 10085.

Rationale

The change has been introduced to replace the existing GM1 CAT.OP.MPA.140(c) clarifying the intended use of the selected OEI speed for two-engined aeroplanes (which is proposed to be deleted) and to provide guidance for the selection of the AEO speed for aeroplanes with more than two engines by referring to the related ICAO Doc 10085.

AMC1 CAT.OP.MPA.140(~~d~~e) Maximum distance from an adequate aerodrome for aeroplanes with two or more engines ~~two-engined aeroplanes~~ without an EDTO~~ETOPS~~ operational approval

NON-EDTO OPERATION OF TWO-ENGINED TURBINE AEROPLANES WITH AN MOPSC OF 19 OR LESS

(a) If the aeroplane is certified for EDTO, the operator should review the EDTO relevant data in the aeroplane's documentation and retain the applicable items for compliance. In particular, the EDTO CMP standards, AFM EDTO limitations or procedures and MMEL dispatch restrictions that have been identified by the (S)TC Holder as applicable to flights beyond 60 min and up to the diversion time contemplated by the operator (i.e. up to 120 or 180 min) should be assessed in order to determine if they apply to the contemplated operation.

(b) For aeroplanes not certified for EDTO, the operator should review any limitation stated in the aeroplane's documentation, such as time limited systems; if no such limitation is present in the aeroplane's documentation, the operator should get the information from the related manufacturer or the State of Design about any such limitations.

~~OPERATION OF~~ NON-EDTO~~ETOPS~~-OPERATIONS OF ~~COMPLIANT TWIN TURBO-JET~~ TWO-ENGINED TURBINE AEROPLANES WITH AN MOPSC OF 19 OR LESS BETWEEN 120 AND 180 MINUTES FROM AN ADEQUATE AERODROME

[…]

(d) Maintenance

(1) The operator's oil-consumption-monitoring programme should be based on engine manufacturer's recommendations, if available, and track oil consumption trends. The monitoring should be continuous to~~and~~ take account of the oil added and allow the calculation of the consumption rate of the previous leg.

[…]

(f) Pre-departure check

A pre-departure check, additional to the pre-flight inspection required by Part-M and designed to verify the status of the aeroplane's significant systems, should be conducted. Adequate status monitoring information on relevant ~~all~~ significant systems should be available to the flight crew to conduct the pre-departure check. The content of the pre-departure check should be described in the OM. The operator should ensure that flight crew members are fully trained and competent to conduct a pre-departure check of the aeroplane. The operator's required training programme should cover all relevant tasks, with particular emphasis on checking required fluid levels.

(g) MEL

The operator should establish in its MEL the minimum equipment that has to be serviceable for non-~~ETOPS~~EDTO operations between 120 and 180 minutes. The operator should ensure that the MEL takes into account all items specified by the manufacturer relevant to this type of operations.

(h) Dispatch/flight planning rules

The operator should establish dispatch procedures that address the following:

(1) Fuel and oil supply: for releasing an aeroplane on an extended range flight, the operator should ensure that it carries sufficient fuel and oil to meet the applicable operational requirements and any additional fuel that may be determined in accordance with the following:

(i) Critical fuel scenario: in establishing the critical fuel reserves, the applicant is to determine the fuel necessary to fly to the most critical point of the route and execute a diversion to an alternate aerodrome assuming a simultaneous failure of an engine and the cabin air pressurisation system. The operator should carry additional fuel for the worst-case fuel burn condition (one engine versus two engines operating) if this is greater than the additional fuel calculated in accordance with the fuel requirements in CAT.OP.MPA, in order to:

(A) fly from the critical point to an alternate aerodrome:

(a) at 10 000 ft; or

(b) at 25 000 ft or the single-engine ceiling, whichever is lower, provided that all occupants can be supplied with and use oxygen for the time required to fly from the critical point to an alternate aerodrome;

(B) descend and hold at 1 500 ft for 15 minutes in standard conditions; followed by

~~(C) descend to the applicable MDA/DH followed by a missed approach (taking into account the complete missed approach procedure); followed by~~

(C~~D~~) a normal approach and landing.

[…]

(4) ERA aerodrome(s): the operator should ensure that ERA aerodromes are available for the intended route, within the distance flown in 180 minutes based upon the OEI ~~cruising~~ speed, which is a speed within the certified limits of the aeroplane, selected by the operator and approved by the competent authority, confirming that, based on the available meteorological information, the weather conditions at ERA aerodromes are at or above the ~~applicable~~ planning minima applicable to fuel ERA for the applicable period of time, in accordance with CAT.OP.MPA.18~~5~~2.

Rationale

The change has been introduced to:

— *replace the previously used term 'ETOPS' by the new term 'EDTO';*

— *introduce minor wording modifications for clarification;*

— *provide the reference to the correct implementing rule (CAT.OP.MPA.182).*

In addition, based on the comments received and accepted, the following changes were added:

- *clarifications related to non-EDTO operations with two-engined aeroplanes certified for EDTO and also related to the consideration of time-limited systems for non-EDTO of two-engined aeroplanes not certified for EDTO.*
- *Alignment of the critical fuel scenario principle for non-EDTO operations with EDTO.*

~~GM1 CAT.OP.MPA.140(c) Maximum distance from an adequate aerodrome for two-engined aeroplanes without an ETOPS approval~~

~~**ONE-ENGINE-INOPERATIVE (OEI) CRUISING SPEED**~~

~~The OEI cruising speed is intended to be used solely for establishing the maximum distance from an adequate aerodrome.~~

Rationale

This GM has been replaced by the new GM1 CAT.OP.MPA.140.

GM1 CAT.OP.MPA.140(~~d~~e) Maximum distance from an adequate aerodrome for aeroplanes with two or more engines ~~two-engined aeroplanes~~ without an EDTO~~ETOPS~~ approval

SIGNIFICANT SYSTEMS

(a) Definition~~:~~

Significant systems to be checked are ~~the aeroplane propulsion system and~~ any aeroplane systems whose failure could adversely affect the safety of a non-EDTO~~ETOPS diversion~~ flight, or whose functioning is specifically important to continued safe flight and landing during an aeroplane diversion.

(b) When defining the pre-departure check, the operator should give consideration, at least, to the following systems:

[…]

(15) propulsion system fire detection and suppression~~;~~.

~~(16) emergency equipment (e.g. ELT, hand fire extinguisher, etc.).~~

Rationale

The change has been introduced to:

— *replace the previously used term 'ETOPS' by the new term 'EDTO';*

— *amend the list of systems the operator may consider during the pre-departure check, by removing the emergency equipment, which is already adequately covered by other checks.*

AMC1 CAT.OP.MPA.175(a) Flight preparation

OPERATIONAL FLIGHT PLAN — COMPLEX MOTOR-POWERED AIRCRAFT

(a) The operational flight plan used and the entries made during flight should contain the following items:

[...]

(11) type of operation (EDTO~~ETOPS~~, VFR, ferry flight, etc.);

[...]

(22) meteorological information, as specified in point (a)(18) of point CAT.GEN.MPA.180 ~~MET.TR.215 of Part-MET~~.

[…]

Rationale

It is proposed to update this reference to the relevant point in the rules, following the proposed changes to AMC1 CAT.GEN.MPA.180.

This proposed amendment is editorial and is expected to have no impact.

Point (a)(11) has been changed to replace the previously used term 'ETOPS' by the new term 'EDTO'.

GM1 CAT.OP.MPA.180 Fuel/energy scheme — aeroplanes

ED Decision 2022/005/R

FUEL SCHEMES

An operator can choose between three different fuel schemes. For the development of each fuel scheme, the following AMC are applicable:

(a) Basic fuel scheme: all the AMC that apply to the basic fuel scheme.

(b) Basic fuel scheme with variations: when an operator decides to deviate fully or partly from the basic fuel schemes, the AMC for basic fuel schemes with variations apply to the specific deviation; for the part of the scheme where the operator still follows the basic fuel scheme, the operator should apply the AMC referred to in (a).

(…)

Rationale:

This amendment is proposed in response to feedback received during the NPA consultation, which indicated that the distinction between basic fuel schemes and variations was unclear in the amendments to AMC/GM to CAT.OP.MPA.182. EASA, in consultation with task force SPT.0097, believes it is better to amend CAT.OP.MPA.180, as this issue may also apply to CAT.OP.MPA.181 and CAT.OP.MPA.185.

AMC1 CAT.OP.MPA.181 Fuel/energy scheme — fuel/energy planning and in-flight re-planning policy — aeroplanes

BASIC FUEL SCHEME — PRE-FLIGHT CALCULATION OF USABLE FUEL FOR PERFORMANCE CLASS A AEROPLANES

[…]

(d) for destination alternate fuel, include:

[…]

(3) when the aircraft is operated with no destination alternate aerodrome, the amount of fuel that is required to hold for 15 minutes.

[…]

(f) ~~for~~ if additional fuel is required, include an amount of fuel that allows the aeroplane to proceed, in the event

of an engine failure or loss of pressurisation, from the most critical point along the route to a fuel en route alternate (fuel ERA) aerodrome in the relevant aircraft configuration, hold there for 15 minutes at 1 500 ft (450 m) above the aerodrome elevation in standard conditions, make an approach, and land;

Rationale*This change has been made in response to the feedback on NPA 2024-02 to accurately reflect the existing details in the implementing rule (IR). According to the IR, the 15 minutes of fuel is included in the destination alternate fuel. However, the AMC did not incorporate this element into the destination alternate fuel provisions. The proposed amendment aims to ensure consistency with the IR.*

AMC6 CAT.OP.MPA.181 Fuel/energy scheme — fuel/energy planning and in-flight re-planning policy — aeroplanes

BASIC FUEL SCHEME WITH VARIATIONS — CONTINGENCY FUEL

[…]

(d) […]

(1) […]

(iii) contingency fuel equal to not less than 5 % of the fuel that is estimated to be consumed from the decision point to the destination 1 aerodrome or 5 minutes at holding speed at 1 500 ft (450 m) above the destination 1 aerodrome in standard conditions, whichever is the higher;

(iv) destination alternate fuel for destination 1 aerodrome as the amount of fuel specified in AMC1~~2~~ CAT.OP.MPA.181~~2~~ point (d) (with or without a destination alternate aerodrome if the conditions are fulfilled) ~~for destination 1 alternate fuel or no alternate fuel if the remaining flying time from the decision point to destination 1 aerodrome is less than 6 hours;~~

(2) […]

(iv) destination alternate fuel for ~~if a~~ destination 2 ~~alternate~~ aerodrome ~~is required~~;

[…]

(viii) discretionary fuel, if required by the commander.

(3) The decision point should be determined by a computerised flight-planning system and specified in the operational flight plan. The required usable fuel to continue beyond the decision point towards the destination 1 aerodrome should be indicated on the operational flight plan.

Rationale:

Change introduced to improve clarity of the text, following the comments received.

For point (d)(1)(iii) the minimum fuel quantify of 5 minutes was missing. The new text aligns with AMC1 CAT.OP.MPA.181 to ensure consistency.

(1) for point (d)(1)(iv), the amendment corrects the referent to the AMC that was wrong and improves the wording to ensure consistency between the two AMCs (i.e. AMC1 CAT.OP.MPA.181 and AMC6 CAT.OP.MPA.181).

(2) for point (d)(2)(iv), the amendment ensures consistency in the terminology used. To aligned with the rest of the AMCs.

(3) for point (d)(3), the amendment aligns the provision with other 'basic fuel schemes with variations' that require computerised flight planning systems.

GM1 CAT.OP.MPA.181 Fuel/energy scheme – fuel/energy planning and in-flight re-planning policy – aeroplanes

BASIC FUEL SCHEME

[…]

DESTINATION ALTERNATE AERODROME AND DESTINATION ALTERNATE FUEL/ENERGY

(h) In the context of fuel planning and in-flight replanning policy:

(1) The departure aerodrome may be selected as the destination alternate aerodrome.

(2) 'Destination alternate fuel/energy' is also used on a flight with no destination alternate aerodrome. In that case, it means 15-minute fuel/energy amount in accordance with CAT.OP.MPA.181 point (c)(4)(ii).

FINAL RESERVE FUEL […]

Rationale:

A new point (h)(2) is added to this GM to explain that destination alternate fuel/energy can also mean the 15 min (or more) holding time over destination in the case of a flight with no destination alternate, due to the numerous questions received regarding this topic. It was also commented in the NPA 2024-

02, and it follows suits the amendment proposed at the level of implementing rule in CAT.OP.MPA.185 point (b)(1) (see rationale for more information).

GM2 CAT.OP.MPA.181 Fuel/energy scheme — fuel/energy planning and in-flight re-planning policy — aeroplanes

BASIC FUEL SCHEME WITH VARIATIONS — STATISTICAL CONTINGENCY FUEL METHOD

~~As an example of statistical contingency fuel, the following statistical values of the deviation from the planned to the actual trip fuel provide appropriate statistical coverage:~~

~~(a) 99 % coverage plus 3 % of the trip fuel if the calculated flight time:~~

~~(1) is less than 2 hours; or~~

~~(2) is more than 2 hours and no fuel ERA aerodrome is available;~~

~~(b) 99 % coverage if the calculated flight time is more than 2 hours and a fuel ERA aerodrome is available; and~~

~~(c) 90 % coverage if:~~

~~(1) the calculated flight time is more than 2 hours;~~

~~(2) a fuel ERA aerodrome is available; and~~

~~(3) at the destination aerodrome, two separate runways are available and usable, one of which is suitable for type B instrument approach operations, and the meteorological conditions are in accordance with point CAT.OP.MPA.182(e).~~

The statistical contingency fuel (SCF) method is a method to calculate contingency fuel based on the operator's experience, typically considering statistically representative data from the past. It is applicable for specific city pairs and aircraft type combinations. When considering appropriate percentiles, the following factors, among others, are to be considered: specific route segment issues, runway availabilities, seasonality, time of day and aircraft type combinations. A common practice is the use of a coverage value of 90 %, 95 % or 99 %, but other practices may be possible. The values used need to be monitored and regularly adapted to reflect realistic baselines. It is recommended that this is done weekly or, as a minimum, monthly. The competent authority needs to be satisfied with the safety risk assessment and the operator's capability of implementing and monitoring the SCF procedure proposed. For further explanations, refer to ICAO Doc 9976 and the EASA fuel implementation manual.

Rationale

This proposed change was first published in NPA 2024-02

The example used in the current GM2 CAT.OP.MPA.181 led to some confusion among stakeholders. It is therefore proposed to amend the GM to include a more general text. The EASA fuel implementation manual to which the proposed GM refers is still under development and will be published in 2024.

The proposed amendment intends to increase clarity and no impact is expected.

AMC1 CAT.OP.MPA.181(c)(5) Fuel/energy scheme — fuel/energy planning and in-flight replanning policy — aeroplanes

FINAL RESERVE FUEL/ENERGY — SUFFICIENT FUEL FOR ANOTHER APPROACH – ALL AEROPLANES

The minimum fuel/energy required for a visual pattern (when available) should include sufficient fuel/energy for another approach of at least 8 minutes, considering all the following items:

(a) performing a standard go-around on runway heading after crossing the threshold of the opposite runway, ;

(b) a crosswind leg;

(c) a downwind leg;

(d) a based leg;

(e) a final approach; and

(f) a landing and taxi out of the runway.

Rationale:

The changes to this AMC were first published in NPA 2022-11.

This new AMC contains the text of the current point (c)(5) of point CAT.OP.MPA.181, and new text is proposed for point (c)(5) of point CAT.OP.MPA.181 to address the final reserve fuel for aircraft that use sources of propulsion other than fuel. The AMC proposed the minimum fuel for the element of sufficient fuel for another approach; additional fuel quantities for other safety objectives must also be considered (human factors, abnormal, etc). Also, when calculating the amount for another approach, the operator and the competent authority may identify a bigger quantity when applying other conditions, such as IFR.

The calculation of at least 6 minutes for the pattern is based on the following:

(a) performing a standard go-around on runway heading after crossing the threshold of the opposite runway, and flying for 1 minute;

(b) a crosswind leg of at least 1 minute;

(c) a downwind leg of 2 minutes;

(d) a based leg of at least 1 minute;

(e) a final approach of at least 1 minute; and

(f) a landing and taxi out of the runway to avoid as much as possible the closure of the runway of 2 minute..

AMC2 CAT.OP.MPA.181(c)(5) Fuel/energy scheme — fuel/energy planning and in-flight replanning policy — aeroplanes

MANAGEMENT OF AN ABNORMAL OR EMERGENCY SITUATION

15 minutes

AMC3 CAT.OP.MPA.181(c)(5) Fuel/energy scheme — fuel/energy planning and in-flight replanning policy — aeroplanes

TURBINE-ENGINED AEROPLANES AND RECIPROCATING ENGINE AEROPLANES — FINAL RESERVE FUEL HYDROCARBONS

The final reserve fuel, which includes sufficient fuel for another approach, should be the amount of fuel that is calculated at holding speed at 1 500 ft (450 m) above the aerodrome elevation in standard conditions according to the aeroplane's estimated mass on arrival at the destination alternate aerodrome or the destination aerodrome when no destination alternate aerodrome is required, and should not be less than:

(a) for aeroplanes with reciprocating engines, the fuel to fly for 45 minutes; or

(b) for turbine-engined aeroplanes, the fuel to fly for 30 minutes.

Rationale: *This new AMC contains the text of the current point (c)(5) of point CAT.OP.MPA.181, and new text is proposed for point (c)(5) of point CAT.OP.MPA.181 to address the final reserve fuel for aircraft that use traditional fuel propulsion. This change was first published in NPA 2022-11.*

Due to the comments received on the NPA, the wording was slightly changed to reflect the applicability to traditional fuel hydrocarbons-based fuel. This wording should cover fossil fuels as well as new Sustainable aviation fuels, including generation 1 and 2.

GM1 CAT.OP.MPA.181(c)(5) Fuel/energy scheme — fuel/energy planning and in-flight replanning policy — aeroplanes

USABILITY OF THE FUEL/ENERGY

(a) The operator should consider adding to its safety risk assessment various risks and possible mitigation measures associated with low fuel quantity or, in the case of batteries, low level of energy. The following examples could be considered; however, this is a non-exhaustive list:

(1) typically, low fuel quantity poses a higher risk of engine flame-out because of factors such as g forces, which may not allow feeding of the engine; or

(2) increased risk of fuel contamination while the battery can have an electrical output drop.

(b) The operator should also consider other safety risks specific to the technology used for the propulsion system of a given aeroplane. For example, for flights above 1 500 feet or lower than 1 500 feet, or in different temperature values, the fuel consumption changes, depending on the propulsion energy used. A fuel cell is sensitive to oxygen and air density, batteries are sensitive to temperature, etc., unless there are significant changes in the fuel/energy consumption at temperatures different from the ISA temperature.

Rationale:

This new GM was first published in NPA 2022-11 and there were no comments on it.

GM2 CAT.OP.MPA.181(c)(5) Fuel/energy scheme —fuel/energy planning and in-flight replanning policy — aeroplanes

MANAGEMENT OF AN ABNORMAL OR EMERGENCY SITUATION

The operator should consider sufficient time to allow the flight crew to manage an abnormal or emergency situation such as, for example, a slat flap locked, one-engine-out, or sudden airport closure due to an emergency, etc.

Rationale:

This GM was first published in NPA 2022-11 and was intended to explain what elements, as examples, should be considered by the operator to calculate 'sufficient time' to manage an abnormal or emergency situation. It is also intended to support the correct understanding of the related AMC.

AMC1 CAT.OP.MPA.182 Fuel/energy scheme — aerodrome selection policy — aeroplanes

BASIC FUEL SCHEME — TAKE-OFF ALTERNATE AERODROME

The take-off alternate aerodrome should not be farther from the departure aerodrome than:

(a) for two-engined aeroplanes:

(1) 1-hour flight time at an one-engine-inoperative (OEI) cruising speed according to the AFM in ISA and still-air conditions using the actual take-off mass; or

(2) the ~~extended range twin operations~~ ~~(ETOPS~~EDTO~~)~~ diversion time that is approved in accordance with Subpart F of Annex V (Part-SPA) to Regulation (EU) No 965/2012, subject to any minimum equipment list (MEL) restriction, up to a maximum of 2-hour flight time at the selected OEI ~~cruising~~ speed according to the AFM in ISA and still-air conditions using the actual take-off mass; or

(3) for performance class A aeroplanes with an MOPSC of 19 or less, subject to any MEL restriction, up to a maximum of 2-hour flight time at OEI cruising speed according to the AFM in ISA and still-air conditions using the actual take-off mass; and

[...]

Rationale:

Based on the comments received and accepted, a maximum 2 hours flight time criteria has been added for non-EDTO operations related to the selection of the take-off alternate aerodrome.

AMC2 CAT.OP.MPA.182 Fuel/energy scheme — aerodrome selection policy — aeroplanes

BASIC FUEL SCHEME – DESTINATION ALTERNATE AERODROME

[...]

(b) For each IFR flight, the operator should select and specify in the operational and ATS flight plans two destination alternate aerodromes when, for the selected destination aerodrome, the safety margins for meteorological conditions of point (a) of AMC5 CAT.OP.MPA.182, ~~and the planning minima of AMC6 CAT.OP.MPA.182~~ cannot be met, or when no meteorological information is available.

[…]

Rationale

The proposed amendments aim to address questions raised by the reference to AMC6 CAT.OP.MPA.182, which is unnecessary and duplicates other provisions in AMC5 CAT.OP.MPA.182. It also increases clarity of the rule.

AMC3 CAT.OP.MPA.182 Fuel/energy scheme — aerodrome selection policy — aeroplanes

BASIC FUEL SCHEME — AERODROME FORECAST METEOROLOGICAL CONDITIONS

Table 1 — Aerodrome forecasts (TAFs) and landing forecasts (TRENDs) to be used for pre-flight planning

(a) APPLICATION OF INITIAL PART OF TAF

(1) **Application period:** from the start of the TAF validity period up to the time of applicability of the first subsequent 'FM…*' or 'BECMG', or if no 'FM…' or 'BECMG' is given, to the end of the validity period of the TAF.

(2) **Application of forecast:** the forecast of the prevailing weather conditions in the initial part of the TAF should be fully applied, with the exception of **mean wind** and **gusts** that should be applied in accordance with the policy under column 'BECMG AT and FM…' in the table below. However, this may be temporarily superseded by a 'TEMPO' or 'PROB XX', if applicable according to the table below.

(b) APPLICATION OF FORECAST FOLLOWING CHANGE INDICATION IN THE TAF AND TREND

TAF or TREND for AERODROME PLANNED AS:	FM… (alone) and **BECMG AT**:	**BECMG** (alone), **BECMG FM**, **BECMG TL**, **BECMG FM…TL**, in case of:		**TEMPO** (alone), **TEMPO FM**, **TEMPO FM…TL**, **PROB30/40** (alone) **			**PROB TEMPO**
	Deterioration and Improvement	**Deterioration**	**Improvement**	**Deterioration**		**Improvement**	**Deterioration and Improvement**
				Transient/Shower Conditions in connection with short-lived weather phenomena, e.g. thunderstorms, showers	**Persistent Conditions** in connection with e.g. haze, mist, fog, dust/sandstorm, continuous precipitations	In any case	
DESTINATION at ESTIMATED TIME OF ARRIVAL (ETA) ± 1 HR	Applicable from the **start of change**	Applicable from the **start of change**	Applicable from **the end of change**	Not applicable	Applicable	Should be disregarded	Deterioration may be disregarded. Improvement should be disregarded

TAKE – OFF ALTERNATE AERODROME at ETA ± 1 HR **DESTINATION ALTERNATE AERODROME** at ETA ± 1 HR ~~**FUEL ERA** at ETA ± 1 HR~~	**Mean wind** should be within required limits **Gusts** exceeding crosswind limits should be fully applied	**Mean wind** should be within required limits **Gusts** exceeding crosswind limits should be fully applied	**Mean wind** should be within required limits **Gusts** exceeding crosswind limits should be fully applied	**Mean wind and gusts** exceeding required limits may be disregarded	**Mean wind** should be within required limits **Gusts** exceeding crosswind limits should be fully applied		including mean wind and gusts.
EDTO~~ETOPS~~ ERA AERODROME and FUEL ERA AERODROME From earliest ETA to latest ETA + 1 HR***	Applicable from the **start** of change	Applicable from the **start** of change	Applicable from the **end** of change	**Applicable if below applicable landing minima**	**Applicable if below applicable landing minima**		
	Mean wind should be within required limits	**Mean wind** should be within required limits	**Mean wind** should be within required limits	**Mean wind** should be within required limits	**Mean wind** should be within required limits		
	Gusts exceeding crosswind limits should be fully applied	**Gusts** exceeding crosswind limits should be fully applied	**Gusts** exceeding crosswind limits should be fully applied	**Gusts** exceeding crosswind limits should be fully applied	**Gusts** exceeding crosswind limits should be fully applied		

* The space following 'FM' should always include a time group e.g. 'FM1030'.
Note 1: 'required limits' are those contained in the OM.
Note 2: if promulgated aerodrome forecasts do not comply with the provisions of ICAO Annex 3, operators should ensure that guidance on the application of these reports is provided.
Note 3: for the definitions of the meteorological terms used in this table, see ICAO Annex 3.
* The space following 'FM' should always include a time group e.g. 'FM1030'.
** In the case of an EDTO ERA aerodrome or FUEL ERA aerodrome, only PROB 40 and TEMPO need to be considered.
*** The validity period for a given EDTO ERA aerodrome is typically determined based on a diversion from the first and last EDTO ETPs for this EDTO ERA aerodrome.

Rationale

The change was first published in NPA 2023-03 to:

— replace the previously used term 'ETOPS' by the new term 'EDTO'; and

— *align the applicable time window to be considered with the existing provisions of AMC 20-6 that are proposed to be deleted.*

In addition, based on the comments received and accepted, additional clarifications have been added related to the validity period for an EDTO ERA aerodrome.

Finally, for consistency reasons, the criteria have been aligned between fuel ERA aerodromes and EDTO ERA aerodromes.

AMC5 CAT.OP.MPA.182 Fuel/energy scheme - aerodrome selection policy - aeroplanes

BASIC FUEL SCHEME — SAFETY MARGINS FOR METEOROLOGICAL CONDITIONS

(a) The operator should only select an aerodrome as:

(1) take-off alternate aerodrome; or

(2) destination aerodrome

when the appropriate weather reports and/or forecasts indicate that during ~~a~~ the period ~~commencing 1 hour before and ending 1 hour after the estimated time of arrival at the aerodrome~~ included in AMC3 CAT.OP.MPA.182 table 1, the weather conditions will be at or above the applicable ~~landing~~ operating minima as follows:

(i) RVR or VIS specified in accordance with point CAT.OP.MPA.110; and

(ii) for a type A or a circling operation, ceiling at or above MDH.

(b) The operator should only select an aerodrome as:

(1) destination alternate aerodrome;

(2) fuel ERA aerodrome; ~~or~~

(3) EDTO ERA aerodrome; or

~~(3)~~ (4) isolated destination aerodrome;

when the appropriate weather reports and/or forecasts indicate that during ~~a~~ the period ~~commencing 1 hour before and ending 1 hour after the estimated time of arrival at the aerodrome~~ included in AMC3 CAT.OP.MPA.182 table 1, the weather conditions will be at or above the planning minima.

(c) ~~For the take-off alternate aerodrome and the isolated aerodrome,~~ Any limitations related to OEI operations should be taken into account except for the destination aerodrome.

Rational:

This change was introduced in this opinion after considering comments on the proposed modifications to Extended Diversion Time Operations (EDTO). To ensure consistency, points (a) and (c) were also revised in line with point (b).

The approach for destination and alternate aerodromes will be as follows:

Destination aerodrome: According to the previous regulatory framework, which remains unchanged due to this Opinion, the destination aerodrome requires at planning stage, weather reports at or above the aerodrome operating minima. This means accepting the risk that a possible engine failure could make landing at the destination impossible. However, the regulatory framework guarantees that a one-engine inoperative (OEI) landing will be feasible at the alternate aerodrome (see below rationale). This approach is aligned with the EDTO policy.

Alternate aerodromes: following the approach adopted by EDTO, the new regulatory framework ensures that all alternate aerodromes will have planning minima which also allows for an OEI approach. Although the increments are based on all engine operatives, the margins are sufficient enough to ensure OEI approach. This may involve for some aircraft a lower margin, but statistically, there is a distinction between an unexpected engine failure and unexpected weather deterioration—both are unlikely to occur simultaneously.

This approach to alternate aerodromes following the philosophy of EDT is not new; the current regulatory framework has already indicated this approach in AMC6 CAT.OP.MPA.182, but it lacked clarity due to editorial errors.

Additionally, the EASA fuel manual will be updated to clearly explain this approach as follows:

'OEI considerations regarding planning minima
AMC5 CAT.OP.MPA.182 (c) requires that any limitations related to OEI operations should be taken into account except for the Destination aerodrome.
For the destination aerodrome, AMC5 CAT.OP.MPA.182 (a) applies to the all-engine operating minima.
For the take-off alternate aerodrome AMC5 CAT.OP.MPA.182 (a) applies to the OEI operating minima.
For all other planning aerodromes, the operator should use as planning minima the higher of:
- *planning minima resulting from AMC8 and 9 CAT.OP.MPA.182 (based on all-engine operative operating minima), or*
- *OEI operating minima*

Note: the margins in table 2 of AMC6 applied to all engine operative operating minima result in weather conditions that ~~e~~xceed the OEI operating minima. For AMC 8 and 9 the operator should verify the "higher of".'

In addition, based on the comments received and accepted, EDTO ERA aerodromes have been included in the scope of CAT.OP.MPA.182.

AMC6 CAT.OP.MPA.182 Fuel/energy scheme — aerodrome selection policy — aeroplanes

BASIC FUEL SCHEME – PLANNING MINIMA

[…]

(b) fuel ERA aerodrome; ~~or~~

(c) EDTO ERA aerodrome; or

(~~c~~d) isolated destination aerodrome

only when the appropriate weather reports and/or forecasts indicate that the weather conditions will be at or above the planning minima of Table 2 below (any limitations related to OEI operations are ~~also~~ already taken into account in this table):

Table 2 — Basic fuel scheme — planning minima — aeroplanes

Destination alternate aerodrome, fuel ERA aerodrome, EDTO ERA aerodrome, isolated destination aerodrome

[…]

Rationale:

The changes to this AMC have been introduced to reflect the amendments for EDTO.

Regarding the clarification on OEI (One Engine Inoperative) operations, aircraft that have OEI operating minima higher than their all-engine operating minima plus 200 feet or 800 meters can still operate. In other words, all aircraft can perform CAT 1 approaches (200 feet/800 meters) on one engine. We acknowledge that the weather conditions aligned with the planning minima based on all-engine operations may be only slightly above the OEI operating minima.

Statistics indicate that EDTO (Extended Diversion Time Operations) diversions to the EDTO ERAs (Extended Range Operations) due to engine failure are rare, and new-generation aircraft are capable of maintaining low visibility approach performance while operating on a single engine.

In addition, based on the comments received and accepted, EDTO ERA aerodromes have been included in the scope of CAT.OP.MPA.182 and more specifically in the scope of the AMC6 and AMC9 related to planning minima.

AMC8 CAT.OP.MPA.182 Fuel/energy scheme — aerodrome selection policy — aeroplanes

BASIC FUEL SCHEME WITH VARIATIONS — PLANNING MINIMA

(…)

Table 3 — Basic fuel scheme with variations — planning minima — aeroplanes
Destination alternate aerodrome, fuel ERA aerodrome

Row	Type of approach operation	Aerodrome ceiling (cloud base or vertical visibility)	RVR/VIS
1	One usable ~~T~~type B instrument approach operations	DA/H + 200 ft	RVR/VIS + 550 m
2	3D Type A instrument approach operations, based on a facility with a system minima ~~minimum~~ of 200 ft or less	DA/H or MDA/H~~*~~ + 200 ft	RVR/VIS** + 800 m
3	Two or more usable type A instrument approach operations***, each based on a separate navigation means ~~aid~~	DA/H or MDA/H* + 200 ft	RVR/VIS** + 1 000 m
4	Other type A instrument approach operations	DA/H or MDA/H + 400 ft	RVR/VIS + 1 500 m
5	Circling approach operations	MDA/H + 400 ft	VIS + 1 500 m
Crosswind planning minima: see Table 1 of AMC3 CAT.OP.MPA.182			
Wind limitations should be applied taking into account the runway condition (dry, wet, contaminated).			

* The higher of the usable DA/H or MDA/H.

(…)

Note 2: Operators should use either the planning minima resulting from Table 3 or the One-Engine Inoperative (OEI) Minima, whichever is higher.

[...]

Rationale:

The changes to this AMC and the next (AMC8 CAT.OP.MPA.182) were first published in NPA 2022-11. They correct the text of the two AMCs and align them by deleting the unnecessary notes (asterisks). The changes also address the several comments received on the NPA.

AMC9 CAT.OP.MPA.182 Fuel/energy scheme — aerodrome selection policy — aeroplanes

BASIC FUEL SCHEME WITH VARIATIONS — PLANNING MINIMA

[...]

(b) As a minimum, the operator should:

(1) use a suitable computerised flight-planning system;

(2) hold an approval for low-visibility approach operations for that fleet. In the case of EDTO operations, it should be shown that the specific aeroplane type can maintain the capability to safely conduct and complete the Category II/III approach and landing, in accordance with the applicable airworthiness certification specifications, having encountered failure conditions in the airframe and/or propulsion systems associated with an inoperative engine that would result in the need for a diversion to the EDTO ERA aerodrome; and

(3) have established an operational control system that includes flight monitoring.

(c) Additionally, the operator should select an aerodrome as:

(1) a destination alternate aerodrome, or

(2) a fuel ERA aerodrome, or

(3) an EDTO ERA aerodrome

~~(3) isolated destination aerodrome, or~~

[...]

Table 4 — Basic fuel scheme with variations — planning minima

Destination alternate aerodrome, fuel ERA aerodrome, EDTO ERA aerodrome, isolated destination aerodrome

Row	Type of approach	Aerodrome ceiling (cloud base or vertical VIS)	RVR/VIS
1	Two or more usable type B instrument approach operations to two separate runways***each based on a separate navigation means.	DA/H* + 100 ft	RVR** + 300 m
2	One usable type B instrument approach operation	DA/H + 150 ft	RVR + 450 m
3	3D Type A instrument approach operations, based on a facility with a system minima ~~minimum~~ of 200 ft or less	DA/H or MDA/H* + 200 ft	RVR/VIS** + 800 m
4	Two or more usable type A instrument approach operations—***, each based on a separate navigation means ~~aid~~	DA/H or MDA/H* + 200 ft	RVR/VIS** + 1 000 m
5	One usable type A instrument approach operation	DA/H or MDA/H + 400 ft	RVR/VIS + 1 500 m
6	Circling approach operations	MDA/H + 400 ft	VIS + 1 500 m
Crosswind planning minima: see Table 1 of AMC3 CAT.OP.MPA.182			
Wind limitations should be applied taking into account the runway condition (dry, wet, contaminated).			

* The higher of the usable DA/H or MDA/H.

** The higher of the usable RVR or VIS.

[...]

Note 2: Operators should use either the planning minima resulting from Table 4 or the One-Engine Inoperative (OEI) Minima, whichever is higher.

[…]

Rationale:

The changes to this AMC and the next (AMC8 CAT.OP.MPA.182) were first published in NPA 2022-11. They correct the text of the two AMCs and align them by deleting the unnecessary notes (asterisks). The changes also address the several comments received on the NPA.

To avoid any risk of having planning minima that are lower than the OEI operating minima (especially when using line 1 of AMC8 or AMC9) EASA introduced note 2.

Reminder: when losing an engine, a B737-800 Fail Passive reverts from CAT III 50ft/175m to Cat 1 (200ft/550m), which is higher than 150ft (50+100)/475m(175+300) as per line 1 of AMC9 table4.

For EDTO flights, the use of AMC8 or AMC9. The operator willing to use one of them should propose an Individual Fuel Scheme to its Authority.

The isolated destination aerodrome has an increased risk in case of weather deterioration or OEI. Therefore, the EASA SPT decided to exclude the option of using AMC9 for this category of aerodrome. The previous specific requirement to take OEI limitation into account for an isolated aerodrome is fulfilled when using AMC6 and is no longer an issue if we don't allow AMC9 as basic variation for Isolated aerodrome. It was considered unsafe to allow use of AMC9 planning minima to fly to a single runway isolated aerodrome when comparing with the requirements for a destination with no destination alternate aerodrome.

In addition, based on the comments received and accepted, EDTO ERA aerodromes have been included in the scope of CAT.OP.MPA.182 and more specifically in the scope of the AMC6 and AMC9 related to planning minima.

GM1 CAT.OP.MPA.182 Fuel/energy scheme — aerodrome selection policy — aeroplanes

BASIC FUEL SCHEME

[...]

SAFETY MARGINS

(f) Point CAT.OP.MPA.182(e) requires operators to apply safety margins to the aerodrome operating minima to mitigate the risk that the destination alternate aerodromes, isolated aerodromes, EDTO ERA aerodromes, or fuel ERA aerodromes fall below aerodrome operating minima due to minor unforeseen weather deteriorations.

Rationale:

In addition, based on the comments received and accepted, EDTO ERA aerodromes have been included in the scope of CAT.OP.MPA.182.

AMC1 CAT.OP.MPA.185(a) Fuel/energy scheme – in-flight fuel/energy management policy – aeroplanes

BASIC FUEL SCHEME — PROCEDURES FOR IN-FLIGHT FUEL MANAGEMENT

(a) In-flight fuel checks

(1) The operator should establish a procedure to carry out:

(i) ~~ensure that~~ in-flight fuel checks ~~are carried out~~ at regular intervals~~; or at specified points indicated in the operational flight plan (one check at least every 60 minutes).~~and

(ii) records of in-flight fuel checks in the operational flight plan (one record at least every 60 minutes or at two consecutive waypoints)

(2) The remaining usable fuel should be evaluated to:

[…]

(3) In relation to the recording of relevant data, the operator should:

(i) agree with the competent authority on what constitutes relevant data for the purpose of recording;

[…]

(b) In-flight fuel management

(1) The flight should be conducted to ensure that the usable fuel expected to remain upon landing at the destination aerodrome is not less than:

(i) the required destination alternate fuel plus the FRF; or

(ii) the FRF if no alternate aerodrome is required.

(2) If, approaching the destination, an in-flight fuel check shows that the usable fuel expected to remain upon landing at the destination aerodrome ~~is~~ will be less than:

(i) the ~~required~~destination alternate fuel plus the FRF, the commander should request delay information from the ATC, and take into account the prevailing traffic and operational conditions at the destination aerodrome, at the destination alternate aerodrome, and at any other adequate aerodrome, to decide whether to proceed to the destination aerodrome or to divert in order to perform a safe landing with not less than the FRF; or

(ii) the FRF, if no destination alternate aerodrome was planned~~is required~~, the commander should take appropriate action and proceed to an aerodrome where a safe landing can be made with not less than the FRF

[…]

Rationale:

EASA received feedback on NPA 2024-02 that the AMC was not clear about the difference between in-flight fuel checks and the fuel data to be recorded in the context of paragraph (a) of GM1 CAT.OP.MPA.185 and AMC1 CAT.OP.MPA.185(a). The new proposed AMC establish a clear difference between:

the in-flight fuel checks pilots must do at regular intervals (e.g. for short-haul 30 m and for longer flight 60m), which can be a mental calculation and

the records of in-flight fuel checks in the operational flight plan following point (16) of AMC1 CAT.OP.MPA.175(a).

In addition, for some operations, there might be waypoints further away than 60 minutes for example in the North Atlantic crossing where intermediate points others than those contained in the ATC flight plan in the FMGC are forbidden. The new proposed amendments in AMC1 CAT.OP.MPA.185(a) and GM1 CAT.OP.MPA.185 resolve this question. This matter was a point of discussion in at least 5 EASA countries, with one authority raising a finding to a long haul operator for this reason.

Rationale for point (b)(2): the regulation imposed a mandatory request for delay information when a fuel check shows less fuel than the required one; however, on a long flight, it makes no sense to request delay information long time before the estimated time of arrival (ETA) at the destination. The Fuel Implementation Manual provides a detailed explanation.

It is important to mention that the wording used is 'approaching the destination' and not 'reaching' as the latter has a specific meaning in the context of fuel schemes. See AMC4 CAT.OP.MPA.182 ("' reaching the destination' means the point at which the aircraft has reached the applicable DA/H or MDA/H at the destination aerodrome") and GM1 CAT.OP.MPA.182(d)(1) ("'reaching the destination' means the point at which the aircraft has reached the applicable DA/H or MDA/H at the destination aerodrome").

AMC2 CAT.OP.MPA.185(a) Fuel/energy scheme —in-flight fuel/energy management policy — aeroplanes

BASIC FUEL SCHEME WITH VARIATIONS — PROCEDURES FOR IN-FLIGHT FUEL MANAGEMENT

(a) In addition to AMC1 CAT.OP.MPA.185(a) and in the context of point (d) of AMC6 CAT.OP.MPA.181, if the RCF procedure is used on a flight to proceed to destination 1 aerodrome, the commander should only continue towards destination 1 if ~~ensure that~~ the remaining usable fuel at the decision point is at least the total of the following:

[…]

(3) destination alternate fuel for destination 1 aerodrome ~~alternate fuel if a destination 1 alternate aerodrome is required~~;

(4) additional fuel, if required; ~~and~~

(5) ~~FRF~~ extra fuel, if required; and

(6) FRF.

(b) In addition to AMC1 CAT.OP.MPA.185(a), on a flight to an isolated aerodrome, the commander should only continue towards the destination isolated aerodrome if ~~ensure that~~ the remaining usable fuel at the actual PNR is at least the total of the following:

[…]

Rationale

The proposed amendments to point (a)(3) first published in NPA 2024-02 are further improved following the comments received, the reference to point CAT.OP.MPA.181(c)(4) is no longer required as the destination alternate fuel/energy is now clearly defined. See amendments to AMC1 CAT.OP.MPA.181 above.

A slight amendment has been made, to make clearer that pilots may not continue to destination 1 unless the required fuel to fly to destination 1 is still on board. It is legal to fly to destination 1 with no alternate but the 'destination alternate 15 minutes fuel' at the decision point must be ensured. This is a key difference between committing to the destination in the inflight fuel management policy, where 15 minutes fuel is not required, and replanning with no alternate where the 15 minutes destination alternate fuel is required. The RCF follows the principle of inflight replanning.

It is proposed to introduce a reference to 'extra fuel' (point (a)(5) and final reserve fuel, which are both required to be considered for in-flight planning under CAT.OP.MPA.181 (points (5) and (7)) but were mistakenly not mentioned in this AMC.

The proposed amendment intends to increase clarity, and no impact is expected.

GM1 CAT.OP.MPA.185 Fuel/energy scheme — in-flight fuel/energy management policy — aeroplanes

BASIC FUEL SCHEME

RELEVANT FUEL DATA TO BE RECORDED

(a) Records of in-flight fuel checks. The operator may decide at which regular intervals the relevant fuel data should be recorded in the operational flight plan.

An example of such intervals could be at least every 30 minutes for short-range flights and at least every 60 minutes for longer flights, or when the way points are further away than 60 minutes, at the next available waypoint thereafter.

Rationale:

See the rationale to AMC1 CAT.OP.MPA.185(a).

AMC1 CAT.OP.MPA.255 Ice and other contaminants — flight procedures

FLIGHT IN EXPECTED OR ACTUAL ICING CONDITIONS — AEROPLANES

(a) In accordance with ~~Article~~ point 2(e)~~(a)5.~~ of Annex V~~IV~~ 'Essential requirements for air operations' to Regulation (EU) 2018/1139 and its delegated and implementing acts ~~(EC) No 216/2008 (Essential requirements for air operations)~~, in case of flight into known or expected icing conditions, the aircraft must be certified, equipped and/or treated to operate safely in such conditions.

[...]

GM1 CAT.OP.MPA.295 Use of airborne collision avoidance system (ACAS)

GENERAL

(a) In establishing the operational procedures and training programmes for ACAS, the air operator must ensure compliance with the relevant requirements for ACAS contained in the Annex (Rules of the air) to Regulation (EU) No 923/2012.~~The ACAS operational procedures and training programmes established by the operator should take into account this GM~~. In addition, ~~i~~it incorporates the ICAO standards and recommended practices ~~advice~~ contained in:

(1) ICAO Doc 8168 (PANS-OPS), Volume III1 Aircraft Operating Procedures, Chapter 3 and Attachment A (ACAS training guidelines for pilots) and Attachment B (ACAS high vertical rate (HVR) encounters) to Section 4, Chapter 3; ~~and~~

(2) ICAO PANS-ATM2 Chapters 12 and 15 phraseology requirements;

(3) ICAO Annex 10, Volume IV; and

(4) ICAO PANS-ATM.

Rationale: A new GM is proposed to be introduced in the context of lesson learnt from standardisation inspections. This proposal was first published in NPA 2022-11 as a new AMC (not including points (1) to (3) above). Compliance with SERA is already required, there is no need to include an AMC or Rule for this purpose, therefore that proposed AMC was withdrawn from this version. Instead, a GM should be sufficient as a good reminder for both Air Operators, and Competent authority for compliance of Part SERA. The purpose of the GM is to improve safety and compliance by reinforcing cross-domain requirements, as the Air Operations rules on ACAS should be implemented together with the rules on ACAS published in Part-SERA. In fact, for those operators that already comply with the SERA requirements in their operational procedures and training, this new GM creates no additional work.

GM1 CAT.OP.MPA.303 & CAT.OP.MPA.311 In-flight check of the landing distance at time of arrival – aeroplanes & Reporting on runway braking action

SYLLABUS

(a) […]

[…]

(5) […]

(i) […]

A. Windsock ~~Windcock~~ effect

Rationale: *Correction of an editorial mistake.*

Subpart C: Aircraft performance and operating limitations (CAT.POL)

AMC1 CAT.POL.A.235 Landing – ~~dry runways~~ wet and contaminated runways

Rationale: *Correction of an editorial mistake in the title.*

AMC2 CAT.POL.H.305(b) Helicopter operations without an assured safe forced landing capability

IMPLEMENTATION OF THE SET OF CONDITIONS

To obtain an approval under point CAT.POL.H.305(a), the operator conducting operations without an assured safe forced landing capability should implement the following:

(a) Attain and then maintain the helicopter/engine modification standard defined by the manufacturer, which ~~that~~ has been designated to enhance reliability during the take-off and landing phases.

(b) Perform~~Conduct~~ the preventive maintenance actions recommended by the helicopter or engine manufacturer ~~as follows~~ including the following:

(1) engine oil spectrometric and debris analysis, ~~—~~as appropriate;

(2) engine trend monitoring, based on available power assurance checks for turbine engines and on cylinder compression checks for reciprocating engines;

(3) for turbine engines, engine vibration analysis (plus any other vibration monitoring systems where fitted); ~~and~~

(4) for reciprocating engines, cylinder and induction/exhaust valve borescope inspections, as appropriate; and

(5~~4~~) oil consumption monitoring.

(c) The usage monitoring system should fulfil at least the following:

(1) Recording of the following data:

(i) date and time of recording, or a reliable means of establishing these parameters;

(ii) amount of flight hours recorded during the day plus total flight time;

(iii) for turbine engines:

(A) N_1 (gas producer rpm~~RPM~~) cycle count;

(~~iv~~B) N_2 (power turbine rpm~~RPM~~) cycle count (if the engine features a free turbine);

(~~v~~C) turbine temperature exceedance: value, duration;

(~~vi~~D) power-shaft torque exceedance: value, duration (if a torque sensor is fitted);

(iv) for reciprocating engines:

(A) cylinder head temperature exceedance: value, duration;

(B) oil temperature exceedance: value, duration;

(C) manifold absolute pressure (MAP) exceedance (if appropriate to engine configuration): value, duration;

(~~vii~~v) engine shaft(s) / crankshaft speed or rpm exceedance: value, duration;~~.~~

(vi) any additional data specific to the engine technology, the exceedance of which should be recorded in order to minimise engine power loss occurrence, as specified by the engine manufacturer.

[...]

Rationale:

The proposed changes to this AMC were first published in NPA 2022-11. The AMC is proposed to be amended to include reciprocating engine technology including Wankel engine designs. Point (c)(1)(vi) is proposed to be introduced to cover any specific needs associated with other engine technologies.

The amendments proposed to AMC2 CAT.POL.H.305(b) are based on existing AltMoC.

The proposal maintains an existing safety objective and extends it to reciprocating engine powered helicopters. It has no safety impact. There will be a positive impact on level playing field by extending the same safety criteria to such helicopters. Economic benefits might materialise by enabling access to some markets for such helicopters provided they can meet the same safety level as turbine-powered helicopters.

The overall impact is positive. One comment, supporting the proposal, was received on this amendment. EASA did not address the other part of that comment as it was not related to this proposal and it would have to be addressed with another rulemaking task.

AMC3 CAT.POL.MAB.100(e) Mass and balance, loading

ALTERNATIVE MASS VALUES FOR PASSENGERS — HELICOPTERS

(a) When following AMC2 CAT.POL.MAB.100(e), the operator may replace Table 1 of AMC2 CAT.POL.MAB.100(e) by the following Table 1, or with any greater increment for revised standard mass values:

Table 1: Alternative increments for revised standard mass values

Number of passenger seats	Required mass increment
1–5 incl.	4 kg
6–9 incl.	2 kg
10–19 incl.	0 kg

(b) When following AMC1 CAT.POL.MAB.100(e):

(1) The operator may replace Table 2 of AMC1 CAT.POL.MAB.100(e) with the following Table 2, or with any greater values of passenger masses provided that procedures are in place to proactively identify and address any significant deviation from the alternative mass values:

Table 2: Alternative masses for passengers — helicopters with a total number of passenger seats of 19 or less

Passenger seats:	1–5	6–9	10–19
Male	92 kg	90 kg	88 kg
Female	74 kg	72 kg	70 kg
Children	35 kg	35 kg	35 kg

(2) Notwithstanding point (f) of AMC1 CAT.POL.MAB.100(e), whenever the operator identifies a significant deviation from the alternative mass values, it should:

(i) determine the actual mass of such passengers by weighing or by adding an adequate mass increment; the operator should reassess the helicopter mass and balance accordingly;

(ii) ensure that passengers are rescheduled on other flights, as necessary to ensure that the helicopter's mass and CG remain within the limits.

Rationale:

This proposal was first published in NPA 2022-11. It received 2 comments, one of which stating disagreement with the reduction of the standard masses of passengers in helicopters. That comment was rejected with as it is not the mass of passengers that is reduced, but the statistical increment, because it does not work on small helicopters. Better measures are put in place to avoid exceedance of structural and performance limitations. In addition, once average masses of passengers have been updated in AMC 1(or 2?) to take into account the fact that people are getting heavier, the masses to be used with AMC3 will increase accordingly.

AMC1 CAT.POL.MAB.105(c) Mass and balance data and documentation

SIGNATURE OR EQUIVALENT

Where a signature by hand is impracticable or it is desirable to arrange the equivalent verification by electronic means, the following conditions should be applied in order to make an electronic signature the equivalent of a conventional hand-written signature:

~~(a) electronic 'signing' by entering a personal identification number (PIN) code with appropriate security, etc.;~~

~~(b) entering the PIN code generates a print-out of the individual's name and professional capacity on the relevant document(s) in such a way that it is evident, to anyone having a need for that information, who has signed the document;~~

~~(c) the computer system logs information to indicate when and where each PIN code has been entered;~~

(a) When an electronic means is used as an equivalent to a handwritten signature for the mass and balance documentation, the operator should ensure that such electronic means:

(1) uses a unique identification code or access protocol that enables easy identification of the person responsible for the supervision of the aircraft loading and distribution and of

the commander; that unique identification code or access protocol may be used as an electronic signature;

(2) indicates, for each flight number and aircraft registration marks, the assigned commander and the person responsible for the supervision of aircraft loading and distribution;

(3) allows only authorised personnel to complete or modify the mass and balance documentation provided to the commander;

(3) logs information about the date and device identification for each log-in for mass and balance documentation purposes;

(4) complies with the security requirements applicable to the electronic communication of data and unique identification of individuals.

(b~~d~~) T~~t~~he use of the electronic signature ~~PIN code~~ is, from a legal ~~and responsibility~~ point of view, considered ~~to be~~ fully equivalent to a handwritten signature ~~by hand~~;

(c~~e~~) T~~t~~he requirements for record-keeping remain unchanged~~; and.~~

(d~~f~~) A~~a~~ll personnel concerned are made aware of the conditions associated with electronic signature and this is documented.

Rationale:

The amendments proposed to the AMC were first published in NPA 2022-11 and they follow an AltMoC that proposes a different means of compliance to point CAT.POL.MAB.105(c) to ensure that the electronic signature for the mass and balance documents provided to the commander is equivalent to a handwritten signature.

The purpose of the proposed amendments is the modernisation of the AMC to enable various electronic methods to identify the persons responsible for the mass and balance documentation of each flight. Today there are several electronic programmes that convey mass and balance data from the load planning through to the commander for authorisation and to the persons responsible for aircraft loading and distribution. Such documents that used to be transmitted in paper format and signed by hand are often replaced by electronic transmission of data, and wet signature is often replaced by a unique identification code assigned to each individual that has to sign a mass and balance document, or a unique access protocol for the programme that computes mass and balance calculations and loading. Today, these unique codes or protocols are the equivalent of an electronic signature.

The rules need to ensure that the electronic signing of documents is easily recognised by modern IT technologies and software provided they fulfil at least several criteria related to reliability and security of data transmission, the clear identification of the responsible persons, and the completeness and accuracy of information. No comments were received on these changes.

AMC1.1 CAT.POL.MAB.105(c) Mass and balance data and documentation

SIGNATURE OR EQUIVALENT — HELICOPTER OPERATIONS WITH ROTORS TURNING

In the context of helicopter operations with rotors turning, the operator may consider the signature of a designated ground operations personnel to be the equivalent to the commander's handwritten signature provided all the following conditions are met:

(a) The operator has established a procedure to ensure that the commander receives the relevant data of the mass and balance document.

(b) The operator has ensured that the commander is able to verify the essential elements of the mass and balance document.

(c) The commander is able to communicate their agreement or disagreement. If the commander is requested not to shut off the engines/rotors or if unsafe to do so, verbal communication through radio communication or equivalent means should be possible.

(d) A single ground personnel should be responsible for all the following:

(1) preparation of the mass and balance document;

(2) boarding of passengers and loading of cargo;

(3) communication with the commander as per points (a) and (c);

(4) compliance with any requests from the commander communicated as per point (c);

(5) handwritten or electronic signature of the mass and balance document on behalf of the commander, as required under point (c).

(e) The ground personnel specified in point (d) should be appropriately trained and have demonstrated competence in the performance of their tasks.

Rationale:

This new AMC was first published in NPA 2022-11 and it proposes that the best practices in helicopter operations become a means of compliance, considering that the current framework does not foresee helicopter specifics such as helicopter operations with rotors turning. No comments were received on these changes.

Subpart D: Instruments, data, equipment (CAT.IDE)

GM2 CAT.IDE.A.191 Lightweight flight recorder

INSTALLATION OF CAMERAS

When cameras are installed for the purpose of compliance with point CAT.ID~~A~~E.A.191, it is advised to install them so that they do not capture images of head and shoulders of the flight crew members whilst seated in their normal operating position.

AMC1 CAT.IDE.A.220 First-aid kit

CONTENT OF THE FIRST-AID KIT~~S~~

[...]

(b) The following should be included in the first-aid kit:

[...]

(2) Medications

(i) simple analgesic (including paediatric form — if the type of operation does not include transport of children or infants, the paediatric form may not be included);

(ii) antiemetic — non-injectable (including paediatric form — if the type of operation does not include transport of children or infants, the paediatric form may not be included);

[…]

(vi) antihistamine (including paediatric form — if the type of operation does not include transport of children or infants, the paediatric form may not be included).

[…]

(4) Additional equipment. The following additional equipment should be carried on board as part of a first-aid kit. ~~each aircraft equipped with a first-aid kit, though not necessarily in the first-aid kit.~~ The additional equipment need not be located together with the other components of a first-aid kit. One single set of additional equipment should be sufficient to complement all first-aid kits required to be carried on board. When operating multi-deck aircraft, operators should assess whether ~~if~~ the additional equipment is needed on each deck. The additional equipment should include, as a minimum:

[...]

(ii) bag-valve masks (masks in three sizes: one for adults, one for children, and one for infants). For CAT operations not involving the transport of children or infants (e.g. cargo operations), the respective mask sizes need not be included;

(iii) suitable airway management devices (e.g. supraglottic airway devices, oropharyngeal or nasopharyngeal airways) on all aircraft required to carry at least one cabin crew;

[...]

Rationale:

See the rationale for CAT.IDE.A.220.

In addition, EASA proposes amendments to this AMC and AMC1 CAT.IDE.H.220 in relation to airway management devices and bag-valve masks in points (b)(4)((ii) and (iii). The amendments have taken into account the outcome and justification of ED Decision 2021/005/R[18] on the new provisions on bag valve masks and airway management systems for large aeroplanes currently equipped with emergency medical kits (EMKs). The focus was mainly on aircraft where 'EMKs are optional on some flights' and mandatory on others. With the Decision mentioned above, the amendments were expected to 'generate savings for the airlines in terms of costs, space and weight'; however, those amendments have led to additional costs, have used available space in the aircraft, and have added weight for small aircraft operators.

Contrary to large aeroplanes, on small aircraft with an MOPSC of 19 or fewer:

— the risk of a medical emergency occurring during the flight is very low;

— no cabin crew is required;

— the likelihood that a medically trained passenger might be on board is remote;

— the need for emergency medical equipment is reduced and it is unlikely that an untrained person will be able to use such equipment.

Airway management devices are only needed in medical emergencies. They should be used only by persons who have received advanced resuscitation training, and their use by non-medical persons is

likely to be banned in most countries. They should be included only in first-aid kits of aircraft with cabin crews. They shall not be used on smaller aircraft.

Moreover, airway management devices do expire because they need to be sterile. Therefore, their use on smaller aircraft creates unnecessary, recurrent costs.

Bag-valve masks are also only needed in medical emergencies. They take up a substantial volume in the first-aid kit as three different sizes are needed, which makes them disproportionate for small aircraft and for operations not involving the transport of children or infants. Their efficiency in saving lives is reduced if airway management devices are not carried on board too. However, they can be used in the cabin by the neighbouring passenger and should have no expiry date.

In addition, in the case of helicopter operations, in most cases the flight duration is much shorter, and it is possible to land at short notice and leave a passenger on ground where medical help is available.

The need for emergency medical equipment is therefore further reduced.

Considering the above, EASA proposes that airway management devices be required only if a cabin crew is required onboard all aircraft. For smaller helicopters operated in CAT, EASA proposes that bag-valve masks be no longer required, but the operator is asked to consider it needs them based on a risk assessment, as is the case already in SPO.

The changes on this AMC and the related GM, as well as those on the similar rules in Part-NCC, NCO and SPO, were first published in NPA 2022-11 and have been further improved following the comments received on NPA 2022-11.

AMC1 CAT.IDE.A.226 Universal precaution kit

NUMBER OF UNIVERSAL PRECAUTION KITS (UPKs)

When determining the number of UPKs required to equip the aircraft, the aircraft operator should consider the number of cabin crew on board and the risk of transmission of a given pathogen as described by the public health authorities.

Rationale:

See rationale of CAT.IDE.A.226 Universal precaution kit.

AMC2 CAT.IDE.A.226 Universal precaution kit

CONTENT OF THE UPK

(a) The basic content of the UPK should include the following items:

(1) dry powder that can convert small liquid spill into a sterile granulated gel;

(2) germicidal disinfectant for surface cleaning;

(3) skin wipes;

(4) face/eye mask (separate or combined);

(5) gloves (disposable);

(6) protective apron;

(7) a large absorbent towel;

(8) pick-up scoop with scraper;

(9) biohazardous waste disposal bag;

(10) instructions.

(b) The basic content of the UPK may be further enhanced by any other item of equipment that may be needed in accordance with the case definition made public by the public health authorities.

Rationale: .

See the rationale of CAT.IDE.A.226 Universal precaution kit.

AMC2 CAT.IDE.A.345 Communication and navigation equipment for operations under IFR or under VFR over routes not navigated by reference to visual landmarks

ACCEPTABLE NUMBER AND TYPE OF COMMUNICATION AND NAVIGATION EQUIPMENT

[...]

(c) The operator conducting extended ~~range~~ diversion time operations (EDTO) ~~with two-engined aeroplanes (ETOPS)~~ should ensure that the related criteria of SPA.EDTO on ~~aeroplanes have a~~ communication means are met.~~capable of communicating with an appropriate ground station at normal and planned contingency altitudes. For ETOPS routes where voice communication facilities are available, voice communications should be provided. For all ETOPS operations beyond 180 minutes, reliable communication technology, either voice-based or data link, should be installed. Where voice communication facilities are not available and where voice communication is not possible or is of poor quality, communications using alternative systems should be ensured.~~

[...]

Rationale

The change has been introduced with NPA 2023-03 to:

— *replace the previously used term 'ETOPS' by the new term 'EDTO';*

— *remove some considerations which are already addressed in SPA.EDTO to avoid a duplication of provisions.*

GM1 CAT.IDE.A.345(a) Communication, navigation and surveillance equipment for operations under IFR or under VFR over routes not navigated by reference to visual landmarks

[...]

PBCS OPERATIONS — QUALIFICATION AND TRAINING

[...]

(b) The elements covered during the training should be as a minimum:

[…]

(2) Flight dDispatchers~~/flight operations officers~~

[…]

Rationale

The change is made to align the proposed change to the definition of flight operations officer/flight dispatcher, the new proposed requirements in Subpart ORO.OCP and related AMC and GM on operations control personnel, where the term 'flight operations officer' is deleted. Work to determine the meaning assigned to this term in the future is undergoing at ICAO level, in the PTL Panel, proposing amendments to the SARPs on flight operations officers/flight dispatchers in Annex 1 and Annex 6) and flight dispatchers as a specific category of operations control personnel.

AMC1 CAT.IDE.H.220 First-aid kit

CONTENT OF THE FIRST-AID KIT~~S~~

[...]

(b) The following should be included in the first-aid kit:

[...]

(4) Additional equipment. The following additional equipment should be carried on board ~~each aircraft equipped with a first-aid kit, though not necessarily in the first-aid kit~~. The additional equipment need not be located together with the other components of the first-aid kit. The additional equipment should include, as a minimum:

[...]

(iii) suitable airway management devices (e.g. supraglottic airway devices, oropharyngeal or nasopharyngeal airways) on all aircraft required to carry at least one cabin crew;

[...]

(6) For helicopters with a MOPSC of 6 or less, the operator may determine, based on a risk assessment that should consider at least the average duration of a flight and the availability of medical services in the area of operation, that the bag-valve masks referred to in point (4)(ii) need not be carried on board. When the assessment concludes that bag-valve masks are not needed, the operator should include at least one disposable resuscitation aid in the FAK.

Rationale

See the rationales for CAT.IDE.A.220 and AMC1 CAT.IDE.A.220 for more information related to first-aid-kits. The proposed changes have been further improved following the comments received on NPA 2022-11 on these rules. EASA rejected one comment on the new text in point (b)(6) which stated that this new point does not correspond to the practical needs of all helicopter operators, that there is no evidence provided that the carriage of additional equipment in helicopters may provide enhanced safety, and that the limited cabin size and the lack of cabin crew do not provide the necessary conditions for its implementation. EASA justifies that the MOPSC of 6 or less translates into a smaller risk of needing such devices; the higher the potential number of passengers on board, the higher the risk of having a medical emergency on board. A similar principle is used also for the fixed wing aircraft

requirements. Additionally, the bag valve mask can be used, in an emergency, in a sitting position by a neighbouring PAX.

GM1 CAT.IDE.H.220 First-aid kit

LOCATION AND USE

The location of the first-aid kit is normally indicated using internationally recognisable signs.

The first-aid kit 'should be readily accessible for use' in helicopter operations should be understood as the first-aid kit being either accessible in flight or immediately after landing.

It is recommended to locate the first-aid kit in the passenger cabin.

In some operations, ~~it is not practicable to use the first-aid kit during flight. Therefore,~~ the first-aid kit may~~can~~ be carried in the cargo compartment, where it will be easily accessible for use as soon as the aircraft has landed, when one of the following conditions is~~are~~ met:

(a) precautionary landing sites are available;

(b) it is impractical for persons to move within the cabin ~~the lack of cabin space is such that movement~~ or the use of the first-aid kit is impaired; ~~and~~ or

(c) the ~~installation~~ carriage of the first-aid kit in the cabin is not practicable.

Rationale

Based on the comments received and after further consideration the definition of 'should be readily accessible for use' was reinstated as it provides a clear understanding of the options for interpretation in the helicopter operations. – similar for NCC, NCO and SPO. One comment requesting that the GM should mention the VFR has been rejected as the option proposed in the text is not related to the type of operations. Regardless of whether flying IFR or VFR, if the helicopter does not have sufficient space to store the FAK in the cabin, then it may be stored in the cargo compartment, in which case the PIC must assess the situation and land as soon as safe to do so to administer first aid. Preferably, depending also on the severity of the medical emergency, the landing site should be an area accesible to a HEMS or land ambulance intervention.

See also the rationale for CAT.IDE.A.220.

GM4 CAT.IDE.H.220 First-aid kit

LITHIUM BATTERIES

The ~~R~~risks related to the presence of lithium batteries should be assessed. All equipment powered by lithium batteries and carried on a~~n aeroplane~~ helicopter should comply with ~~the provisions of~~ AMC1 CAT.GEN.MPA.140(f), including applicable technical standards such as (E)TSO-C142 'NON-RECHARGEABLE LITHIUM CELLS AND BATTERIES'.

AMC1 CAT.IDE.H.295 Crew survival suits

APPROPRIATE INSULATION OF CREW SURVIVAL SUITS

The operator should ensure that crew survival suits provide appropriate insulation in relation to water temperature as per Table 1 of AMC1 SPA.HOFO.110(b)(3).

Rationale: *See SPA.HOFO.110 (b)(3).*

1.1.6. Annex V (Part-SPA)

Subpart E: SPA.LVO

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

LOW-VISIBILITY TAKE-OFF (LVTO) OPERATIONS — AEROPLANES IN ~~AN~~ RVR OF ~~LESS THAN~~ BELLOW 400 M

(a) […]

(1) […]

Table 1

LVTO operations with aeroplanes — RVR versus facilities

Minimum RVR	Facilities
300 m (day)	Centre line markings; and Runway edge lights.
300 m (night)	Centre line markings~~;~~ and the following: ~~Runway edge lights; and~~ ~~Runway end lights or centre line lights.~~ (a) Runway edge lights and runway end lights; or (b) Runway edge lights and runway centre line lights, of which at least one needs to be colour-coded
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 60 m or less); and Runway centre line lights (spaced 15 m or less).

(2) […]

Table 2

LVTO operations with aeroplanes — assumed engine failure height versus RVR

[...]

(b) At least one RVR reporting point is required.

(c) For operations on a runway with a TORA of more than 1 800 m two operative RVR reporting points are required.

(d) For operations in an RVR below 300 m the following reporting points are required:

(1) runways with a TORA of more than 1 800 m but not more than 2 100 m for

(i) the touchdown zone or the initial part of a take-off runway; and

(ii) the midpoint or the stop-end of the runway;

(2) runways with a TORA of more than 2 100 m for

(i) the touchdown zone or the initial part of a take-off runway;

(ii) the midpoint; and

(iii) the stop-end of the runway.

(~~b~~e) Notwithstanding (c) and (d), t~~T~~he ~~reported~~ RVR value representative of the initial part of the take-off run can be replaced by pilot assessment.

(~~c~~f) Notwithstanding (c) and (d), t~~T~~The minimum RVR value specified in Table 1 or 2 should be achieved for all reporting points representative of the parts of the runway from the point at which the aircraft commences the take-off until ~~the calculated accelerate-stop distance~~the greater of the calculated take-off distance or accelerate-stop distance from that point.

LVTO OPERATIONS — AEROPLANES IN AN RVR BELOW~~OF LESS THAN~~ 125 M

(~~d~~g) For LVTO operations in~~with~~ an RVR below~~of less than~~ 125 m, the following ~~additional~~ elements in addition to the requirements of paragraph (a) to (f) should apply:

(1) ~~The runway has centre line lights spaced at intervals of 15 m or less;~~

~~(2)~~ If an ILS signal is used for lateral guidance, the ILS localiser signal meets the requirements for category III operations, unless otherwise stated in the AFM;

(~~3~~2) If an ILS signal is to be used, low-visibility procedures (LVPs) include protection of the runway and, where an ILS localiser signal is used, it should include protection of the ILS-sensitive area unless otherwise stated in the AFM; and

(~~4~~3) If a GLS signal is used for lateral guidance, the GLS performance type meets the requirements for category III operations (GAST D and to GBAS point to which guidance is required), unless otherwise stated in the AFM.

(4) The reported RVR should be not less than the minimum specified in the AFM or, if no such minimum is specified, not less than 75 m.

~~(e) For LVTO operations with an RVR of less than 125 m, the reported RVR should be not less than the minimum specified in the AFM or, if no such minimum is specified, not less than 75 m.~~

~~(f) The minimum required RVR should be achieved for all reporting points representative of the parts of the runway from the point at which the aircraft commences the take-off until the greater of the calculated take-off distance or accelerate-stop distance from that point.~~

~~(g) The reported RVR value representative of the initial part of the take-off run can be replaced by pilot assessment.~~

[…]

Rationale

The changes proposed to AMC1 SPA.LVO.100(a) were first published in NPA 2024-02. There were no comments received on them. However, the discussions in other points lead to the need to come back on this point.

Rational for the proposed point (a)

Table 1 was amended to clarify that the pilot can always identify the runway surface outline under all conditions, either by runway edge lights and runway end lights or, in the case that the runway end lights have failed, by runway edge lights and centre line lights, of which one needs to be color-coded to indicate the end of the runway. According to ICAO standards, runway edge lights shall be provided

for a runway intended for use at night runways or, in case the runway is provided with centre line lights, these shall be color-coded providing information to the pilot that the end of the runway is approaching. There could be an unforeseen condition under which the centre line lights are not colour-coded. In that case operators may choose to develop an alternate means of compliance or may not operate under those conditions.

Rationale for the proposed point (b) to (d)

The points (b) to (d) have been added to clarify how may RVR reporting points need to be established and where they need to be sited. The required number of the RVR reporting points and their siting depends on the visual range conditions on the runway, whereas operations in an RVR of 300m or below requires more reporting points to be established along the runway to provide the pilot with more precise information on the visual range conditions in part of the runway not accessible to the pilot before commencing the take-off run, and the runway length (TODA, ASDA). The number and the siting has been base on the existing provisions of the RVR siting related to CAT II and III operations. On a runway which is equipped with only one RVR reporting point, a take-off in an RVR of 300 m is possible.

Rationale for the proposed point (e)

It is proposed to remove the word 'reported' from the original point (b), (now point (e) in this proposal) to clarify that the pilot assessment can replace:

- *RVR that has been reported in the airport; and/or*
- *touchdown zone RVR, when it is not available (e.g. the tower provides MID and STOP-END RVR but touchdown RVR is out of service).*

Rationale for the proposed point (f)

The wording of the original point (c), (now point (f) in this proposal) is proposed to be amended to avoid misunderstanding between take-off run and take-off distance.The clarification now includes in the provision the calculated take-off distance.

Rationale for the proposed point (g)

The original provision (d), (now point (g) in this proposal) regarding the LVTO operations in an RVR below 125 m have changed only editorially. Amongst others it reduces redundant provisions. The content is not changed.

The proposed amendments aim to improve clarity, and no impact is expected.

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

VISUAL SEGMENT FOR TAKE-OFF

(a) The value of 125 m RVR for take-off with 15 m centre line light spacing has been selected because flight deck geometry means that this will provide at least a 90-m visual segment for the large majority of aircraft types. In a 90-m visual segment the pilot is expected to be able to see six centre line light intervals (seven centre line lights) at 15 m spacing once lined up on the runway centre line.

LOW-VISIBILITY TAKE-OFF (LVTO) OPERATIONS — EFFECT ON TAKE-OFF MINIMA OF TEMPORARILY FAILED OR DOWNGRADED EQUIPMENT

(b) The following provides further information of the conditions under which LVTO operations may be conducted in case of:

(1) Runway lighting facilities downgraded or failed — Reference to applicable minima adjustments as specified in AMC1 SPA.LVO.100(a).

(2) Reported RVR below the minimum RVR — LVTO may be allowed based on pilot assessment of actual conditions in the initial part of the runway.

(3) RVR of a reporting point not reported (not available) — Pilot assessment may be used to determine RVR in the initial part of the take-off run.

(4) No RVR reporting point established for the initial part of the runway — LVTO may be permitted if other criteria and lighting facilities are satisfied.

Further information is provided in the EASA AWO Implementation Manual.

Rationale:

The GM was added with the purpose to explain all relevant scenarios under which LVTO operations may be performed in accordance with the changes made to AMC1 SPA.LVO.100(a). The GM also addresses questions having arisen in the flying community as to which extend LVTO operation may be continued given the downgrading, unavailability, or failure of certain elements of the facilities. The content is self-explanatory.

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

INSTRUMENT APPROACH OPERATIONS IN LOW-VISIBILITY CONDITIONS — CAT II OPERATIONS

[…]

Table 4

CAT II operation minima: RVR (m) versus DH (ft)

Aircraft categories		Auto-coupled or HUD to below DH*	
		A, B, C	D
DH (ft)	100–120	300	300*/350~~*~~
	121–140	400	400
	141–199	400**/450	400**/450

*: An RVR of 300 m may be used for a Category D aeroplane conducting an autoland or using HUDLS to ~~touchdown~~ touch down.

**: An RVR of 400 m may be used for an aeroplane conducting an autoland or using HUDLS to touch down.

Rationale:

The proposed amendment aims to align the LVO take-off minima that require specific approval (i.e. RVR of 400 m) with the CAT II instrument approach operation (which also requires specific approval) at AMC level. In addition, it is proposed to add a reference to the use of HUDLS, which is currently missing.

The changes proposed to AMC1 SPA.LVO.100(a) were first published in NPA 2024-02. There were no comments received on them.

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

INSTRUMENT APPROACH OPERATIONS IN LOW-VISIBILITY CONDITIONS — CAT III OPERATIONS

[…]

(a) For operations in which a DH is used, the DH should be determined by the use of a radio altimeter or other device capable of providing equivalent performance and be not lower than:

(1) the minimum DH specified in the AFM, if stated;

(2) the DH to which the flight crew is qualified to operate.

(3) any applicable DH restriction as published in the AIP or NOTAM;

[…]

(c) The RVR should be the highest of:

(1) the minimum RVR specified in the AFM, if stated

(2) the ~~lowest~~ RVR ~~to be used should be~~ determined in accordance with Table 5 or

(3) any RVR restriction coming from the ILS equipment or as published in the AIP or NOTAM,

Table 5 (to be read from left to right)

CAT III operation minima: RVR (m) versus DH (ft)

DH(ft)	Ground ~~R~~roll-out control/Ground-roll guidance system	RVR (m)*
50-99	Not required	175
~~0-49~~ Less than 50 or no DH	Fail-passive	125
	Fail-operational	75

* Note: For a fail-passive or HUD roll-out control system, a lower RVR value (no lower than 75 m) can be used if stated in the AFM provided that the equipment demonstrated such capability as part of the certification process. This is provided that the operator has implemented the appropriate operating procedures and training.

Rationale

The amendment clarifies that the equipment that the AMC refers to is the ground-roll control or ground-roll guidance and not the 'approach' landing system. Some operators have been using fail-passive automatic landing systems (i.e. CAT III single) with a 125 m RVR, when this should not be the case. According to point (c) of CS AWO.B.CATIII.113, a fail-operational automatic landing system is

required, or a fail-operational hybrid landing system and a fail-operational or fail-passive automatic ground-roll control or head-up ground-roll guidance. Thus, a fail-passive automatic landing system (i.e. CAT III single) can only be certified at 50 feet or above and therefore 175 m RVR is required. The amendment is proposed to avoid misunderstandings between landing systems and ground systems.

The changes proposed to AMC2 SPA.LVO.100(b) were first published in NPA 2024-02. The initial version proposed in NPA 2024-02 was amended considering the comments received to take into account the published state minima.

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

INSTRUMENT APPROACH OPERATIONS IN LOW-VISIBILITY CONDITIONS — EFFECT ON LANDING MINIMA OF TEMPORARILY FAILED OR DOWNGRADED EQUIPMENT FOR APPROACH OPERATIONS

(a) Only those facilities mentioned in Table 6 for CAT II/III operations or in Table 7 for operational credits as applicable should be acceptable to be used to determine the effect of temporarily failed of downgraded equipment on the required RVR ~~for CAT II/III approach operations~~.

(b) The following conditions should be applied to Table 6 or Table 7 as applicable:

(1) The following applies to multiple failures of runway/FATO lights: ~~other than those indicated in Table 6 are not acceptable;~~

(i) failed or downgraded equipment other than indicated with 'no effect' in more than one row of the applicable table should not be acceptable; and

(ii) in addition to (i), the operator should assess the risk if choosing to operate with failed or downgraded equipment in more than two rows of the applicable table.

[…]

Rationale:

The amendment completes the proposed amendment in AMC11 in CAT.OP.MPA.110 to clarify multiple downgraded equipments.

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

INSTRUMENT APPROACH OPERATIONS IN LOW-VISIBILITY CONDITIONS — EQUIPMENT CERTIFICATION FOR LOW-VISIBILITY APPROACH OPERATIONS OTHER THAN EFVS

[…]

Legacy systems may be described as capable of 'CAT 3A' or 'CAT IIIA' operations. This implies a minimum DH of less than 100 ft or no DH ~~but not less than 50 ft~~. Systems described as capable of 'CAT 3B' or 'CAT IIIB' may be certified for a DH of less than 50 ft or no DH.

[…]

Rationale:

The amendment completes the proposed amendment in AMC2 SPA.LVO.100(b). This approach is in accordance with ICAO (i.e. Legacy definition for CAT III A).

GM3 SPA.LVO.100(b) Low-visibility operations and operations with operational credits

INSTRUMENT APPROACH OPERATIONS IN LOW-VISIBILITY CONDITIONS — ESTABLISHMENT OF MINIMUM RVR FOR APPROACH OPERATIONS WITH A DH BELOW 200 FT

[…]

(f) The RVR restriction of an ILS equipment referred to in AMC2 SPA.LVO.100(b) may be as follows:

Table 7.A: ILS classification and supported operations for aeroplanes.

Table 7 A

ILS classification and supported operations for aeroplanes

ILS classification			Correlation between ILS classification and system minima	
Facility performance category	Limit of course structure	Minimum level of integrity and continuity of service	Lowest operational CAT	ILS ground equipment system minimum RVR (m)
I	C, T, D or E	1	I	TDZ: 550 (CATI), 400 (SA CAT I)
II	T	2	II	TDZ: 300
	D or E	2	II	TDZ 300
III	D	2	II	TDZ 300
		3	III	TDZ 200
		4	III	TDZ 175
	E	3	III	TDZ 175
		4	III	TDZ 75

Rationale:

The new table completes the proposed amendment in AMC2 SPA.LVO.100(b) and provides the latest ICAO table contained in the 5th edition of the ICAO All Weather Operations Manual published in 2024.

AMC4 SPA.LVO.100(c) Low-visibility operations and operations with operational credits

OPERATIONS WITH OPERATIONAL CREDITS — HELICOPTER SPECIAL AUTHORISATION CATEGORY I (HELI SA CAT I) OPERATIONS

[…]

Table 11
HELI SA CAT I operation minima

RVR versus approach lighting system

DH (ft)	Class of light facility			
	FALS	IALS	BALS	NALS
221-250	450	750	1 000	1 200
201–220 ~~250~~	~~450~~ 350	650	~~750~~ 800	1 000
181–200	300	450	650	900
151–180	300	350	550	750
130–150	300	300	400	600

[…]

Rationale

The proposed changes to this AMC were first published in NPA 2023-01

The proposed amendment is expected to improve the minima for HELI SA CAT I published with the ED Decision 2022/012/R on AWOs. The published minima for HELI SA CAT I are not adequate and unsafe for a decision height (DH) in the range of 201-250 ft and in the case that the approach light system (ALS) is of the following category: IALS, BALS, or NALS.

Geometrically, if the helicopter is on a glideslope of 3 deg = 5.2 %, then at 250 ft the helicopter is 1 468m away from the expected touchdown point and 1 168m away from the runway threshold. In the case of an ALS of category IALS, BALS or NALS, which ALS is the shortest of its category, and with a decision height (DH) of 250 ft:

- *The horizontal distance from the helicopter to the closest ALS light is greater than the minima.*
- *If the weather conditions are at minima, the pilot will not be able to see the ALS (or any other relevant light) and a go-around will be necessary.*
- *The risk is that the pilot runs out of safe landing options.*

The following factors should only contribute to margins and should never contribute to lower minima:

- *The glideslope may be greater than 5.2 %, which may bring the helicopter closer to the closest available lights at a given DH.*
- *The ALS may be longer than the shortest of its category, but experience shows that this is not very often the case.*

In order to make available the lowest possible minima, the DH range of 201-250 ft is proposed to be split in 2 categories: 201-220 ft and 221-250 ft.

The proposal prevents IFR flights from taking place with operating minima that are unsafe in the case of DH in the range of 201-250 ft and with an ALS of category IALS, BALS, or NALS. The proposal also reduces minima in the case of DH in the range of 201-220 ft with an ALS of category FALS, with safety and economic benefits of further enabling helicopter IFR. The overall economic and safety benefits are positive.

AMC1 SPA.LVO.105(g) Specific approval criteria

SAFETY ASSESSMENT — MONITORING, DATA COLLECTION AND PERFORMANCE INDICATORS FOR APPROACH OPERATIONS

[…]

Rationale

This proposed change was first published in NPA 2023-01.

The subtitle of the AMC has been amended to improve clarity in relation to its content. This avoids confusion between AMC, as there is a new AMC3 SPA.LVO.105(g) targeting the low visibility take off while this AMC is about low visibility approaches.

AMC3 SPA.LVO.105(g) Specific approval criteria

SAFETY ASSESSMENT — MONITORING, DATA COLLECTION AND PERFORMANCE INDICATORS FOR LVTOS BELOW 125 M

The operator should monitor LVOs and operations with operational credits to validate the effectiveness of the applicable aircraft flight guidance systems, training, flight crew procedures, and aircraft maintenance programme and to identify hazards.

Rationale

This proposed change was first published in NPA 2023-01.

This new AMC is proposed to complement AMC1 SPA.LVO.105(g) and AM2 SPA.LVO.105(g). Although the rule covers all LVOs (approach and take-off), the existing AMC focus mainly on approach operations. This proposed new AMC intends to provide means of compliance and scope to monitor low-visibility take-offs.

This proposed amendment increases clarity for operators on what is expected to comply with the rule and is therefore expected to have a positive impact on safety.

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

SAFETY PERFORMANCE MONITORING

(a) Data gathering for safety performance monitoring of LVOs and operations with operational credits will need to include sufficient information for the operator to identify hazards and assess the risks associated with LVOs and operations with operational credits. Data may be gathered through a flight data monitoring programme, flight crew reports, or other suitable means.

(…)

Rationale

This proposed change was first published in NPA 2023-01.

The proposed addition to GM2 SPA.LVO.105(g) intends to provide a non-exhaustive list of means to gather LVO information.

The list clarifies that flight crew reports are a possible source of data, which was not clear to some stakeholders, which interpreted point (c) of this GM (which refers to the operator's flight data monitoring programme) as excluding those reports, which was not the original intention.

GM3 SPA.LVO.105(g) Specific approval criteria

DATA-GATHERING ~~FOR~~AND SAFETY ASSESSMENT PRIOR TO OBTAINING ~~AN~~ APPROVAL (AEROPLANES)

(a) Definitions and conventions subject to this GM

(1) 'Same aircraft group' means a group of aircraft for which the following applies:

(i) All aircraft in the group are operated based on the same license endorsement (i.e. type rating);

(ii) Differences training in accordance with ORO.FC.120 is not required amongst all aircraft in that group; and

(iii) If the intended operation requires the use of a certified onboard guidance or control systems/equipment, all aircraft in the group are equipped with the same certified onboard guidance or control systems/equipment supporting the intended operation or – even if different such systems/equipment are/is installed, no specific aircraft/FSTD training as part of the operational suitability data in accordance with Commission Regulation (EU) No 748/2012 is required amongst all aircraft in the group. For example, in some cases the operational suitability data may require a dedicated aircraft/FSTD training for aircraft of the same series using the appropriate automatic landing or autopilot systems (i.e. fail-operational vs. fail-passive automatic landing system). The aircraft with the other system may not be considered being in the same aircraft group.

(2) 'Similar aircraft group' means a group of aircraft which are operated based on the same license endorsement (i.e. type rating) but may not be categorised as aircraft of the 'same aircraft group'.

(3) 'Different aircraft group' means a group of aircraft for which different license endorsements (i.e. type rating) is required.

(4) Aircraft of the same/different series refers to the aircraft series categorisation as established in the EASA Class and Type Rating & License Endorsement List – Aeroplanes (refer to column "aircraft model / name"). In the rare case that the EASA Class and Type Rating & License Endorsement List – Aeroplanes establishes a different series designation for aircraft that are identical in all aspects respective to LVO or operations with operational credits (i.e. B777-200 and B777F) may be deemed to be of the same series.

(5) Aircraft of the same/different model refers to the model aircraft categorisation as established in the EASA Class and Type Rating & License Endorsement List – Aeroplanes (refer to column "aircraft model / name").

(~~a~~b) General

The intention of the safety assessment is to validate the use and effectiveness of the applicable aircraft flight guidance/~~ control and guidance~~ system~~s,~~ by using the operator's standard operating procedures, flight crew training programmes and aircraft maintenance programme. The intention is not to repeat the statistical analysis required for certification of equipment~~,~~ but rather to demonstrate that the various elements of the 'total system' for LVOs work together for a particular operator.

Rationale:

We have amended the GM title to clarify that the GM applies for aeroplane operations only.

We have added point (a) to introduce a definition for the categorisation of the aircraft into different groups. The definitions are needed only in the context of this GM and are necessary to determine the minimum recommended numbers of data-gathering operations as further detailed in point (e). The categorisation concept is in this GM is related to the EASA Class and Type Rating & License Endorsement List.
The text of point (b) is amended by 'by using the operator's standard operating procedures' to clarify that the safety assessment may also need to focus on those procedures and how the applicable flight control and guidance systems are being used (operation) especially with respect to aspects of multicrew coordination. The text 'flight crew training' is changed to 'flight crew training programmes' to clarify the reference to the training programmes as of Annex III Part ORO Subpart FC.

(c) Data-gathering for safety assessment – General

The main reason for distinguishing between the different scenarios for the approval process is to consider the previous experience that may have already been gained by the operator in the past related to the respective LVO or operation with operations credits intended to be used (further referred to as 'intended operation'). This GM covers the determination of the recommended number of data-gathering operations under the following circumstances:

(1) Operator with no previous experience in LVO and operations with operational credits;

(2) Operator with previous experience with LVO or operations with operational credits introducing an additional type of operation on aircraft in the same aircraft group; or

(3) Operator with previous experience with the intended operation introducing operations on aircraft of a similar or different aircraft group.

To ensure that the gathered data is representative of the intended operation, the data-gathering operations on the aircraft may need to be conducted at a variety of aerodromes and runways and reflect all relevant and the lowest aerodrome operating minima. For operators without previous experience, not more than 40 per cent of the data-gathering operations on the aircraft may be conducted at the same runway.

If an operator gathers data from operations using an aircraft without all required elements of the total system for LVO or for the operation with operational credits in place then the operator needs to take actions to ensure an acceptable level of safety.

The minimum visibility or RVR at which data-gathering operations in the aircraft may be performed are limited to the lowest aerodrome operating minima applicable to the operator at the time prior to obtaining the approval.

The operator may need to consider the differences in the qualification and experience of its flight crew members for the selection of flight crews scheduled for the data-gathering operations such that the conditions under which those operations are performed is representative of the intended operation.

The addition of an aircraft of the same aircraft model to the same aircraft group for which the operator holds an approval in accordance with this subpart (i.e. fleet extension/renewal) may not require additional data-gathering operations if the added aircraft is identical in all relevant aspects of the concerned type of LVO or operation with operational credits. However, this should not prevent the operator from conducting additional data-gathering operations if the operator deems it necessary.

Rationale:

We added point (c) to clarify that both operators with and without previous experience with LVO or operations with operational credits need to gather data to support the safety assessment prior approval. However, an experienced operator may benefit from and use the gathered experience to support the safety assessment when introduced a different or similar type of operation. The amendment is intended to reduce the complexity of the safety assessment for operators that have previous experience with LVO and operations with operational credits, which is described in more detail as proposed in point (e) below.
The text introduces an amendment to increase the maximum share of one specific aerodrome and runways used for the data-gathering supporting the safety assessment from not more than 30 % to not more than 40 % (meaning that only three different runways and aerodromes may be used instead of four different runways and aerodromes). This is expected to make the safety assessment less complex. The driving factors may be more effectively be assessed by data-gathering operations in FSTD.
New text has been added to clarify that the data-gathering operations may not be performed applying the lower aerodrome operating minima of the intended operation but are limited to the aerodrome operating minima of the approval status at the time.
The added text is expected to clarify that the operator may need to consider the differences in experience and qualifications of the flight crew when gathering data operations otherwise the safety assessment may not produce meaningful results if only one crew or a group of crews with homogeneous qualifications and experience perform the data-gathering operations (e.g. the crew selection is limited to a group of flight training personnel).

(d) Data-gathering for safety assessment – Use of an FSTD

The most effective means to evaluate and verify the standard operating procedures are data-gathering operations in various meteorological scenarios (e.g. wind speed and direction, and low air pressure/QNH) and operating conditions (e.g. high vs. low operating weight, go-around scenarios or potential system malfunctions or degradations), which can most effectively be assessed by use of an FSTD. This implies the possibility to perform the data-gathering operations based on a combination of actual aircraft operations (take-off, approach or landings, as applicable) as well as FSTD operations in a suitable FSTD representing an aircraft in the same aircraft group. A full flight simulator (FFS) Level D certified is generally most suitable for such purpose. If so applied, the data-gathering operations in FSTD may be performed as a first step, followed by the data-gathering operations in aircraft to consolidate the results of the FSTD data-gathering operations and thus completing the safety assessment.

Rationale:
The text in point (d) is added to clarify the objective and purpose of the data-gathering operations. The amendment is intended to reduce the data-gathering operations in the aircraft and promote the use of an FSTD which is more effective.

~~(b)~~(e) Data-gathering for safety assessment — LVTOs

(1) ~~If the procedures used for LVTOs are not significantly different from those used for standard take-offs, it may be sufficient for operators to conduct only a small number of take-offs using the procedures established for LVTOs for the purpose of data gathering. The following could be considered as a minimum:~~

~~(i) For LVTOs in an RVR of 125 m or more if procedures are similar to those used for standard take-offs: 1 take-off;~~

~~(ii) For LVTOs in an RVR of less than 125 m or any other LVTOs using specific procedures: 10 take-offs.~~

The safety assessment for LVTO in RVRs of 125 m and above may not need to be supported by data-gathered operations if the LVTO standard operating procedures are

like those used for take-offs in non-low-visibility conditions and if the LVTO standard operating procedures are not supported by an onboard guidance or control system.

(2) The safety assessment for LVTO operations supported by an onboard guidance or control systems or for LVTO in RVRs below 125 m may, amongst others, consider the following aspects:

(i) Differences to the standard operating procedures for take-off in non-low-visibility conditions,

(ii) Standard operating procedures in case of loss of capability of the guidance or control system; and

(iii) Standard operating procedures following pilot incapacitation in case that the guidance or control system is available to only one pilot.

~~(2)~~(3) An operator holding an approval for LVTO~~s~~ operations supported by an onboard guidance or control system ~~on~~for one aircraft ~~type~~ and applying for an~~the~~ approval for LVTO~~s~~ operations supported by an onboard guidance or control system ~~on~~for an aircraft of a similar aircraft group ~~another type or variant~~ may use data from LVTOs conducted under in-service operations on the aircraft of the same group, for which the operator holds the approval ~~on the first type~~ if the following are similar:

(i) ~~l~~Level of technology, including flight deck displays, HUD or an equivalent guidance system; and

(ii) standard operating~~operational~~ procedures.~~; and~~

~~(iii) handling characteristics.~~

Rationale:

The text in point (e)(1) was amended following a comment by industry stake holders and authorities after review by the AWO expert task group. The amendment is intended to reduce the complexity of the safety assessment for the mentioned LVTO operation as the majority of the approved LVTO operators use uniform procedures for both LVTOs in RVRs of not lower than 125m and for take-offs in other-than low-visibility conditions.

The text in point (e)(2) was added to provide clarify to the specific safety aspects to be considered in the data-gathering operations used for LVTO operations supported by onboard guidance or control systems or for LVTO in RVRs below 125 m. Because of the relatively low number of operators with an approval for LVTO in RVRs below 125 m it was found unsuitable to state a minimum number of data-gathering operations as an adequate number may better be based on specific case-by-case considerations.

The text in point (d)(3) was amended to replace the wording 'type or variant' with the aircraft grouping concept defined in point (a).

~~(c)~~(e) Data-gathering for safety assessment — ~~approach operations with a DH below 200 ft~~recommended numbers of operations (approach and landing)

~~The data required for the safety assessment needs to be gathered from approaches conducted in a representative sample of expected operating conditions. The operator needs to take seasonal variations in operating conditions such as prevalent weather, planned destinations and operating bases, and ensure that the approaches used for data gathering are conducted over a sufficient period of time to be representative of the planned operation.~~

~~In order to ensure that the data is representative of planned operations, approaches are conducted at a variety of airports and runways. If more than 30 % of the approaches are conducted to the same runway, the operator may increase the number of approaches required and take measures to ensure that the data is not distorted.~~

~~The number of approaches used for data gathering will depend on the performance indicators and analysis methods used by the operator. The operator will need to demonstrate that the operation for which approval is sought will achieve an acceptable level of safety. The following figures may be considered a minimum for an operator without previous experience of low-visibility approach operations:~~

~~(1) for approval of operations with a DH of not less than 50 ft: 30 approaches;~~

~~(2) for approval of operations with a DH of less than 50 ft: 100 approaches.~~

~~Approaches conducted for the purpose of gathering data in order to conduct a safety assessment prior to obtaining an LVO approval may be conducted in line operations or any other flight where the operator's procedures are used. 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. These include not only operating procedures and airborne equipment, but also airport and ATC procedures and ground- or space-based navigation facilities. If the operator chooses to collect data from approaches conducted without all required elements in place, then the data analysis takes into account the effect of at least the following:~~

~~(1) air traffic services (ATS) factors including situations where a flight conducting an instrument approach is vectored too close to the FAF for satisfactory lateral and vertical path capture, lack of protection of ILS sensitive areas or ATS requests to discontinue the approach;~~

~~(2) misleading navigation signals such as ILS localiser irregularities caused by taxiing aircraft or aircraft overflying the localiser array;~~

~~(3) other specific factors that could affect the success of LVOs that are reported by the flight crew.~~

The tables below provide guidance relative to the recommended number (extent) of data-gathering operations for the following cases:

(1) An operator with no previous experience in LVO and operations with operational credits may need to consider the recommended numbers contained in table X. The recommended numbers in the row for each intended operation contained in table X are additive, e.g. the total recommended number of data-gathering operations is 58 operations in the FSTD plus 18 data-gathering operations in the aircraft for the operator's safety assessment for the following types of intended operations:

(i) "CAT II – auto-coupled to below DH with manual landing" (22 operations in the FSTD plus 8 in the aircraft);

(ii) "CAT II – automatic landing" (16 operations in the FSTD plus 4 in the aircraft); and

(iii) "CAT III – automatic landing" (20 operations in the FSTD plus 6 in the aircraft).

(2) An operator with previous experience with LVO or operations with operational credits introducing an additional type of operation on aircraft in the same aircraft group may benefit from a reduced recommended number of data-gathering operations as shown in table Y. The use of table X is intended for operators that are extending their scope of LVO or operations with operational credits to aircraft in the same aircraft group that are already in service with the operator.

To determine, in table Y, the recommended number of data-gathering operations for each row of intended operation, the cell with the lowest numbers combination in the respective row, with which the operator has previous experience, may be considered.

For example, the recommended number of data-gathering operations for intended "CAT II – auto-coupled to below DH with manual landing" operations is – following the principle of "whichever is lowest" – 12 operations in the FSTD plus 3 operations in the aircraft if the operator has – for example – previous experience with the following operations:

(i) "CAT II – HUDLS" (which yields 12 operations in the FSTD plus 3 in the aircraft);

(ii) "CAT II – automatic landing" (which yields 16 operations in the FSTD plus 4 in the aircraft); and

(iii) "SA CAT II – automatic landing" (which yields 16 operations in the FSTD plus 4 in the aircraft).

If the operator, based on previous experience, is introducing more than one new type of operation ('more than one row in table Y'), the recommended numbers for each row of intended operation are additive.

If a cell in table Y contains 'N/A' this means that the previous experience with the respective type(s) of operation are not suitable for reducing the recommended numbers of data-gathering operations for the intended operation.

(3) An operator with previous experience with the intended operation introducing operations on aircraft of a different group may consider a reduced recommended number of data-gathering operations as shown in table Z.

The recommended numbers in the row for each intended operation contained in table Z are additive, e.g. the total recommended number of data-gathering operations is 15 operations in the FSTD plus 5 data-gathering operations in the aircraft for the operator's safety assessment for the following types of intended operations:

(i) "CAT II – auto-coupled to below DH with manual landing" (6 operations in the FSTD plus 2 in the aircraft);

(ii) "CAT II – automatic landing" (4 operations in the FSTD plus 1 in the aircraft); and

(iii) "CAT III – automatic landing" (5 operations in the FSTD plus 2 in the aircraft).

(4) An operator with previous experience with the intended operation introducing operations on aircraft of a different model in the same aircraft group may need to consider a recommended number of data-gathering operations of at least one operation for each intended operation. The data-gathering operations may be performed in a suitable FSTD, if the FSTD represents the same series of the aircraft to be introduced.

If the standard operating procedures may not be deemed similar the operator may need to consider the recommended number of data-gathering operations according to table Z.

(5) An operator with previous experience with the intended operation introducing operations on aircraft of a similar aircraft group may need to consider a recommended number of data-gathering operations of at least three operations for each intended operation, if the standard operating procedures are similar. The data-gathering operations may be performed in a suitable FSTD, if the FSTD represents the same series of the aircraft to be introduced.

If the standard operating procedures may not be deemed similar the operator may need to consider the recommended number of data-gathering operations according to table Z.

(6) When establishing the minimum number of data-gathering operations the operator may use other numbers than those recommended in points (1) to (5), if the TC/STC holder provides such additional information. If the TC/STC holder does not provide such data, the operator may contact the TC/STC holder to request such information.

(7) The use of the reduced recommended number of data-gathering operations in points (2) to (5) is meant for operators that can substantiate previous experience with LVO or operations with operational credits by means of in-service operations data monitoring according to SPA.LVO.105, CAT.OP.MPA.312, NCC.OP.235, or SPO.OP.235, as applicable providing evidence of an adequate safety level of such operations based on an operational sample size of at least the recommended number for the intended operation in table X (the sum of the figures for FSTD and for aircraft needs to be considered).

If the operator cannot provide data of the required sample size of in-service operations for the intended operation, the operator may need to consider the higher recommended numbers as established in point (1).

(8) In the case that an FSTD cannot be used for data-gathering operations the operator may need to agree with the competent authority on an alternate number of operations solely using aircraft.

(9) When introducing aircraft flight guidance technologies related to LVO or operations with operational credits with which the industry experience is limited, the number of data-gathering operations may need to be further increased as agreed with the competent authority.

Table X

Recommended number of data-gathering operations for operators with no previous experience in LVO or operations with operational credits

Intended operation[1]	Data-gathering operations in the FSTD and (+) in the aircraft
CAT II – auto-coupled to below DH with manual landing	22+8
CAT II – HUDLS	20+8
CAT II – automatic landing	16+4
CAT III – HUDLS	22+8
CAT III – automatic landing[1]	20+6
SA CAT I – SVGS	20+6
SA CAT I – HUDLS	20+6
SA CAT I – automatic landing	16+4
SA CAT II – HUDLS	22+8
SA CAT II – automatic landing	20+6
EFVS-A	20+6
EFVS-L	22+8

[1)] The safety assessment may need to consider:
— all relevant procedural aspects (e.g. operations with or without DH or both);
— all relevant automation configurations or downgraded modes of operations (e.g. fail-operational or fail-passive); and

— the extent to which the guidance or automation is used (e.g. with or without roll-out control/guidance system).

Table Y:
Recommended number of data-gathering operations for operators with previous experience with LVO or operations with operational credits introducing an additional type of operation on aircraft in the same aircraft group

Intended operation	Data-gathering operations in the FSTD and (+) in the aircraft											
	CAT II			CAT III		SA CAT I			SA CAT II		EFVS	
	Auto-coupled to below DH with manual landing	HUDLS	Automatic landing	HUDLS	Automatic landing	HUDLS	Automatic landing	SVGS	HUDLS	Automatic landing	-A	-L
CAT II – auto-coupled to below DH with manual landing	N/A	12+3	16+4	12+3	16+4	12+3	16+4	12+3	12+3	16+4	12+3	12+3
CAT II – HUDLS	12+3	N/A	12+3	N/A	12+3	8+2	12+3	16+4	N/A	12+3	8+2	5+0
CAT II – automatic landing	8+2	8+2	N/A	8+2	N/A	8+2	8+2	8+2	8+2	N/A	12+3	8+2
CAT III – HUDLS	16+4	8+2	16+4	N/A	16+4	16+4	16+4	16+4	8+2	16+4	8+2	5+0
CAT III automatic landing [1]	16+4	12+3	8+2	8+2	N/A	12+3	8+2	12+3	8+2	8+2	12+3	8+2
SA CAT I – HUDLS	12+3	8+2	12+3	8+2	12+3	N/A	12+3	16+4	N/A	12+3	8+2	5+0
SA CAT I – automatic landing	8+2	8+2	8+2	8+2	8+2	8+2	N/A	8+2	8+2	N/A	12+3	8+2
SA CAT I – SVGS	12+3	16+4	12+3	16+4	12+3	16+4	12+3	N/A	N/A	12+3	8+2	5+0
SA CAT II – HUDLS	16+4	8+2	16+4	5+0	16+4	8+2	16+4	16+4	N/A	16+4	8+2	5+0

Intended operation	Data-gathering operations in the FSTD and (+) in the aircraft											
	CAT II			CAT III		SA CAT I			SA CAT II		EFVS	
	Auto-coupled to below DH with manual landing	HUDLS	Automatic landing	HUDLS	Automatic landing	HUDLS	Automatic landing	SVGS	HUDLS	Automatic landing	-A	-L
SA CAT II – automatic landing	16+4	8+2	8+2	8+2	8+2	12+3	5+0	12+3	8+2	N/A	12+3	8+2
EFVS – A[2]	12+3	8+2	16+4	5+0	12+3	8+2	16+4	8+2	5+0	12+3	N/A	N/A
EFVS – L[2]	16+4	12+3	18+6	8+2	16+4	12+3	18+6	12+3	8+2	16+4	8+2	N/A

[1)] The safety assessment may need to consider:

— all relevant procedural aspects (e.g. operations with or with no DH or both);
— all relevant automation configurations or downgraded modes of operations (e.g. fail-operational or fail-passive); and
— the extent to which the guidance or automation is used (e.g. with or without roll-out control/guidance system)

[2)] The operator intending EFVS-A or EFVS-L operations may benefit from previous experience with EFVS 200 operations. In this case at least 5 data-gathering operations in the FSTD are recommended.

Table Z

Recommended minimum number of data-gathering operations for operators with previous experience with the intended operation introducing operations on aircraft of a different aircraft group

Intended operation[1]	Data-gathering operations in the FSTD and (+) in the aircraft
CAT II – auto-coupled to below DH with manual landing	6+2
CAT II – HUDLS	5+2
CAT II – automatic landing	4+1
CAT III – HUDLS	6+2
CAT III – automatic landing[1]	5+2
SA CAT I – SVGS	5+2
SA CAT I – HUDLS	5+2
SA CAT I – automatic landing	4+1
SA CAT II – HUDLS	6+2
SA CAT II – automatic landing	5+2
EFVS-A	5+2

Intended operation[1]	Data-gathering operations in the FSTD and (+) in the aircraft
EFVS-L	6+2

[1)] The safety assessment may need to consider:
— all relevant procedural aspects (e.g. operations with or without DH or both);
— all relevant automation configurations or downgraded modes of operations (e.g. fail-operational or fail-passive); and
— the extent to which the guidance or automation is used (e.g. with or without roll-out control/guidance system).

Rationale:
The amendments to point (e) aim to reduce the recommended number of data-gathering operations and significantly reduce the number of data-gathering operations in aircraft. This is intended to lower the efforts for operators and the complexity of the security assessment without compromising the content value of the safety assessment. The main driver for increasing the efficiency is the recommended use of an FSTD which allows the effects on the safety level to be examined more effectively.
The minimum number of data-gathering operations recommended for each operating type was based on the following complexity factors:

- *aircraft manual handling,*
- *the level of automation or guidance of the technology used on board the aircraft,*
- *the additional complexity of the standard operating procedures used in comparison with the manual approach and landing operating procedures and*
- *the intended minimum aerodrome operating minima.*

The proposed amendment provides concrete numbers for the data-gathering operations of the well-established types of operations and thus clarifies the respective minimum number of such operations. The recommended number of data-gathering operations for operators without previous experience is proposed in table X and is clustered based on the following assumptions:

- *20 operations in the FSTD and 8 in the aircraft: overall higher level of complexity of the safety assessment. Special consideration is given to the type of operation "CAT II – auto-coupled to below DH with manual landing", which - in terms of the safety level – is the most demanding type of operation due to the RVR of 300m, at which a manual landing is limit-permissible without further onboard system support. For this reason - and for this type of operation only - 22 operations in the FSTD and 8 in the aircraft are recommended as a minimum number of operations.*
- *20 operations in the FSTD and 6 in the aircraft: overall medium level of complexity of the safety assessment*
- *16 operations in the FSTD and 4 in the aircraft: overall lower level of complexity of the safety assessment*

For the recommended number of data-gathering operations for operators with previous experience table Y is proposed. The recommended numbers of such operations are based on the same complexity factors but take into consideration the complexity of the type of operations with which the operator has previous experience:

- *16 operations in the FSTD and 4 in the aircraft: overall higher level of complexity of the safety assessment despite previous experience.*
- *12 operations in the FSTD and 3 in the aircraft: overall medium level of complexity of the safety assessment considering the previous experience of the operator.*

- *8 operations in the FSTD and 2 in the aircraft: overall lower level of complexity of the safety assessment considering the previous experience of the operator. Under the condition that the operator may benefit from previous experience in types operations that only require a minor safety assessment for the intended operation a minimum number of 5 operations in the FSTD is recommended.*
- *The types of operations with which the operator has previous experience that were not found to be beneficial to be used or should be avoided to be misused in the safety assessment for the intended operation are excluded from use, such as previous experience with 'CAT III - automatic landing' operations to facilitate the safety assessment for intended 'CAT II - automatic landing' operations.*

~~(d) Safety considerations for approaches used for data gathering~~
~~If an operator chooses to collect data from approaches conducted without all required elements of the total system for LVOs in place, then the operator takes actions to ensure an acceptable level of safety.~~

Rationale:
Point (d) is deleted as the text is moved to point (b).

~~(e) Sharing of data: operators may use data from other operators or aircraft manufacturers to support the safety assessment required to demonstrate an acceptable level of safety. The operator applying for a specific approval would need to demonstrate that the data used was relevant to the proposed operation.~~

Rationale:
Point (e) is deleted as the amended safety assessment concept as described in points (a) to (e) is based on the operators previous experience with LVO or operations with operational credits considering all the elements of the LVO concept of the operator.

~~(f) It is expected that operators will have more than 6 months or at least 1 000 hours of total operational experience on the aircraft model before they can have sufficient data to set up meaningful performance indicators and establish whether planned LVOs would achieve an acceptable level of safety.~~

Rationale:
Point (f) was deleted as a mere time estimate or the extent of operating experience (without LVO) do not show to be a reliable indicator. The analysis-driven concept of the described safety assessment through operations used to gather data in the FSTD and aircraft allows data-gathering for a more meaningful safety assessment. A minimum operator experience requirement can therefore be waived, allowing the operator to complete the safety assessment significantly sooner than after 6 months or after at least 1 000 hours of total operational experience on the aircraft model which make it possible to apply the lower minimum aerodrome operating conditions with the begin of the operation of the aircraft type.

v

AMC1 SPA.LVO.120(a) Flight crew competence

COMPETENCE OF THE FLIGHT CREW FOR THE INTENDED OPERATIONS — EXPERIENCE IN TYPE OR CLASS, OR AS PILOT-IN-COMMAND/COMMANDER

To ensure that the flight crew is competent to conduct the intended operations, the operator should assess the risks associated with the conduct of low-visibility approach operations by pilots new to the aircraft type or class, including pilots new to the role of pilot-in-command, and take the necessary

mitigations. Where such mitigations include an increment to the visibility or RVR for LVOs, this should be stated in the operations manual.

Rationale

The changes proposed to AMC1 SPA.LVO.120(a) were first published in NPA 2024-02. There were no comments received on them.

The proposed amendment intends to clarify that this AMC is also applicable when a pilot-in-command has not previously been pilot-in-command on any aircraft type. Although this was indicated in the subtitle of the AMC, it was not explicitly mentioned in the text of the AMC, and this was creating confusion among stakeholders.

The purpose of the proposed amendments is to introduce clarity to the provisions, and a low positive impact on safety is expected. It may also lead to a low economic impact for operators that are not already applying the AMC to new pilots-in-command.

AMC2 SPA.LVO.120(a) Flight crew competence

COMPETENCE OF THE FLIGHT CREW FOR THE INTENDED OPERATIONS — RECENT EXPERIENCE FOR EFVS OPERATIONS

[…]

(b) If a flight crew member is authorised to operate as pilot flying and pilot monitoring during EFVS operations, the flight crew member should complete ~~the required number of approaches~~ at least one approach in the other ~~each~~ operating capacity.

Rationale:

The changes proposed to AMC2 SPA.LVO.120(a) were first published in NPA 2024-02. There were no comments received on them.

Please refer to the rationale for the proposed changes to AMC3 SPA.LVO.120(a).

AMC3 SPA.LVO.120(a) Flight crew competence

COMPETENCE OF THE FLIGHT CREW FOR THE INTENDED OPERATIONS — RECENT EXPERIENCE FOR SA CAT I, CAT II, SA CAT II AND CAT III APPROACH OPERATIONS

[…]

(d) If a flight crew member is authorised to operate as pilot flying and pilot monitoring, the flight crew member should complete ~~the required number of approaches~~ at least one approach in the other ~~each~~ operating capacity.

Rationale

The changes proposed to AMC3 SPA.LVO.120(a) were first published in NPA 2024-02. There were no comments received on them.

The proposed changes aim to eliminate inconsistencies between the current points (b) and (d) of AMC3 SPA.LVO.120(a), which were not fully aligned for cases where the operator wishes to add a new 'LVO capacity' and train its pilots accordingly. Point (b) refers to 'at least one approach' to add the additional capacity, and point (d) requires the same number of approaches as the first capacity, which for some cases could be up to four approaches, which is excessive and not the original intention.

Related changes have been made to AMC2 SPA.LVO.120(a), AMC2 SPA.LVO.120(b), AMC3 SPA.LVO.120(b), AMC4 SPA.LVO.120(b) and AMC6 SPA.LVO.120(b), to ensure consistency.

The proposed amendments aim to improve clarity, and an overall low positive impact is expected.

AMC1 SPA.LVO.120(b) Flight crew competence

INITIAL TRAINING FOR LVTO IN AN RVR BELOW~~LESS THAN~~ 400 M

The operator should ensure that ~~the~~ flight crew members have completed the following training and checking prior to being authorised to conduct take-offs in an RVR below 400 m unless credits related to training and checking for previous experience in LVTOs on similar aircraft types are defined in the operational suitability data established in accordance with Regulation (EU) No 748/2012:

[...]

(d) The operator should ensure that a flight crew member has completed a check in an FSTD before conducting LVTOs in RVRs below~~of less than~~ 150 m. The check should require the execution of:

(1) at least one LVTO in the minimum approved visibility;

(2) at least one rejected take-off at minimum approved RVR ~~in an aircraft or FSTD~~.

For pilots with previous experience with an EU operator of LVTOs in RVRs below~~of less than~~ 150 m, the check may be replaced by successful completion of the FSTD and/or flight training specified in points (a), (b) and (c).

[...]

Rationale

The changes are editorial amendments.

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

(a) For flight crew members who do not have previous experience of low-visibility approach operations requiring an approval under this Subpart with an EU operator:
[...]
(4) For operators for which LIFUS is required by Part-ORO, practice in approaches during LIFUS, as follows:
(i) For low-visibility approach operations using a manual landing:
(A) if a HUDLS or equivalent display system is used to touchdown, four landings, or if the training required by (a)(2) was conducted in an ~~FSTD qualified for zero flight time training (ZFTT)~~FFS qualified to level C or D (including grandfather C or D or interim C), two landings;

(B) otherwise, three landings, or if the training required by (a)(2) was conducted in an ~~FSTD qualified for ZFTT~~FFS qualified to level C or D (including grandfather C or D or interim C), one landing;

(ii) For low-visibility operations using ~~autoland~~automatic landing:

(A) none, if the training required by (a)(2) was conducted in an FFS qualified to level C or D (including grandfather C or D or interim C);
~~if the training required by (a)(2) was conducted in an FSTD qualified for ZFTT, one landing, or none if the flight crew member successfully completed a type rating based on ZFTT;~~

(B) otherwise, two landings.

[...]

(d) If a flight crew member is authorised to operate as pilot flying and pilot monitoring, the flight crew member should complete at least one approach in the other operating capacity.

Rationale:

The changes proposed to AMC2 SPA.LVO.120(b) were first published in NPA 2024-02. There were no comments received on them.The new point (d) is proposed to ensure consistency across the AMC to SPA.LVO.120. Although GM1 SPA.LVO.120, describing the general philosophy of LVO training, already mentions the possibility of adding new capacities, this was not explicitly mentioned in all AMC and this was creating confusion for operators and authorities.

Regarding the amendments in point (a), ICAO Annex 6 part 1 edition 12 does not require dedicated autoland training/supervision in the aircraft.

ICAO Doc. 9365 does not contain text indicating a requirement for autoland training/supervision in the aircraft. AWO content is only related to recurrent proficiency checks and recent experience requirements:

5.7.5 Recurrent proficiency checks

In conjunction with normal pilot proficiency checks at regular intervals, a pilot should demonstrate the knowledge and ability necessary to perform the tasks associated with the authorized category of operation. Due to the low probability of encountering limited visibility conditions during actual operations, the use of an approved FSTD for recurrent training, proficiency checking and renewal of authorizations assumes increased importance.

5.7.6 Recent experience requirements

Some States actively encourage or require operators and pilots to use procedures developed for CAT II or III operations during normal service, regardless of the weather conditions, and whenever the necessary ground facilities are available and traffic conditions permit. This practice ensures flight crew familiarity with the procedures, builds confidence with the equipment and ensures appropriate maintenance of the CAT II and III related systems. However, it is important to ensure that pilots maintain proficiency in manual flying skills. Experience has shown that this is particularly important where crews are flying a route structure with long stage lengths. Consideration should be given to a recent experience requirement, that is, that crews should achieve a minimum number of automatic approaches, or approaches and landing as applicable, each month (or other suitable period) to maintain their CAT II or III qualifications. This recent experience requirement is in no way a substitute for recurrent training.

AMC2 SPA.LVO.120(b) is amended in view of EASA RMT 0196 (Update of flight simulation training devices requirements, deletion of qualification levels and conversion task qualifications) with the main focus to facilitate LIFUS requirements at short term. It is acknowledged that this AMCs content needs to be reviewed in light of the updated flight simulation training devices requirements.

The amendment in line with ORO.FC. EBT provisions (ORO.FC.231 and ORO.FC.232) are not affected as the amended AMC text related to initial training and checking and EBT is – an substitute requirements- is related to recurrent training and checking (ORO.FC.230).

Finally, EASA and FAA coordinated on this approach to ensure harmonisation between both authorities. The provisions proposed by EASA are equivalent to FAA.

For point (d), please refer also to the rationale for the proposed changes to AMC3 SPA.LVO.120(a).

The proposed amendments aim to improve clarity, and an overall low positive impact is expected.

AMC3 SPA.LVO.120(b) Flight crew competence

INITIAL TRAINING AND CHECKING FOR EFVS OPERATIONS

[…]

(d) If a flight crew member is authorised to operate as pilot flying and pilot monitoring, the flight crew member should complete at least one approach in the other operating capacity.

Rationale:

The changes proposed to AMC3 SPA.LVO.120(b) were first published in NPA 2024-02. There were no comments received on them.

Please refer to the rationale for the proposed changes to AMC2 SPA.LVO.120(b).

AMC4 SPA.LVO.120(b) Flight crew competence

RECURRENT CHECKING FOR LVTO, SA CAT I, CAT II, SA CAT II AND CAT III APPROACH OPERATIONS

[…]

(d) If a flight crew member is authorised to operate as pilot flying and pilot monitoring, the flight crew member should complete at least one approach in the other operating capacity.

Rationale:

The changes proposed to AMC2 SPA.LVO.120(b) were first published in NPA 2024-02. There were no comments received on them.

Please refer to the rationale for the proposed changes to AMC2 SPA.LVO.120(b).

AMC6 SPA.LVO.120(b) Flight crew competence

RECURRENT CHECKING FOR EFVS OPERATIONS

[…]

(b) If a flight crew member is authorised to operate as pilot flying and pilot monitoring during EFVS operations, ~~then~~ the flight crew member should complete ~~the required number of approaches~~ at least one approach in the other ~~each~~ operating capacity.

Rationale

The changes proposed to AMC6 SPA.LVO.120(b) were first published in NPA 2024-02. There were no comments received on them.

Please refer to the rationale for the proposed changes to AMC3 SPA.LVO.120(a).

GM1 SPA.LVO.120(b) Flight crew competence

FLIGHT CREW TRAINING

[…]

(d) Flight crew members are required to complete initial ~~and recurrent~~ FSTD training and maintain recency for each operating capacity for which they will be authorised (e.g. as pilot flying and/or pilot monitoring). A pilot who will be authorised to operate in either capacity will need to complete the minimum number of approaches in each capacity.

[…]

(f) Previous experience of low-visibility approach operations requiring approval under this Subpart with an EU operator means in the context of:
(1) AMC2 SPA.LVO.120(b) point (b)to operate LVO within the last 36 months from the previous check,
(2) AMC2 SPA.LVO.120(b) point (c) 12 months from the previous check and
(3) AMC3 SPA.LVO.120(b) point (c) EFVS 24 months from the previous check.

~~(f)~~ (g) Table 1 presents a summary of initial training requirements for LVOs and operations with operational credits.

~~(g)~~ (h) Table 2 presents a summary of recent experience and recurrent training/checking requirements for LVOs and operations with operational credits.

[…]

Table 1

Summary of initial training requirements for LVOs and operations with operational credits

Approval	Airborne equipment	Previous experience	Reference	Practical (FSTD) training [3]	LIFUS (if required) [3]
CAT II	Auto coupled to below DH with manual landing	none	[…]	[…]	3 landings or 1 landing[1]
		Previously qualified with the same operator, similar operations[32]	AMC2 SPA.LVO.120(b) point (b)(3~~2~~)(ii)	[…]	none
		Previously qualified with a different EU operator, same type and variant	[…]	[…]	none
		Previously qualified with a different EU operator, similar operations[32]	[…]	[…]	3 landings or 1 landing[1]
SA CAT I CAT II SA CAT II	~~Autoland~~Automatic landing	None	[…]	[…]	2 landings or ~~1 landing[1] or~~ no landings[21]

CAT III		Previously qualified with the same operator, similar operations[3][2]	[..]	[..]	none
		Previously qualified with a different EU operator, same type and variant	[..]	[..]	none
		Previously qualified with a different EU operator, similar operations[3][2]	[..]	[..]	2 landings or ~~1 landing[1] or~~ no landings[2][1]
CAT II SA CAT II CAT III	HUDLS/ manual landing	None	[..]	[..]	4 landings or 2 landings[1]
		Previously qualified with the same operator, similar operations[3][2]	[..]	[..]	none
		Previously qualified with a different EU operator, same type and variant	[..]	[..]	none
		Previously qualified with a different EU operator, similar operations[3][2]	[..]	[..]	4 landings or 2 landings[1]
SA CAT I CAT II SA CAT II CAT III	HUDLS/ automatic landing	None	[..]	[..]	2 landings or ~~1 landing[1] or~~ no landings[2][1]
		Previously qualified with the same operator, similar operations[3][2]	[..]	[..]	none
		Previously qualified with a different EU operator, same type and variant	[..]	[..]	none
		Previously qualified with a different EU operator, similar operations[3][2]	[..]	[..]	2 landings or ~~1 landing[1] or~~ no landings[2][1]
EFVS-A	EFVS with HUD/ HUDLS	None	[..]	[..]	[..]
		Previously qualified with the same operator, similar operations[3][2]	[..]	[..]	[..]
		Previously qualified with a different EU operator, same type and variant	[..]	[..]	[..]
		Previously qualified with a different EU operator, similar operations[3][2]	[..]	[..]	[..]
EFVS-I	EFVS with HUD/ HUDLS	None	[..]	[..]	[..]
		Previously qualified with the same operator, similar operations[3][2]	[..]	[..]	[..]
		Previously qualified with a different EU operator, same type and variant	[..]	[..]	[..]
		Previously qualified with a different EU operator, similar operations[3][2]	[..]	[..]	[..]

Notes:

1: Fewer landings during LIFUS are required if an ~~level 'D' FSTD~~ FFS qualified to level C or D (including grandfather C or D or interim C) is used for conversion training.

~~2: No landings are required if a candidate has completed the zero flight-time (ZFT) type rating.~~

~~3~~2: 'Similar operations' implies that the level of technology, operating procedures, handling characteristics and HUD/HUDLS or equivalent display systems are the same or similar.

43: 'operational suitability data established in accordance with Regulation (EU) No 748/2012 may define credits'

[…]

Rationale

The changes proposed to GM1 SPA.LVO.120(b) were first published in NPA 2024-02.

Point (d) adds a new proposal is a first step to clarify the required training for trainers and other personnel that have achieved either seat qualification. Through this amendment, EASA proposes to remove the repetition of the recurrent training in each operating capacity, i.e. one in their original capacity as a commander and the same training again in the other seat (F/O). However, EASA introduces the need to ensure recency in each operating capacity. For example, if the trainer has operated CATIII in the captain seat during normal line operations, he or she will only need to perform training exercises to revalidate the recency in the other seat. This would normally be done during the recurrent training simulator session. EASA will continue to monitor the issue and perform further regulatory amendments if necessary to improve this point while ensuring a high level of safety.

Point (f) clarifies what is already stated in the AMC as the agency received feedback from some authorities requesting such clarification.

Table 1 proposes editorial amendments to correctly reflect the regulatory reference and to ensure consistency with AMC2 SPA.LVO.120(b); no impact is expected in this GM. For the rationale about the AMC2 SPA.LVO.120(b) and the possible impacts, please refer to the rationale for AMC2 SPA.LVO.120(b).

Subpart F: ~~Extended range operations with two engined aeroplanes (ETOPS)~~Extended diversion time operations (EDTO) with aeroplanes with two or more engines

AMC1 SPA.EDTO.100(c) EDTO operational approval

EDTO OPERATIONAL APPROVAL METHODS

(a) Depending on the amount of prior in-service experience of the operator with the candidate aeroplane/engine combination, one of the following two approval methods should be used:

(1) 'Accelerated EDTO operational approval', for which limited or no prior in-service experience with the candidate aeroplane/engine combination is necessary. With this method, the operator needs to build a programme of process validation to address the lack of direct experience (with EDTOs and/or with the candidate aeroplane).

(2) 'In-service EDTO operational approval', which is based on a prerequisite amount of prior in-service experience with the candidate aeroplane/engine combination.

(b) Both EDTO operational approval processes should include the following phases:

(1) Application phase;

(2) Validation of the operator's EDTO processes;

The intent of this validation phase is to demonstrate that the related EDTO processes are in place and produce the expected results.

(3) Assessment of the operator's propulsion system reliability (for two-engined aeroplanes)

The intent of this phase is to demonstrate the operator's ability to achieve and maintain the level of propulsion system reliability established in accordance with Appendix 1 to AMC 20-6.

(4) Validation of the operator's capability

The intent of this phase, which includes validation flight(s), is to ensure that the established EDTO flight operations and maintenance (for two-engined aeroplanes) processes and procedures can support the planned operations.

Rationale

This new proposed AMC, as well as all other AMC and GM related to EDTO were first published in NPA 2023-03.

This AMC has been introduced to provide a general description of the two applicable EDTO operational approval processes based on the content transferred from AMC 20-6.

AMC2 SPA.EDTO.100(c) EDTO operational approval

EDTO OPERATIONAL APPROVAL PROCESSES

(a) Eligibility

(1) The following operators are eligible for the in-service EDTO operational approval process:

(i) Operators of performance class A aeroplanes with a maximum operational passenger seating configuration (MOPSC) of 19 or less, with at least 6 consecutive months of experience in operations with a diversion time between 120 and 180 minutes under CAT.OP.MPA.140(d) with the related aeroplane/engine combination.

(ii) Operators of other two-engined aeroplanes, with:

— at least 12 consecutive months of in-service experience without EDTO with the considered aeroplane/engine combination. In this case, the operator may apply for a diversion time of 120 minutes maximum; or

— at least 12 consecutive months of in-service EDTO experience with diversion time of up to 120 minutes and with the considered aeroplane/engine combination; in this case, the operator may apply for a diversion time of 180 minutes maximum; or

— at least 6 consecutive months of in-service EDTO experience with a diversion time of more than 120 minutes, with the exception of an operator approved for a 15% increase of its approved 120 minutes diversion time; in this case, the operator may apply for diversion time beyond 180 minutes; or

— no or minimal in-service experience without EDTO with the considered aeroplane/engine combination. In this case, the operator may apply for a diversion time of 90 minutes maximum based on the in-service approval process. The operator should demonstrate that the reduction of the validation of its EDTO processes that would be required through the accelerated approval process is adequately compensated by the combined consideration of the following factors: the proposed EDTO area of

operations, the operator's ability to successfully introduce aeroplanes into operations and the quality of the proposed continuing airworthiness and operations programmes.

(iii) Operators of aeroplanes with more than two engines with at least 12 consecutive months of in-service experience without EDTO with the considered aeroplane/engine combination.

In all other cases where the operator has accumulated less than the above-mentioned minimum experience, the accelerated EDTO operational approval process is to be followed.

(2) Under the accelerated EDTO operational approval process, the operator may apply for any diversion time. In addition, an operator may start EDTO at entry into service with the related aeroplane/engine combination. However, the following conditions should be fulfilled:

(i) the personnel involved in continuing airworthiness (for two-engined aeroplanes) and operations processes have previous EDTO experience (e.g. from a previous operator) or a third-party organisation has been contracted to support the operator; and

(ii) for two-engined aeroplanes, data necessary for the validation of the operator's capability in continuing airworthiness processes has already been accumulated by the operator, or external data is available when these processes are managed by a third-party air operator approved for EDTO under Part-SPA.

(b) Application phase

An operator applying for an EDTO operational approval should submit its application to its competent authority at least 3 months before the proposed start of EDTO operations in the case of the accelerated EDTO operational approval process, and at least 2 months before the proposed start of EDTO operations in the case of the in-service EDTO operational approval process.

The application should include:

(1) the planned start of the EDTO operations (new operations or operations with an increased diversion time);

(2) the planned routes and the EDTO diversion time necessary to support those routes;

(3) the aeroplanes concerned (model(s) and MSNs);

(4) For two-engined aeroplanes, EDTO type design and reliability approval of the aeroplane model concerned.

The operator applying for an EDTO operational approval should also provide the following information, but may submit it later, but as soon as it is available, so that it can be reviewed timely to support the granting of the EDTO approval:

(1) for two-engined aeroplanes, conformity of the candidate aeroplanes, including auxiliary power unit (APU) and engines, to the applicable EDTO configuration requirements listed in the EDTO CMP document;

(2) the proposed diversion speed, which may be area-specific depending upon anticipated aeroplane loading and likely fuel penalties associated with the planned procedures;

(3) except for operators already approved for EDTO with the considered aeroplane type, a description of the resources allocated to each EDTO process to initiate and sustain EDTO

in a manner that demonstrates commitment by management and all personnel involved in EDTO continuing airworthiness (for two-engined aeroplanes only) and operational processes;

(4) except for operators already approved for EDTO with the considered aeroplane type, a description of the operator's EDTO operational processes, including:

(i) operational limitations;

(ii) flight preparation;

(iii) in-flight procedures.

The operator should submit the relevant part of its operations manual as part of its application;

(5) except for operators already approved for EDTO with the considered aeroplane type and for operators of aeroplanes with more than two engines, a description of the operator's EDTO continuing airworthiness processes (as per AMC 20-6 Appendix 3), including but not limited to the following:

(i) maintenance programme;

(ii) EDTO reliability monitoring and reporting programme;

(iii) oil consumption monitoring programme;

(iv) engine condition monitoring;

(v) propulsion system monitoring programme;

(vi) EDTO parts control programme;

(6) flight crew and ground staff EDTO initial and recurrent training programmes, except for operators already approved for EDTO with the considered aeroplane type;

(7) proposed review gates in the case of accelerated EDTO operational approval process.

Review gates are milestones of the approval process proposed by the operator to demonstrate compliance with the applicable EDTO requirements. The review gate process should start 3 months before the planned start of EDTO. It should cover all processes required to be validated and any additional operator-specific training and procedures relevant to EDTO. Each review gate should be defined in terms of the process elements to be validated.

It should include in particular the plan for the training of flight crew, flight dispatch and continuing airworthiness (for two-engined aeroplanes only) personnel.

The final review gate should be the EDTO validation flight(s) as described in point (d);

(8) if applicable, information on how the operator addresses new technology and significant differences in EDTO-significant systems (e.g. engines, electrical, hydraulic, pneumatic, etc.), compared to the aeroplanes currently operated and the aeroplanes for which the operator is seeking EDTO operational approval using the accelerated approval process;

(9) the source documentation, if the operator uses training programmes, maintenance (for two-engined aeroplanes only) and/or operational procedures relevant to EDTO for the aeroplane for which the operator is seeking accelerated EDTO operational approval from another source (e.g. from a manufacturer or another organisation);

The operator should highlight the changes it has made to these procedures and provide the rationale behind such changes;

(10) details of any EDTO support programme from the aeroplane/engine combination or engine (S)TC holder, other operators or any third-country authority or other competent authority;

(11) approvals held by the contracted organisation(s) together with the control procedures of the contractor(s), if the operator uses a contracted maintenance (for two-engined aeroplanes only) and/or a flight dispatch organisation.

(c) Validation of the operator's EDTO processes

The extent of validation needs depends on the operator's experience with the related aeroplane type and with EDTO.

In case of the accelerated EDTO process applied to an operator with no prior experience with the aeroplane type and no EDTO experience, all processes should be validated.

For all processes to be validated, the operator should demonstrate that the process is in place and functions as intended. This may be accomplished by providing data, documentation and analysis results and/or by demonstrating in practice that the process works and consistently provides the intended results. The operator should also demonstrate that a feedback loop exists to facilitate the surveillance of the process, based on in-service experience.

If an operator is currently approved for conducting EDTO with a different engine and/or aeroplane/engine combination, it may be able to document proven EDTO processes. In this case, only minimal further validation may be necessary. The operator should demonstrate that processes are in place to assure equivalent results on the engine and/or aeroplane/engine combination being proposed for accelerated EDTO operational approval.

(1) Reduction in the validation requirements of EDTO processes

The following elements will be useful or beneficial in justifying a reduction by the competent authority in the validation requirements of EDTO processes:

(i) Experience with other aeroplanes and/or engines;

(ii) Previous EDTO experience;

(iii) Experience with long-range or extended over-water operations;

(iii) Any experience gained by flight crews, continuing airworthiness personnel (for two-engined aeroplanes only) and flight dispatch personnel, while working with other EDTO-approved operators, particularly when such experience is with the same aeroplane or aeroplane/engine combination.

The process validation may be done on the aeroplane/engine combination that will be used or on a different aeroplane type than that for which approval is being sought.

(2) Validation of the EDTO processes on a different aeroplane type

A process may be validated by demonstrating that it produces equivalent results on a different aeroplane type or aeroplane/engine combination. In this case, the validation programme should address the following:

(i) The operator should demonstrate that the EDTO validation programme can be executed in a safe manner;

(ii) The operator should establish policy guidance to personnel involved in the EDTO process validation programme, clearly stating that EDTO process validation exercises should not adversely impact the safety of actual operations, especially during periods of abnormal, emergency, or high cockpit-workload operations. It

should emphasise that during periods of abnormal or emergency operation or high cockpit workload, EDTO process validation exercises should be terminated;

(iii) The validation scenario should be of sufficient frequency and operational exposure to validate maintenance (for two-engined aeroplanes only) and operational support systems that are not validated by other means;

(iv) A means should be established to monitor and report performance with respect to accomplishment of tasks associated with EDTO process elements. Any recommended changes resulting from the validation programme to EDTO continuing airworthiness (for two-engined aeroplanes only) and/or operational process elements should be defined.

(3) Methodology for the validation

The following information should be submitted to the competent authority prior to the start of the validation process:

(i) Validation periods, including start dates and proposed completion dates;

(ii) List of aeroplanes to be used in the validation, including registration numbers, manufacturer and serial number and model of the aeroplane and engines;

(iii) Description of the areas of operation (if relevant to validation) proposed for validation and actual operations;

(iv) List of selected EDTO validation routes. The routes should be representative of the planned routes submitted in the initial application and of sufficient duration to allow the validation of the related processes.

The operator should provide periodic process validation reports to the competent authority. This may be addressed during the planned review gates.

The operator should compile results of EDTO process validation. In particular, the operator should:

(i) document how each element of the EDTO process was utilised during the validation;

(ii) document any shortcomings with the process elements and measures in place to address such shortcomings; and

(iii) document any changes to EDTO processes, which were required after an in-flight shut down (IFSD), unscheduled engine removals, or any other significant operational events.

(d) Assessment of the operator's propulsion system reliability for two -engined aeroplanes

The operator should provide all available reliability data that may be used to assess its ability to achieve and maintain the level of propulsion system reliability established in accordance with Appendix 1 to AMC 20-6.

In any case, the operator should provide a report covering the total experience of the operator with the considered aeroplane type, if applicable, and including:

(1) the operator's current IFSD rate, if applicable;

(2) the worldwide fleet average IFSD rate for the family of the aeroplane/engine combination concerned;

(3) the list of all engine-related events, including the outcome of the analysis conducted and the actions taken.

(e) Validation of the operator's capability

The operator should demonstrate that the EDTO continuing airworthiness processes (for two-engined aeroplanes only) and the EDTO flight dispatch and release practices are properly conducted.

In addition, operational validation flight(s) should be conducted to demonstrate that the required EDTO flight operations and maintenance (for two-engined aeroplanes only) processes and procedures are capable of supporting the planned operations. The validation flight(s) should be performed on route(s) that the operator plans to operate, or on representative routes.

The content of validation flights should be established by the operator based on its previous experience and submitted to the competent authority in advance. No abnormal or emergency operations (e.g. OEI diversion) should be simulated during a validation flight.

The validation flight(s) may be performed either on revenue flight(s) or on non-revenue flights without passengers. Depending on the scope of the EDTO operational approval and the operator's experience with the related area of operations, aeroplane type, contemplated diversion time, etc., a validation flight may be performed during the first EDTO revenue flight or replaced by a flight on an approved simulator.

Rationale

The proposed AMC provides detailed criteria for the two applicable EDTO operational approval processes based on the transferred content of AMC 20-6. To provide clarity, the descriptions for the two processes have been merged and the specificities of each process described in each step.

In addition, based on the comments received and accepted, the following additional changes have been introduced:

- *Alignment of the minimum lead time for an application before the planned EDTO operations with the lead time for an AOC (3 months).*
- *Clarification that a 15% increase of a 120 minutes approved diversion time does not qualify for the experience requirement to apply for a diversion time exceeding 180 minutes.*
- *Addition for consistency of a 12 months experience requirement for the in-service EDTO approval process for EDTO with aeroplanes with more than 2 engines.*
- *Clarification that some parts of the EDTO application package may be submitted at a later stage similarly to the provisions applicable when applying for an AOC.*
- *Addition of the possibility to conduct the demonstration flight on non-revenue flights.*

GM1 SPA.EDTO.100(b) EDTO operational approval

15% INCREASE TO A MAXIMUM DIVERSION TIME OF UP TO 180 MINUTES

A 15 % extension of the diversion time in accordance with SPA.EDTO.105(c) is still included in the operational approval category with a maximum diversion time of up to 180 minutes, and the requirements applicable to the operational approval category beyond 180 minutes do not apply.

Rationale

The new GM has been introduced to provide clarity on the scope of one of the EDTO operational approval categories in the specific case of a 15% increase of the maximum diversion time..

GM2 SPA.EDTO.100(b) EDTO operational approval

EDTO CRUISE SPEEDS

As part of its EDTO application, the operator may propose an EDTO diversion speed, which is different from the speed selected to determine the threshold distance as required in CAT.OP.MPA.140(c). Indeed, for non-EDTO routes, an operator holding an EDTO approval may decide to use a different speed compared to the EDTO OEI/AEO approved speed to define the EDTO threshold distance.

For an operator holding an EDTO operational approval, the OEI (for two-engined aeroplanes) or AEO (for aeroplanes with more than 2 engines) approved speed always refers to the speed that is used to determine the EDTO area of operations.

The possible use of different reference speeds is summarised in the following table:

Table 1: EDTO cruise speeds

	EDTO threshold distance	**EDTO maximum diversion distance**	**Critical fuel – all engine depressurisation**	**Critical fuel – engine inoperative depressurisation**	**Critical fuel – engine failure only**
Two-engined aeroplanes	Any selected OEI speed	Approved OEI speed	Any selected AEO speed	Approved OEI speed	Approved OEI speed
Aeroplanes with more than 2 engines	Any selected AEO speed	Approved AEO speed	Any selected AEO speed	Any selected OEI speed	Not applicable

Rationale

The new GM has been introduced to provide information about the possibility to have two different OEI/AEO speeds and their acceptable use for both two-engined aeroplanes and aeroplanes with more than 2 engines based on the comments received and accepted.

~~GM1 SPA.ETOPS.105 ETOPS operational approval~~

~~**AMC 20-6**~~

~~AMC 20-6 provides further criteria for the operational approval of ETOPS.~~

Rationale

This GM has been deleted as all OPS elements of AMC 20-6 have been transferred to AMC to SPA.EDTO.

AMC1 SPA.EDTO.105(b) EDTO initial and continuing airworthiness

CONTINUING AIRWORTHINESS CRITERIA

Specific continuing airworthiness criteria for EDTO, ensuring compliance with Regulation (EU) No 1321/2014, are included in AMC 20-6.

Rationale

As continuing airworthiness provisions are temporarily remaining in AMC 20-6, a reference at AMC level needed to be created.

AMC1 SPA.EDTO.105(c) EDTO initial and continuing airworthiness

15 % INCREASE OF THE OPERATOR APPROVED DIVERSION TIME

To demonstrate that the resulting routing does not reduce the overall safety of the operation, including the consideration of time-limited systems capability, an operator with a maximum diversion time of up to 180 minutes requesting a 15 % increase of its approved diversion time should:

(a) demonstrate that the increased diversion time sought does not exceed:

(1) 115 % of the aeroplane maximum diversion time; and

(2) the capabilities of the EDTO time-limited systems, minus 15 minutes;

(b) demonstrate that the aeroplane fuel carriage supports the increased diversion time sought;

(d) develop an appropriate MEL related to the diversion time sought.

Rationale

This new AMC has been introduced to provide means to comply with the requirement to demonstrate that the overall safety of the operation is not reduced in case of a 15% increase of the operator approved diversion time. The proposed content is stemming from AMC 20-6.

GM1 SPA.EDTO.105(c) EDTO initial and continuing airworthiness

15 % INCREASE OF THE OPERATOR APPROVED DIVERSION TIME

The following non-exhaustive list contains typical relevant reasons that may prevent the availability of EDTO ERA aerodromes within the operator's approved diversion time and may be used as a justification to apply for a 15% increase of its approved diversion time:

(a) political or military concerns;

(b) volcanic activity;

(c) temporary airport conditions;

(d) EDTO ERA aerodrome weather conditions below planning minima

(e) other weather-related events.

Rationale

This new GM has been introduced to provide guidance on the typical reasons that may be used by an operator to justify the non-availability of EDTO ERAs.

AMC1 SPA.EDTO.110 EDTO training

EDTO TRAINING

(a) The syllabus for EDTO initial and recurrent training for flight crew should include the following items:

(1) Introduction to EDTO requirements

(i) Brief overview of the history of EDTO;

(ii) SPA.EDTO content;

(iii) Definitions;

(iii) EDTO approved one-engine-inoperative (OEI) speed for two-engined aeroplanes/ all engines operating (AEO) speed for aeroplanes with more than two engines;

(iv) For two-engined aeroplanes, EDTO type design approval — a brief synopsis;

(v) Aeroplane maximum diversion times and time-limited systems capability;

(vi) Operator's approved diversion time;

(vii) Routes and aerodromes intended to be used in the EDTO area of operations;

(viii) EDTO operational approval;

(ix) EDTO area and routes;

(x) EDTO en-route alternates including all available let-down aids;

(xi) Navigation systems accuracy, limitations and operating procedures;

(xii) Meteorological facilities and availability of information;

(xiii) In-flight monitoring procedures;

(xiv) Operational flight plan;

(xv) Orientation charts, including low-level planning charts and flight progress charts usage (including position plotting);

(xvi) Equal time point;

(xvii) Critical fuel.

(2) EDTO normal procedures

(i) Flight planning and dispatch

(A) EDTO fuel requirements

(B) EDTO en-route alternate aerodrome selection — planning minima

(C) Minimum equipment list — EDTO-specific

(D) EDTO service check and tech log (for two-engined aeroplanes)

(E) Pre-flight FMS set-up

(ii) Flight performance progress monitoring

(A) Flight management, navigation and communication systems

(B) Aeroplane system monitoring

(C) Weather monitoring

(D) In-flight fuel management — to include independent cross checking of fuel quantity, tracking of actual versus planned fuel burn and minimum en-route fuel policy

(3) EDTO abnormal and contingency procedures

(i) Diversion procedures and diversion decision-making

(ii) Navigation and communication systems, including appropriate flight management devices in degraded modes

(iii) Fuel management with degraded systems

(iv) Initial and recurrent training which emphasises abnormal and emergency procedures to be followed in the event of foreseeable failures for each area of operation, including:

(A) procedures for single and multiple failures in flight affecting EDTO sector entry and diversion decisions. If standby sources of electrical power significantly degrade the cockpit instrumentation to the pilots, then training for approaches with the standby generator as the sole power source should be conducted during initial and recurrent training;

(B) operational restrictions associated with these system failures including any applicable MEL considerations.

(4) EDTO practical training

Practical training should consist of line flying under supervision (LIFUS).

During the introduction into service of a new EDTO type, or conversion of pilots not previously EDTO-qualified where EDTO operational approval is sought, a minimum of two EDTO sectors should be completed including an EDTO line check.

Alternatively, the practical training may consist of a line-oriented flight training (LOFT) exercise conducted in a flight simulator to demonstrate both normal and abnormal EDTO procedures.

In both cases, the practical training should cover at least the following:

(i) Pre-flight briefing

(ii) EDTO flight release

(iii) Cockpit preparation

(iv) En-route (normal)

(A) Entering EDTO sector

(B) En-route monitoring procedures

(C) FMS procedures (as applicable)

(D) Navigation and communication

(v) En-route (non-normal)

(A) Contingency procedures

(B) Selected non-normal conditions and checklists

(C) Diversion decision-making

(D) FMS procedures (as applicable)

(E) En-route diversion

(vi) Post-flight procedures

(b) The operator should ensure that flight crew members are not assigned to operate EDTO routes for which they have not been briefed.

(c) The operator should define an initial and refresher training programme for operations personnel other than flight crew involved in EDTO (e.g. operations control personnel), covering the following items:

(1) EDTO regulations/operations approval

(2) Aeroplane performance/diversion procedures

(3) Area of operation

(4) Fuel requirements

(5) Dispatch considerations MEL, CDL, planning minima, and EDTO ERA aerodromes

(6) Documentation

Rationale

This new AMC is a direct transposition of the AMC 20-6 provisions on training.

Based on the comments received and accepted, it was amended to reflect the inclusion of aeroplanes with more than 2 engines in the scope of EDTO.

AMC1 SPA.EDTO.115(a) Operating procedures

MINIMUM EQUIPMENT LIST

(a) The operator's MEL should be developed/revised to address the equipment provisions for EDTO.

(b) The operator's MEL should also consider the specificities of the EDTO area of operation:

(1) the operator's approved diversion time;

(2) the availability of EDTO en-route alternate aerodromes, and available facilities and equipment;

(3) the navigation and communication means; and

(4) the prevailing meteorological conditions.

(c) All restrictions that are specific to EDTO should be clearly identified in the operator's MEL, such as restrictions related to:

(1) the number of items of equipment or systems required to be operative at dispatch for a flight with a given diversion time. The MEL should include any restrictions applicable to operations up to the operator's approved diversion time. In the specific case of EDTO operational approvals of up to 90 minutes, the MEL restrictions for 120-minute EDTO should be used unless there are specific restrictions for 90 minutes or less;

(2) the capability of the time-limited systems. This includes restrictions related to the serviceability of components or equipment of the EDTO time-limited systems, which may reduce the time capability of the system when they are degraded or inoperative (e.g. the cargo fire suppression system);

(3) the applicable planning minima. It includes restrictions related to components or equipment necessary in the conduct of satellite-based or ground-based instrument approaches, which will affect the selection of EDTO en-route alternate aerodromes.

Rationale

This new AMC has been introduced to provide some specific criteria related to the MEL in the context of EDTOs. It is based on provisions from ICAO Doc 10085.

GM1 SPA.EDTO.115(a) Operating procedures

MINIMUM EQUIPMENT LIST

Systems and equipment that should be considered in the context of EDTO, include, but are not limited to, the following:

(a) electrical;

(b) hydraulic;

(c) pneumatic;

(d) flight instrumentation, including warning and caution systems;

(e) fuel;

(f) flight control;

(g) ice protection;

(h) engine start and ignition;

(i) propulsion system instruments;

(j) navigation and communications, including any route-specific long-range navigation and communication equipment;

(k) auxiliary power unit;

(l) air conditioning and pressurisation;

(m) cargo fire suppression;

(n) engine fire protection;

(o) emergency equipment;

(p) systems and equipment required for engine condition monitoring.

Rationale

This new GM is a direct transposition of the AMC 20-6 guidance on the equipment considered to have a fundamental influence on safety in the context of EDTO.

AMC1 SPA.EDTO.115(b) Operating procedures

FUEL SUPPLY

(a) General

To release an aeroplane for an EDTO flight, the operator should ensure that it carries sufficient fuel and oil to meet the applicable operational requirements of CAT.OP.MPA.181 and any additional fuel that may be determined in accordance with the EDTO critical fuel scenario.

(b) Operations manual

The operator should ensure that the operations manual contains sufficient data to support the critical fuel reserve and area of operations calculation.

(c) EDTO critical fuel reserve

The operator should determine the EDTO critical fuel reserve, which is the fuel necessary to fly to the most critical point (at normal cruise speed and altitude, taking into account the anticipated meteorological conditions for the flight) and execute a diversion to an EDTO en-route alternate aerodrome under the conditions outlined in the critical fuel scenario described below.

The EDTO critical fuel reserve should be compared to the normal applicable operational requirements for the flight, which should be in all cases complied with. If it is determined by this comparison that the fuel to complete the EDTO critical fuel scenario exceeds the fuel that would be on board at the most critical point, as determined by applicable operational requirements, additional fuel should be included to the extent necessary to safely complete the EDTO critical fuel scenario. When considering the potential diversion distance flown, account should be taken of the anticipated routing and approach procedures, in particular any constraints caused by airspace restrictions or terrain.

(d) EDTO critical fuel scenario

The operator should ensure compliance with this scenario when calculating the EDTO critical fuel reserves necessary.

Note 1: If an APU is one of the required power sources for the EDTO critical fuel scenario, then its fuel consumption should be accounted for during the appropriate phases of flight.

Note 2: Additional fuel consumptions due to any MEL or CDL items should be accounted for during the appropriate phases of flight, when applicable.

The aeroplane should carry sufficient fuel taking into account the forecast wind and weather to fly to an EDTO en-route alternate aerodrome assuming the greater of the following scenarios:

(1) All-engine depressurisation

Rapid decompression at the most critical point followed by descent to 10 000 ft or a higher altitude if sufficient oxygen is provided in accordance with the applicable operational requirements.

(2) One-engine inoperative depressurisation

Flight at the approved OEI speed for two-engined aeroplanes or any selected OEI speed for aeroplanes with more than 2 engines, assuming a rapid decompression and a simultaneous engine failure at the most critical point followed by descent to 10 000 ft or a higher altitude if sufficient oxygen is provided in accordance with the applicable operational requirements.

(3) Engine failure only (two-engined aeroplanes only)

Flight at the approved OEI speed assuming an engine failure at the most critical point followed by descent to the one-engine-inoperative cruise altitude.

The fuel computation should consider a 15-minute hold at 1 500 ft above field elevation upon reaching the EDTO en-route alternate aerodrome and then an instrument approach and landing.

An additional 5 % wind speed factor (i.e. an increment to headwind or a decrement to tailwind) on the actual forecast wind should be used to calculate fuel in the greater of (1), (2) or (3) above to account for any potential errors in wind forecasting. If an operator does not use the actual forecast wind based on wind model acceptable to the competent authority, an increment of fuel representing 5 % of the fuel required to fly to an EDTO en-route alternate aerodrome assuming the greater of scenarios (1), (2) or (3) above, should be added as reserve fuel to allow for errors in wind data.

A wind aloft forecasting distributed worldwide by the World Area Forecast System (WAFS) is an example of a wind model acceptable to the competent authority.

(e) Icing

The amount of fuel calculated in accordance with the EDTO critical fuel scenario should be corrected taking into account the greater of:

(1) the effect of airframe icing during 10 % of the time during which icing is forecast, including ice accumulation on unprotected surfaces, and the fuel used by engine and wing anti-ice during this period; or

(2) fuel for engine anti-ice, and if appropriate wing anti-ice, for the entire time during which icing is forecast.

Note: Unless a reliable icing forecast is available, icing may be presumed to occur when the total air temperature (TAT) at the approved OEI speed is less than +10ºC, or if the outside air temperature is between 0ºC and -20ºC with a relative humidity (RH) of 55 % or greater.

(f) The operator should establish a programme to monitor aeroplane in-service deterioration in cruise fuel burn performance and include in the fuel supply calculations sufficient fuel to compensate for any such deterioration. If there is no data available for such a programme, the amount of fuel calculated in accordance with the EDTO critical fuel scenario should be increased by 5 % to account for deterioration in cruise fuel burn performance.

Rationale

This new AMC is directly transposed from the AMC 20-6 provisions on fuel supply.

Based on the comments received and accepted, it was amended to reflect the inclusion of aeroplanes with more than 2 engines in the scope of EDTO.

AMC2 SPA.EDTO.115(b) Operating procedures

FLIGHT PLANNING AND DISPATCH

(a) EDTO en-route alternate aerodrome selection

The operator should describe the process for the selection of EDTO en-route alternate aerodromes in its operations manual.

(b) Information on other aerodromes

In addition to the selected EDTO en-route alternate aerodromes, the operator should provide flight crew with information on other alternate aerodromes on the route to be flown. Before

commencing a flight, the flight crew should receive information relevant to be used when executing a diversion. Such information should cover alternate aerodrome facilities and other appropriate planning data concerning those aerodromes.

(c) EDTO area of operations

The EDTO area of operations is established during the flight preparation process based on the designated EDTO en-route alternate aerodromes and the maximum diversion distance corresponding to the operator's approved diversion time and speed.

Credit for the drift down may be taken when establishing the EDTO area of operations.

The operator should identify, for each individual EDTO flight, the EDTO entry and exit points for all EDTO sectors and also the corresponding EDTO equal time points (ETPs).

(d) Operational flight plan

The type of operation (i.e. EDTO, including the diversion time used to establish the plan), the details of the EDTO critical fuel calculation, the EDTO entry point(s), the EDTO exit point(s), and the EDTO ETP(s), if applicable, should be listed on the operational flight plan.

(e) Dispatch

(1) Minimum equipment requirements pertaining to EDTO

The flight crew should review technical logs and forms to determine the condition of equipment required for EDTO and ensure that maintenance action has been performed to assess and correct as necessary defects to the required equipment.

(2) EDTO en-route alternate aerodromes

The expected meteorological conditions at the selected EDTO ERA aerodromes should be assessed in accordance with the applicable EDTO ERA aerodrome planning minima.

(3) Communication and navigation facilities

To release an aeroplane for an EDTO flight, the operator should ensure that:

(i) communication facilities are available to provide, under normal conditions of propagation at all planned altitudes of the intended flight and the diversion scenarios, reliable two-way voice and/or data link communications;

(ii) visual and non-visual aids are available at the specified EDTO en-route alternate aerodromes for the anticipated types of approaches and operating minima.

(4) Communication equipment

For all routes where voice communication facilities are available, the communication equipment should include at least one voice-based system. Where voice communication facilities are not available and where voice communication is not possible or is of poor quality, communications using alternative systems should be ensured.

(5) Consideration of time-limited systems (TLS) capability

The operator should ensure at flight planning stage that any diversion to an EDTO en-route alternate aerodrome will not exceed:

(i) the time capability specified in the AFM (or other relevant aeroplane manufacturer documentation) minus 15 minutes for the aeroplane's cargo fire suppression system, considering a diversion at the all-engines-operating (AEO) speed under standard conditions in still air;

(ii) the time capability specified in the AFM for the aeroplane's most limiting TLS (other than cargo fire suppression), if any, minus 15 minutes, considering a diversion at the approved OEI speed under standard conditions in still air.

(f) Specific considerations for approvals beyond 180 minutes

(1) Operators should minimise the diversion time along the preferred track. Increases in diversion time, for example by disregarding EDTO adequate ERA aerodromes along the route, should only be planned in the interest of the overall safety of the operation.

(2) In view of the long diversion time involved, the operator should conduct the verification that the time capabilities of the TLS would not be exceeded during any diversion to an EDTO ERA aerodrome as specified in point (e)(5) above considering for the given day the forecast conditions, such as prevailing winds, temperature and applicable diversion procedures.

Note: paragraph (e)(5) is applicable only to two-engined aeroplanes.

(3) The following systems are typically required to be operative for dispatch for EDTO flights with diversion times beyond 180 minutes:

(i) an additional communication system that is capable of providing immediate satellite-based voice communication. Where immediate, satellite-based voice communications are not available or are of poor quality, communications using alternative system should be substituted;

(ii) the following additional equipment:

(A) fuel quantity indicating system (FQIS);

(B) APU (including electrical and pneumatic supply to its designed capability), if necessary to comply with EDTO requirements;

(C) automatic engine or propeller control system.

Rationale

This new AMC provides criteria for the flight planning and dispatch process. It is based mostly on the transposed related content of AMC 20-6, adapted to consider the recently adopted new standard 4.7.2.3 of ICAO Annex 6.

Based on the comments received and accepted, it was amended to reflect the inclusion of aeroplanes with more than 2 engines in the scope of EDTO and to replace the initially proposed criteria related to communication system with performance based ones.

GM1 SPA.EDTO.115(b) Operating procedures

TIME-LIMITED SYSTEMS (TLS) CONSIDERATIONS

(a) There are two kinds of TLS:

(1) the systems limited by their capacity, e.g. the cargo fire extinguishers, which per design cease to function once exhausted; and

(2) the systems for which time capability is determined by their endurance or reliability.

(b) Diversion time to EDTO ERA aerodrome calculation

In the case of EDTO up to 180 minutes, a margin of 15 minutes (ISA, still air) is deemed to be sufficient to account for operational variances such as winds over the diversion. This is why the

verification that the diversion times to EDTO ERA aerodromes do not exceed the capability of the TLS(s) may be performed considering ISA and still air conditions.

However, for EDTOs beyond 180 minutes, maximum diversion time, wind effects for these higher diversion times can be more significant and therefore the 15-minute margin may not be sufficient in all cases. This is the reason why the verification that the diversion times to EDTO ERA aerodromes need to be performed considering the actual forecast wind and temperature.

In both cases, the speed to be considered for the verification that the capability of the TLSs would not be exceeded, should be:

(1) a selected AEO speed for the cargo fire suppression system;

(2) for two-engined aeroplanes, the approved OEI speed for the TLS other than cargo fire suppression system, if any.

Regarding the verification that the time capability of the cargo fire suppression system would not be exceeded, it is considered, based on the review of the rates of cargo fire occurrences and of the engine failures, that the probability of a simultaneous failure would be extremely improbable. This is the reason why the diversion time to EDTO ERA aerodromes should be calculated using the selected AEO speed.

(c) Aeroplanes ETOPS certified after 2010 or EDTO certified

For these aeroplanes, the time capability of the cargo fire suppression and of the other most limiting TLSs, identified during the ETOPS/EDTO type design, and reliability approval of the aeroplane are listed in the AFM and/or the ETOPS/EDTO CMP document.

Consequently, the verification that the diversion times to EDTO ERA aerodromes do not exceed the relevant capability of both the cargo fire suppression system and of the TLSs other than the cargo fire suppression system with a 15-minute margin, is applicable and should be performed as detailed in point (b) above.

(d) Aeroplanes certified under the initial ETOPS principles

When the ETOPS rules were first published in 1985, it was required to consider only the time capability of the cargo fire suppression system. Under the EASA ETOPS requirements introduced in 2010 and EDTO, the aircraft manufacturer should also identify the capability of the other most limiting EDTO significant system. The corresponding limitations are to be identified in the relevant aeroplane documentation (e.g. in the EDTO CMP document, as well as in the AFM).

Consequently, in the case of two-engined aeroplanes engaged in EDTO certified under the initial rules, the verification that the diversion times to EDTO ERA aerodromes do not exceed the capability of the TLSs other than cargo fire suppression system with a 15-minute margin, is not applicable.

Rationale

This new GM has been introduced to provide guidance regarding the consideration of time-limited systems. It addresses:

— *the relationship between TLS capability and the approved diversion time; and*

— *the specific case of aeroplanes certified under the initial ETOPS rules and those certified after 2010.*

AMC1 SPA.EDTO.115(c) Operating procedures

PROCEDURES

(a) In-flight replanning

An aeroplane, whether or not dispatched as an EDTO flight, may not change the destination aerodrome, any alternate aerodrome, or the remainder of the route after the flight commences without meeting the applicable requirements of CAT.OP.MPA.181.

(b) Post-dispatch weather minima

Post dispatch and when no in-flight replanning in accordance with CAT.OP.MPA.181 has taken place, the weather conditions at the EDTO en-route alternate aerodromes should be equal to or better than the normal landing minima for the available instrument approach.

(c) Delayed dispatch

If the dispatch of a flight is delayed by more than 1 hour, the operator should monitor the weather forecasts and airport status at the nominated EDTO en-route alternate aerodromes to ensure that they stay within the specified planning minima requirements until dispatch.

(d) Diversion decision-making

The operator should establish procedures for flight crew, outlining the criteria that indicate when a diversion or replanning is recommended whilst conducting an EDTO flight. For an EDTO flight with a two-engined aeroplane, these procedures should include the shutdown of an engine, fly to and land at the nearest available aerodrome where a safe landing can be made.

Factors to be considered when deciding upon the appropriate course of action and suitability of an aerodrome for diversion may include but are not limited to:

(1) Aircraft configuration/mass/systems status;

(2) Wind and meteorological conditions en route at the diversion altitude;

(3) Minimum altitudes en route to the diversion aerodrome;

(4) Fuel required for the diversion;

(5) Oxygen required for a diversion

(6) Aerodrome condition, terrain, weather and wind;

(7) Runways available and runway surface condition;

(8) Approach aids and lighting;

(9) RFFS capability at the diversion aerodrome;

(10) Facilities for aircraft occupants — disembarkation & shelter;

(11) Medical facilities;

(12) Pilot's familiarity with the aerodrome;

(13) Information about the aerodrome available to the flight crew.

Contingency procedures should not be interpreted in any way that prejudices the final authority and responsibility of the pilot-in-command for the safe operation of the aeroplane.

(e) Flight monitoring

(1) During the flight, the operator should ensure that the flight crew remain informed of any relevant safety information that may affect the safety of the flight, including any significant changes in conditions at selected EDTO en-route alternate aerodromes.

(2) Prior to the EDTO entry point, the flight crew should evaluate the forecast weather, established aeroplane status, fuel remaining, and where possible field conditions and aerodrome services and facilities at the selected EDTO en-route alternate aerodromes. If any conditions are identified which could preclude safe approach and landing on a selected EDTO en-route alternate aerodrome (such as forecast weather below the landing minima), then the flight crew should take appropriate action, such as replanning or selection of the nearest EDTO en-route alternate aerodrome meeting the landing minima requirements, to remain within the operator's approved diversion time from an EDTO en-route alternate aerodrome with forecast weather to be at or above landing minima.

(3) The operator should develop, in accordance with CAT.OP.MPA.185, appropriate en-route procedures for flight crews to track actual versus planned fuel burn and appropriate contingency procedures in the event that the fuel state of the aeroplane becomes unacceptable to complete the intended flight.

(4) In addition, the operator should develop a minimum en-route fuel policy to be used by the flight crew as the basis to determine whether the fuel remaining on the aeroplane is sufficient to complete the flight.

(5) Once the flight has entered the EDTO area of operation, if the forecast for any of the selected EDTO en-route alternate aerodromes is revised to below the landing limits or the EDTO en-route alternate aerodrome becomes inadequate, the EDTO flight may continue at the commander's discretion.

Rationale

This new AMC is a direct transposition of most of the AMC 20-6 provisions on the EDTO procedures to be defined by the operator. The note related to the RFFS category was considered unnecessary and has not been transposed.

Based on the comments received and accepted, the proposed AMC was amended to ensure consistency with the replanning principles of CAT.OP.MPA.181.

GM1 SPA.EDTO.115(c) Operating procedures

IN-FLIGHT FUEL MONITORING

As with any flight, it is important for the flight crew to monitor and maintain awareness of the fuel state of the aeroplane. This is potentially even more important for an EDTO flight, given the potential for a long diversion to the nearest EDTO en-route alternate aerodromes.

The EDTO critical fuel calculation discussed in AMC1 SPA.EDTO.115(b) – Fuel Supply is intended to ensure that the planned fuel load is sufficient to support an en-route diversion from the most critical point in the event of an engine failure (for two-engined aeroplanes), a depressurisation, or both, with appropriate planning allowances. This does not preclude the importance of en-route fuel progress monitoring, which is complementary to the flight preparation process.

The EDTO critical fuel calculation is strictly a flight preparation consideration and does not apply once en route, as operational variances such as more adverse winds than forecast may result in actual fuel

burns which differ from the assumptions used to determine the EDTO critical fuel in the operational flight plan.

It is therefore not necessary for the calculated EDTO critical fuel to be on board when passing the EDTO equal time points (ETPs), including the critical point, provided the operator's minimum en-route fuel policy is complied with.

Rationale

This new GM is a direct transposition of the AMC 20-6 provisions on fuel supply.

AMC1 SPA.EDTO.120 EDTO en-route alternate

EDTO ERA

The operator should select EDTO en-route alternate aerodromes to which an aeroplane may proceed if a diversion becomes necessary while en route, where the necessary services and facilities are available, where aircraft performance requirements can be met, and which are expected to be operational if required. Take-off and/or destination aerodromes may also be selected as EDTO en-route alternate aerodromes.

The selected EDTO en-route alternate aerodromes should be identified and listed in the flight planning documentation for all cases where the planned route is beyond the EDTO threshold.

To select an aerodrome as an EDTO en-route alternate aerodrome, the following criteria should be met:

(a) The operator's general criteria for the determination of the adequacy of the aerodromes are met, and in particular:

(1) The landing distances required as specified in the AFM for the altitude of the aerodrome, for the runway expected to be used, taking into account wind conditions, runway surface conditions, and aeroplane handling characteristics, permit the aeroplane to be stopped within the landing distance available as declared by the aerodrome authorities and computed in accordance with the applicable operational requirements.

For aeroplanes equipped with fuel jettison systems, the possibility to dump fuel can be considered to reduce the expected landing mass provided that the operator can demonstrate that flight crews are properly trained and that diversion fuel requirements are still complied with.

(2) The aerodrome services and facilities are adequate to permit an instrument approach procedure to the runway expected to be used while complying with the applicable aerodrome operating minima.

(b) For the time window considered, the appropriate weather reports or forecasts, or any combination thereof, indicate that conditions will exist at or above the applicable EDTO planning minima as specified in CAT.OP.MPA.182. In addition, for the same period, the forecast crosswind component plus any gusts should be within the operating limits and within the operator's maximum crosswind limitations taking into account the runway condition (dry, wet or contaminated) plus any reduced visibility limits.

Conditional forecast elements need not be considered, except that a PROB 40 or TEMPO condition below the lowest applicable operating minima should be taken into account.

Note: The time window is the period during which a designated EDTO en-route alternate aerodrome should be assessed for EDTO dispatch purposes to have the necessary conditions to allow a safe approach and landing in the event of an en-route EDTO diversion. The applicable time window should consider the earliest to latest expected arrival times for each EDTO en-route alternate aerodrome based on the planned departure time. The time window for a given EDTO en-route alternate aerodrome is typically determined based on a diversion from the first and last EDTO ETPs for this alternate. As specified in AMC3 CAT.OP.MPA.182, the time window should include an additional margin of 1 hour after the latest arrival time.

The earliest to latest estimated arrival times may consider different diversion flight profiles, for example, high-speed versus low-speed cruise, or may be standardised on a specific EDTO diversion flight profile, such as an engine failure or decompression, depending on operational flight planning system implementation. Additional guidance for the determination of the time windows may be found in ICAO Doc 10085.

Rationale

This new AMC, related to the selection of EDTO ERA, is based on content transposed from AMC 20-6 with some additional considerations based on ICAO Doc 10085.

AMC1 SPA.EDTO.120(a) EDTO en-route alternate aerodrome

EDTO STATUS

This EDTO status of the aeroplane should be confirmed before each EDTO flight. It is based on an assessment of:

a) the certified EDTO capability of the aeroplane (for two-engined aeroplanes only);

b) the configuration of the aeroplane versus the applicable configuration requirements of the EDTO CMP document (for two-engined aeroplanes only);

c) the compliance of the aeroplane versus the applicable maintenance requirements of the EDTO CMP document (for two-engined aeroplanes only);

d) the capability of relevant TLS(s); and

e) any inoperative system (MEL).

Rationale

Based on a comment received and accepted asking for a clarification of the actions needed when asked to confirm the EDTO status of the aeroplane as required in SPA.EDTO.120(a), a new AMC is proposed to be added listing the actions expected to be conducted.

GM2 SPA.EDTO.120(b)(1) EDTO en-route alternate

RFFS LEVEL AT EDTO ERA AERODROME

In accordance with AMC1 CAT.OP.MPA.107 and as part of its management system, the operator should assess the level of RFFS protection available at the aerodrome intended to be specified in the operational flight plan to ensure that an acceptable level of protection is available for the intended operation.

However, in the specific case of EDTO ERA aerodrome, the operator is recommended to select aerodromes with a published RFFS category of at least ICAO category 4, available at 30-minute notice.

Rationale

This new GM has been introduced to provide guidance related to the consideration of the RFFS level at EDTO ERA. It relies on the already applicable considerations contained in AMC1 CAT.OP.MPA.107, with some additional recommendations.

GM3 SPA.EDTO.120(b)(2) EDTO en-route alternate

EDTO ERA AERODROME PLANNING MINIMA

(a) In principle the operator's EDTO ERA aerodrome planning minima should be at least as conservative as the planning minima used for other types of operations. In particular, if an operator uses several variations to its basic fuel scheme related to planning minima for different operations, it is expected that the most conservative planning minima are used for EDTO.

(b) The method for determining the aerodrome operating minima for the EDTO ERA aerodrome should be contained in the operations manual as required in CAT.OP.MPA.110.

Rationale

This new GM has been introduced to provide clarifications related to the use, in the context of EDTO, of basic fuel schemes with variations or individual fuel schemes addressing operating minima. Furthermore, it clarifies that in the context of EDTO, the flight planning minima should be part of the overall method for determining the aerodrome operating minima.

Subpart G: Transport of dangerous goods (SPA.DG)

AMC1 SPA.DG.105(a) Approval to transport dangerous goods

TRAINING PROGRAMME

(a) ~~The operator should indicate for the approval of the training programme how the training will be carried out. For formal training courses, the course objectives, the training programme syllabus/curricula and examples of the written examination to be undertaken should be included.~~ To obtain the approval of the training programme, the operator should:

(1) perform a training needs analysis, including identification of the persons concerned and characteristics of the persons to be trained;

(2) detail the results of this analysis; and

(3) describe how the training and the assessment will be carried out, and which evaluation measures and process will be applied.

(b) [...]

(c) Training intended to give general information and guidance may be delivered by any means including handouts, leaflets, circulars, slide presentations, videos, computer-based training, etc., and may take place on-the-job or off-the-job. The person being trained should familiarise themselves with ~~receive an overall awareness of~~ the subject overall. This training should include

an ~~written, oral or computer-based~~ examination covering all areas of the training programme, showing that a required minimum level of knowledge has been acquired.

(d) Training intended to give an in-depth and detailed appreciation of the whole subject or particular aspects of it should be adapted to the person being trained and address all the training needs previously identified by the operator. ~~by formal training courses, which should include a written examination, the successful passing of which will result in the issue of the proof of qualification. The course may be by means of tuition, as a self-study programme, or a mixture of both.~~ The person being trained should gain sufficient knowledge and competence so as to be able to apply the detailed rules of the Technical Instructions.

(e) Training in emergency procedures should include as a minimum:

[...]

(3) for crew members other than flight crew members:

(i) dealing with incidents arising from dangerous goods carried by passengers;

(ii) dealing with issues related to lithium batteries and PEDs; or

(iii) dealing with damaged or leaking packages in flight.

(f) Recurrent ~~T~~training should be provided within 24 months from the previous training as specified in the Technical Instructions. ~~conducted at intervals of no longer than 2 years. If the recurrent training is undertaken within the last 3 calendar months of the validity period, the new validity period should be counted from the original expiry date.~~

Rationale: *See the rationale to Annex I – Definitions.*

The proposed change initially published in NPA 2022-11 has been slightly amended for improvement (introductory sentence in point (a)) following the comment received on the NPA, with no change to the meaning.

Subpart H: Helicopter operations with night vision imaging systems (SPA.NVIS)

AMC1 SPA.NVIS.130(f) Crew requirements for NVIS operations

CHECKING OF NVIS CREW MEMBERS

(a) Validity period of the recurrent checking

(1) The validity period should be counted from the end of the month when the checking was taken.

(2) When the check is completed within the last 3 months of the validity period, the new validity period should be counted from the original expiry date.

(b) The checks required in point SPA.NVIS.130(f) may be combined with those checks required for the underlying activity.

AMC1 SPA.NVIS.140 Information and documentation

OPERATIONS MANUAL

The operations manual should include:

(a) equipment to be carried and its limitations;

(b) the minimum equipment list (MEL) entry covering the equipment specified;

(c) ~~risk analysis, mitigation and management;~~

~~(d)~~ pre- and post-flight procedures and documentation;

(d~~e~~) [...]

(e~~f~~) [...]

(f~~g~~) [...]

(g~~h~~) [...]

(h~~i~~) [...]

(i~~j~~) [...].

Rationale:

The proposed amendments are made following feedback received from standardisation inspections and were first published in NPA 2022-11.

Points SPA.NVIS.140, SPA.HEMS.140 and SPA.HHO.140 mandate operators to include in the OM several mitigating measures established as part of their risk analysis and management process. In NVIS operations only, point (c) of AMC1 SPA.NVIS.140 states that the OM should include 'risk analysis, mitigation and management'. This content is already covered by the implementing rule, so there is no need for repetition at AMC level.

The AMC is proposed to be amended and aligned with the similar AMC1 to points SPA.HEMS.140 and SPA.HHO.140.

GM1 SPA.NVIS.140 Information and documentation

CONCEPT OF OPERATIONS

[...]

4. OPERATIONS

Operations procedures should accommodate the capabilities and limitations of the systems described in Section 3 of this GM as well as the restraints of the operational environment.

All NVG operations should fulfil all applicable requirements in accordance with Regulation (EU) 2018/1139~~(EC) No 216/2008~~.

Subpart I: Helicopter Hoist Operations (SPA.HHO)

AMC1 SPA.HHO.130(f) Crew requirements for HHO

CHECKING OF HHO CREW MEMBERS

Validity period of the recurrent checking

(a) The validity period should be counted from the end of the month when the checking was taken.

(b) When the check is completed within the last 3 months of the validity period, the new validity period should be counted from the original expiry date.

Subpart K: Helicopter offshore operations (SPA.HOFO)

AMC1 SPA.HOFO.110(b)(3) Operating procedures

ADDITIONAL PROCEDURES AND EQUIPMENT FOR OPERATIONS IN A HOSTILE ENVIRONMENT — FLIGHT CREW SURVIVAL SUITS

(a) All flight crew members should wear an approved survival suit if one or more of the following criteria are met:

(1) the weather report or forecasts available to the commander/pilot-in-command indicates/indicate that the water temperature will be below plus 12 °C during the flight;

(2) the estimated rescue time exceeds the calculated survival time;

(3) the flight is planned to be conducted at night and the weather report or forecasts available to the commander/pilot-in-command indicates/indicate that the water temperature will be below plus 15 °C during the flight.

(b) Survival suits should be authorized under ETSO-2C502a or ETSO-2C503a or later revisions of the above ETSO..

(c) The operator should ensure that flight crew survival suits provide appropriate insulation in relation to water temperature as per Table 1. The operator may use the average monthly temperature of the relevant month at a relevant location.

Table 1: Survival suite insulation categories — flight crews

Survival suit insulation category \ Water temperature	Category 1 insulation	Category 2 insulation	Category 3 insulation	Category 4 insulation
>15°C	Optional			
12–15°C	Optional (day) X (night)	Optional (day) X (night)		
10–12°C		X		
7–10°C		X	X	
5–7°C			X	
2–5°C			X	X
< 2°C				X

Note: The insulation category of the survival suit is defined in the ETSO authorization of the suit and any document that is referred to in that authorization..

Rationale: *See SPA.HOFO.110 (b)(3).*

GM1 SPA.HOFO.110(b)(3) Operating procedures

ADDITIONAL PROCEDURES AND EQUIPMENT FOR OPERATIONS IN A HOSTILE ENVIRONMENT — FLIGHT CREW SURVIVAL SUITS

(a) When the operator considers it appropriate, the flight crew may wear an immersion suit system with a lower level of insulation than passengers due to the imperative to maintain flight safety.

(b) A higher level or insulation is required for night operations due to the expectation that the rescue time is likely to be longer at night than by day.

(c) The operator may consider a daily surface sea temperature forecast or a recent water temperature observation at a location that is relevant for the expected flights on a given day.

Rationale: *See SPA.HOFO.110 (b)(3)*

Each insulation level can be used for a given water temperature range, and there is a 3-degree overlap between the temperature range available for two adjacent insulation levels. The water temperature change from the coastline to an offshore location 1 flight hour away could be 4 °C. The variation from sunrise to sunset at a given location could be an additional 1 to 2 °C. During certain months of the year, the daily average water temperature may vary by another 1 °C per week. A proposed GM will clarify that the operator may ignore such temperature variations. If nevertheless such variations must be considered, there would be a risk that the insulation level required on take-off is different from the insulation level required on landing. Ignoring such variations also ensures that in almost all cases the liner on a survival suit given to a passenger or crew need not be changed for the duration of the offshore stay. Crucially, the passenger or crew can use the same suit and the same liner on the inbound flight as on the outbound flight, since leaving the replacement of the liners to untrained passengers or to the crew of the helicopter ahead of the inbound flight would be impractical or even potentially unsafe.

Changing liners within an offshore mission should be restricted to very exceptional cases where logistical support is likely to be available (e.g. availability of a supporting ship or other significant offshore infrastructure), such as when:

- *the duration of the offshore stay is longer than 1 month; and/or*
- *the location of the person changes significantly during the offshore stay.*

The use of average monthly temperatures is supported by the rationale developed in NPA 2016-01 'Helicopter ditching and water impact occupant survivability'[17], which led to amendments to CS-27 and CS-29.

The GM also clarifies the following, for information and for the purpose of the operators' risk assessments:

- *Flight crews require a lower insulation level than passengers so that it is not excessive and remains compatible with the pilot functions.*
- *The level of insulation is required to be greater by night because the rescue deployment time and the overall rescue time are expected to be longer at night.*

AMC2 SPA.HOFO.120 Selection of aerodromes and operating sites

OFFSHORE DESTINATION ALTERNATE AERODROME

[...]

(c) Weather considerations

(1) Meteorological observations

[...]

(2) localised weather events

An offshore destination alternate helideck should be more than 30 NM from the offshore destination helideck to reduce the likelihood of a localised weather event precluding landings at both the destination and the alternate helideck.

(32) Weather minima

[...]

(43) Conditions of fog

[...]

Rationale: *Point (c)(2) is proposed to be added to AMC2 SPA.HOFO.120 to prepare the transposition of new recommendation 2.3.4.3.15 in Annex 6 Part III Section 2, and to reflect the current best practices as regards helicopter offshore operations.*

AMC1 SPA.HOFO.160(c) Equipment requirements

ACCEPTABLE STANDARD FOR OFFSHORE HTAWS

The HTAWS should be granted with an ETSO-2C522 authorisation meeting the Helicopter Offshore Operations (HOFO) equipment class standard or alternatively should meet the standard defined in document ED-285.

Rationale: *A reference to the new ETSO for offshore HTAWS is introduced. For existing helicopters with an initial CofA issued after 31.12.2018, a software update should be sufficient to meet the new standard.*

ETSO-2C522 is an ETSO on advanced HTAWS modes. It currently includes only the HOFO equipment class standard. However, it will include advanced onshore modes in the near future. Therefore, the AMC refers to only the offshore part of this ETSO.

AMC1 SPA.HOFO.160(d) Equipment requirements

SITUATIONAL AWARENESS AT THE OFFSHORE LOCATION

The device should be a forward-looking tail boom camera. The image should be presented in the pilots' field of view.

Rationale: *See the rationale to point SPA.HOFO.160.*

AMC1 SPA.HOFO.165(b) Additional procedures and equipment for operations in a hostile environment

PASSENGER SURVIVAL SUITS

(a) All passengers on board should wear an approved survival suit provided one or more of the following criteria are met:

(1) the weather report or forecasts available to the commander/pilot-in-command indicates/indicate that the water temperature will be below plus 15 °C during the flight;

(2) the estimated rescue time exceeds the calculated survival time;

(3) the flight is planned to be conducted at night and the weather report or forecasts available to the commander/pilot-in-command indicates/indicate that the water temperature will be below plus 25 °C during the flight.

(b) Survival suits should be authorized under ETSO-2C502a or ETSO-2C503a or later revisions of the above ETSOs.

(c) The operator should ensure that survival suits provide appropriate insulation in relation to water temperature as per Table 1. The operator may use the average monthly temperature of the relevant month at a relevant location.

Table 1: Survival suit insulation categories — passengers

Survival suit insulation category \ Water temperature	Category 1 insulation	Category 2 insulation	Category 3 insulation	Category 4 insulation
>25°C	Optional			
15–25°C	Optional (day) X (night)			
12–15°C	X	X		
10–12°C		X		
7–10°C		X	X	
5–7°C			X	
2–5°C			X	X
< 2°C				X

Note: The insulation category of the survival suit is defined in the ETSO authorization of the suit and any document that is referred to in that authorization..

Rationale

Regarding the cost of implementation of the levels of insultation defined in point (c) of AMC1 SPA.HOFO.110(b)(3) and AMC1 SPA.HOFO.165(b), it will be that of the level 2 liner, which adds only 10–15 % to the cost of a survival suit. It should also be noted that not all offshore bases will operate in waters where temperatures are below 2 °C in the winter months. Those that do, are already equipped with liners that provide insulation based on industry best practice.

ETSO-2C502a and ETSO-2C503a will allow the approval of immersion suits with lower insulation levels. It will become necessary to require a level of insulation that is adequate to the water temperature.

Regarding pilots, better survival suits that do not create excessive heat and provide adequate protection in case of water impact or ditching are essential to pilot performance. They are also essential to decision-making, especially if a decision to ditch has to be made.

Regarding all occupants, the proposed measure will potentially save lives because the likelihood that the occupants will have a fully zipped suit will increase, together with the chances of timely rescue after a water impact.

Therefore, the low cost is considered slightly outweighed by the benefits.

The temporary PrEN standard proposed at NPA level was then replaced with the ETSO which refers to it. Insulation categories of survival suits were defined with reference to the PrEN standard at NPA level. The AMC now clarifies that the insulation category of a given suit is defined in its ETSO authorization. Survival suits are expected to be modular and to meet different insulation categories based on the liners installed, as described in the user's manual or equivalent document that will be referred to in the authorization.

AMC1 SPA.HOFO.165(c) Additional procedures and equipment for operations in a hostile environment

EMERGENCY BREATHING SYSTEM (EBS)

(a) The EBS of point SPA.HOFO.165(c) should be an EBS ~~system~~ capable of rapid underwater deployment.

(b) EBSs that meet CAP 1034 specifications are deemed compliant with point (a).

(c) EBSs that are manufactured after [date of publication of the amending regulation+ 2 years]should either be a category A EBS meeting ETSO 2C519 or meet ETSO-2C519a 'EMERGENCY BREATHING SYSTEMS (EBSs)' or later revision of ETSO 2C519.

Rationale: *See point SPA.HOFO.165(c) Emergency breathing systems.*

AMC1 SPA.HOFO.165(h) Additional procedures and equipment for operations in a hostile environment

EMERGENCY EXITS AND ESCAPE HATCHES

In order for all passengers to escape from the helicopter within the ~~an~~ expected underwater survival time of 60 seconds in the event of a capsize, the following provisions should be made:

(a) there should be an easily accessible emergency exit or suitable opening for each passenger;

(b) an opening in the passenger compartment should be considered suitable as an underwater escape facility if the following criteria are met:

(1) the opening means ~~of opening~~ should be rapid and obvious, and should not require any exceptional effort; the exit or opening should meet the opening effort limitations set for emergency exits by FAA AC 29-2C AC 29.809 initial issue of 30 September 1999 or any subsequent issue;

[...]

Rationale:

The current regulations require that any emergency exit, escape hatch or window shall be operable in an emergency.

Aircraft certification ensures that emergency exits can be opened by any passenger by defining that opening them should require no exceptional effort. Certification specifications define 'no exceptional effort' in terms of kilogram force (kgf). They also define how tests should be conducted.

The proposed AMC only clarifies that the same criterion of 'no exceptional effort' and its definition in terms of kgf should also apply to other escape hatches or windows that are expected to be used in case of an emergency escape. The objective that the opening is operable in an emergency remains unchanged, as defined in the implementing rule.

RMT.0120 on ditching occupant survivability issued amendments to CS-27 and CS-29 to ensure that underwater emergency exits do not require exceptional effort to open. RMT.0120 also issued amendments to Part-26 Additional Airworthiness Specifications for Operations and CS-26 to retroactively apply this requirement to emergency exits and openings suitable for underwater escape for all CS-27 Category A and CS-29 rotorcraft that are required, in accordance with point CAT.IDE.H.320(a), to be designed for landing on water or certified for ditching.

This is in alignment with the existing implementing rule and proposed clarification in the AMC.

The operating rules ensure that the same criteria apply when flying offshore over hostile seas and ditching certification is not required.

The proposed AMC is expected to improve the level of compliance, with a great benefit in terms of level playing field.

One helicopter type that is commonly used offshore has pop-out windows that are likely not to meet the criteria in the proposed AMC. This should be seen as a non-compliance with the recently amended regulation.

This proposed change was first published in NPA 2022-11 and it received no comments.

AMC1 SPA.HOFO.165(j) Additional procedures and equipment for operations in a hostile environment

UNDERSIDE PAINTING OR MARKING

The bottom surface of the fuselage should be painted or marked with at least three chevrons. The chevron tips should be on the centre line of the fuselage and should point to the nose of the rotorcraft. Their overall width should not be less than half that of the fuselage. The thickness of the chevrons should be between a quarter and a third of their overall width. The colour of the chevrons should be chosen to provide a good contrast to the sea during day and night (e.g. red, yellow with reflective material) and the fuselage bottom surface.

Alternatively, the whole fuselage bottom surface should be painted to provide a good contrast to the sea, and reflective painting or markings should be used.

Rationale:

This proposed change was first published in NPA 2022-11.

Contrasting colour helps detect the helicopter by day. Reflective material helps detect it by night.

Chevrons (or alternatively the painting of the whole surface) enable rescuers to immediately tell the front from the aft of the helicopter.

A proposed transition period has been added to the regulatory material following the comments received on the related rules.

AMC1 SPA.HOFO.170(a) Crew requirements

FLIGHT CREW TRAINING AND CHECKING

(a) All relevant elements of the flight crew training programme defined in Subpart ORO.FC, including helicopter/FSTD training, ~~Flight crew training programmes~~ should:

[...]

(b) Emergency and safety equipment training should focus on the equipment fitted/carried. Water entry and sea survival training, including operation of all associated safety equipment, should be an element of the recurrent training, as described in AMC1 ORO.FC.230(a)(2)(iii)(F). Emergency and safety equipment checking should be performed as described in AMC1 ORO.FC.230(b)(2).

(c) The training elements referred to ~~above~~ in point (a) should be assessed during~~:~~ operator proficiency checks and, for CAT operations, line checks~~, or, as applicable, emergency and safety equipment checks~~.

(d) Validity of HOFO recurrent checking

(1) Assessments conducted in accordance with point (c) as part of the operator's proficiency checks should have a validity period of 6 calendar months.

(2) Assessments conducted in accordance with point (c) as part of line checks should have a validity period of 12 calendar months.

(3) The validity period should be counted from the end of the month when the checking was taken.

(4) When the training or the check is completed within the last 3 months of the validity period, the new validity period should be counted from the original expiry date.

(~~d~~e) [...]

Rationale: *See Section 2.3.2.*

Subpart M: Electronic Flight Bags (SPA.EFB)

AMC2 SPA.EFB.100(b) Use of electronic flight bags (EFBs) — Operational approval

CHANGES

Modifications to an EFB system may have to be introduced either by the EFB system supplier, the EFB applications developer, or by the operator itself.

Those modifications that:

(a) do not result in a hardware change that would require a re-evaluation of the HMI and human factors aspects in accordance with AMC1 SPA.EFB.100(b)(2);

(b) do not bring any change to the calculation algorithms of a type B EFB application;

(c) do not bring any change to the HMI of a type B EFB application that requires a change to the flight crew training programme or operational procedures;

(d) introduce a new type A EFB application or modify an existing one (provided its software classification remains type A);

(e) do not introduce any additional functionality to an existing type B EFB application; or

(f) update an existing database necessary to use an existing type B EFB application,

may be introduced by the operator without the need to be approved by its competent authority~~.~~, using its approved change management procedure in accordance with point ARO.GEN.310(c).

These changes should, nevertheless, be controlled and properly tested prior to use during flights.

The following types of modifications ~~in the following non-exhaustive list~~ are considered to meet these criteria:

(a) operating system updates;

(b) chart or airport database updates;

(c) updates to introduce fixes (i.e. patches); and

(d) installation and modification of a type A EFB application.

~~For all other types of modification, the operator should apply the change management procedure approved by the competent authority in accordance with ARO.GEN.310(c).~~

For all other types of modifications, a prior approval should be obtained from the competent authority before implementing them.

This includes the extension of the use of an EFB system, for which the operator already holds an approval, to another aircraft type of the operator's fleet~~.~~ and ~~In~~ the ~~specific case of a~~ complete change of the hardware hosting the EFB application, for which the operator should demonstrate to its competent authority that the new hardware is suitable for the intended use of the EFB application as per AMC1 SPA.EFB.100(b).

Rationale: *This proposed change, as well as the one to AMC3 were first published in NPA 2022-11.*

AMC2 SPA.EFB.100(b) is proposed to be amended to clarify a possible confusion within the process for changes to EFB systems, and in particular for changes that require or not a prior approval. the proposed text has been further improved following the comment received on the NPA.

AMC3 SPA.EFB.100(b) Use of electronic flight bags (EFBs)

OPERATIONAL EVALUATION TEST

(a) The operator should perform an operational evaluation test which should enable verification that the relevant requirements of Subpart SPA.EFB have been satisfied before a final decision is made on the operational use of the EFB.

An operational evaluation test should be performed by operators seeking an operational approval for the use of a type B EFB application or applying for the use of an additional function of a type B EFB application, not in the scope of the approval already granted and classified as type B. This does not apply to changes to a type B EFB application whose use has already been approved by the operator's competent authority, with the exception of the following cases, for which an operational evaluation test should nevertheless be performed, but with a reduced scope:

(1) Extension of the use of an EFB system to a new aircraft type. In this case, the operational evaluation test should focus only on the integration of the hardware in the related aircraft, and on the effect of the EFB systems on the aircraft systems.

(2) Change of the hardware that hosts the EFB application. In this case, the operational evaluation test should focus on the suitability of the new hardware, on its integration in the related aircraft, and on its effect on the aircraft systems.

The operator should notify its competent authority of its intention to perform an operational evaluation test by providing a plan, which should contain at least the following information:

(1) the starting date of the operational evaluation test;

(2) the duration of the operational evaluation test;

(3) the aircraft involved;

(4) the EFB hardware and type(s) of software including version details;

(5) the EFB policy and procedure manual;

(6) their EFB risk assessment; and

(7) for type B EFB applications that replace the paper documentation without initial retention of a paper backup, and type B EFB applications that do not replace the paper documentation:

(i) a simulator line-oriented flight training (LOFT) session programme to verify the use of the EFB under operational conditions including normal, abnormal, and emergency conditions; and

(ii) a proposed schedule to allow the competent authority to observe the EFB application use in actual flight operations.

The operator may start the operational evaluation test once the competent authority is satisfied with the notified plan.

The operational evaluation test should consist of an in-service proving period with a standard duration of 6 months. A reduced duration may be considered after taking into account the following criteria:

[...]

Rationale: *The proposed amendment to AMC3 SPA.EFB.100(b) introduces criteria for an operational evaluation test conducted by operators already approved for the use of a specific EFB application when changing the hardware or extending the use to another aircraft type. In addition, to ensure consistency with new AMC5 ARO.OPS.200, it is proposed to add a statement specifying that the operator may only start the operational evaluation test once it has been formally notified by its competent authority to do so. The initially proposed change was further improved following the comment received on NPA 2022-11.*

AMC6 SPA.EFB.100(b)(3) Use of electronic flight bags (EFBs) — Operational approval

AIRPORT MOVING MAP DISPLAY (AMMD) APPLICATION WITH OWN-SHIP POSITION

(a) [...]

(b) Minimum requirements

The AMMD software ~~that~~ should ~~complies~~ comply with the criteria of European Technical Standard Order ETSO-C165a ~~is considered to be acceptable~~.

[...]

Rationale: *AMC6 SPA.EFB.100(b)(3) is proposed to be amended to clarify that, although an ETSO approval in accordance with ETSO-C165a is not necessary, the criteria of this ETSO should nevertheless be met.*

1.1.7. Annex VI (Part-NCC)

Subpart A: General requirements (NCC.GEN)

GM1 NCC.GEN.105(e)(2) Crew responsibilities

GENERAL

In accordance with 7.~~g~~6 of Annex ~~I~~V to Regulation (EU) 2018/1139 ~~(EC) No 216/2008~~ (E~~e~~ssential R~~r~~equirements for air operations), a crew member must not perform duties on board an aircraft when under the influence of psychoactive substances or alcohol or when unfit due to injury, fatigue, medication, sickness or other similar causes. This should be understood as including the following:

[…]

Rationale

Editorial amendment. No impacts expected.

GM1 NCC.GEN.106 Pilot-in-command responsibilities and authority

GENERAL

In accordance with 1.~~c.~~3 of Annex ~~I~~V to Regulation (EU) 2018/1139 ~~(EC) No 216/2008~~ (Essential Requirements for air operations), the pilot-in-command is responsible for the operation and safety of the aircraft and for the safety of all crew members, passengers and cargo on board. […]

[…]

Rationale

Editorial amendment. No impacts expected.

AMC1 NCC.GEN.106(a)(3) Responsibilities of the commander

OPERATIONAL PROCEDURES — AIRCREW BRIEFINGS

(a) Flight crew briefings should be conducted for, but not limited to, the following phases of operation:

(1) pre-flight,

(2) departure, and

(3) arrival.

(b) Cabin crew briefing should be conducted for at least the following phases of operation:

(1) pre-flight, and

(2) first departure of the day.

Rationale:

See the rationale to AMC1 CAT.GEN.105(a)(8).

AMC1 NCC.GEN.140(a)(17) Documents, manuals and information to be carried

APPROPRIATE METEOROLOGICAL INFORMATION

The appropriate meteorological information should be relevant to the planned operation, as specified in point (a) of point MET.TR.215 of Annex V (Part-MET) to Regulation (EU) 2017/373, and comprise ~~the following:~~

~~(a)~~ the meteorological information that is specified in point (e) of point MET.TR.215 of Part-MET.~~;~~ ~~and~~ When this information is not available, complete or sufficient it should be complemented by

~~(b)~~ supplemental meteorological information, including:

(~~1~~a) information other than that specified in point ~~(a)~~ (e) of point MET.TR.215, which should be based on data from certified meteorological service providers; or

(~~2~~b) information from other reliable sources of meteorological information that should be evaluated by the operator.

Rationale

Please see the rationale behind the change to AMC1 CAT.GEN.MPA.180(a)(18).

GM1 NCC.GEN.140(a)(17) Documents, manuals~~,~~ and information to be carried

DATA FROM CERTIFIED METEOROLOGICAL SERVICE PROVIDERS

In the context of point ~~(b)(1)~~ (a) of AMC1 NCC.GEN.140(a)(17), […]

GM2 NCC.GEN.140(a)(17) Documents, manuals~~,~~ and information to be carried

INFORMATION FROM OTHER RELIABLE SOURCES OF METEOROLOGICAL INFORMATION

In the context of point (b)~~(2)~~ of AMC1 NCC.GEN.140(a)(17), […]

GM3 NCC.GEN.140(a)(17) Documents, manuals~~,~~ and information to be carried

SUPPLEMENTAL METEOROLOGICAL INFORMATION AND SUPPLEMENTARY INFORMATION

Supplemental meteorological information: when operating under specific provisions and without the meteorological information from a certified service provider, the operator should use 'supplemental meteorological information', such as digital imagery. Related information can be found in point (e)(4) of AMC1 CAT.OP.MPA.192.

Supplementary information: ~~it is included in point (a) of AMC1 CAT.GEN.MPA.180(a)(18) and~~ refers to meteorological information to be reported in specific cases such as freezing precipitation, blowing snow, thunderstorm, etc.

Rationale

It is proposed to update the references to the relevant points in GM1, GM2 and GM3 to NCC.GEN.140(a)(17), following the proposed changes to AMC1 NCC.GEN.140(a)(17) .

The proposed amendments are editorial and are expected to have no impact.

AMC1 NCC.GEN.145(b) Handling of flight recorder recordings: preservation, production, protection and use

INSPECTIONS AND CHECKS OF RECORDINGS

[...]

~~(c) The operator should perform, at time intervals not exceeding 2 years, an inspection of the recording of flight recorders other than an FDR, which are installed on an aircraft in order to ensure compliance with CAT.IDE.A.191 or CAT.IDE.H.191;~~

(c~~d~~) When installed, the aural or visual means [...]

(d~~e~~) The operator should check every 5 years, [...]

Rationale: *Point (c) is proposed to be deleted as it is an editorial error. It had been wrongly copied from the equivalent AMC to Part-CAT at the time of publication of ED Decision 2021/005/R; it does not apply to NCC operators.*

AMC1 NCC.GEN.150(e) Transport of dangerous goods

DANGEROUS GOODS ACCIDENT AND INCIDENT REPORTING

~~(a) Any type of dangerous goods accident or incident, or the finding of:~~

~~(1) undeclared or misdeclared dangerous goods in cargo;~~

~~(2) forbidden dangerous goods in mail; or~~

~~(3) forbidden dangerous goods in passenger or crew baggage, or on the person of a passenger or a crew member~~

~~should be reported. For this purpose, the Technical Instructions consider that reporting of undeclared and misdeclared dangerous goods found in cargo also applies to items of operators' stores that are classified as dangerous goods.~~

(~~b~~a) The first report should be dispatched within 72 hours of the event. It may be sent by any means, including email~~e-mail~~, telephone or fax. This report should include the details that are known at that time, under the headings identified in point (c). If necessary, a subsequent report should be made as soon as possible giving all the details that were not known at the time the first report was sent. If a report has been made verbally, written confirmation should be sent as soon as possible.

(b~~c~~) [...]

(c~~d~~) [...]

(d~~e~~) [...]

(e~~f~~) [...]

GM1 NCC.GEN.150(e) Transport of dangerous goods

REPORTING OF DANGEROUS GOODS ACCIDENTS OR INCIDENTS

According to the Technical Instructions, the reporting of undeclared and misdeclared dangerous goods discovered in cargo also applies to items of the operators' stores that are classified as dangerous goods.

Subpart B: Operational procedures (NCC.OP)

AMC2 NCC.OP.110 Aerodrome operating minima — general

GENERAL

~~(a) The aerodrome operating minima should not be lower than the values given in NCC.OP.111 or AMC3 NCC.OP.110(c).~~

(a)~~(b)~~ Whenever practical approaches should be flown as stabilised approaches (SAps). Different procedures may be used for a particular approach to a particular runway.

(b)~~(c)~~ Whenever practical, non-precision approaches should be flown using the continuous descent final approach (CDFA) technique. Different procedures may be used for a particular approach to a particular runway.

(c)~~(d)~~ For approaches not flown using the CDFA technique: ~~when calculating the minima in accordance with NCC.OP.111,~~ the applicable minimum runway visual range (RVR) should be increased by 200 m for Category A and B aeroplanes and by 400 m for Category C and D aeroplanes, provided the resulting RVR/converted meteorological visibility (CMV) value does not exceed 5 000 m. SAp or CDFA should be used as soon as facilities are improved to allow these techniques.

Rationale

The amendments are editorial amendments not properly addressed in the ED Decision 2022/012/R. The NCC.OP.111 was deleted in Reg. (EU) 2021/2237 and AMC3 NCC.OP.110(c) was deleted and the content was move to AMC5 NCC.OP.110, finally the requirement to establish and aerodrome erringring minima is now in point (a) of the implementing rule (NCC.OP.110).

The impact of this amendmet is none, as it is an editorial changed.

AMC3 NCC.OP.110 Aerodrome operating minima — general

TAKE-OFF OPERATIONS

[...]

Table 1

Take-off — aeroplanes (without LVTO approval)

RVR or VIS

~~Facilities~~	~~RVR or VIS (m)*~~
~~Day only: Nil**~~	~~500~~
~~Day: at least runway edge lights or runway centre line markings~~ ~~Night: at least runway edge lights or runway centre line lights and runway end lights~~	~~400~~

~~*: The reported RVR or VIS value representative of the initial part of the take-off run can be replaced by pilot assessment.~~

~~**: The pilot is able to continuously identify the take-off surface and maintain directional control.~~

Minimum RVR* or VIS*	Facilities
500 m (day)	Nil**
400 m (day)	Centre line markings or Runway edge lights or Runway centre line lights
400 m (night)	Runway edge lights and runway end lights; or Runway edge lights and runway centre line lights, of which at least one needs to be colour-coded

* The RVR or VIS value representative of the initial part of the take-off run can be replaced by pilot assessment.

** The pilot is able to continuously identify the take-off surface and maintain directional control.

[…]

Rationale

Table 1 of AMC3 NCC.OP.110 and Table 1 of AMC3 SPO.OP.110 are currently not consistent with Table 1 of AMC1 CAT.OP.MPA.110. This inconsistency was due to a mistake made during the final stage of development of the Decision that adopted those AMC, when changes introduced in Table 1 of AMC1 CAT.OP.MPA.110 were not reproduced in the other AMC. These proposed amendments aim to correct this situation and ensure consistency.

The proposed changes have no safety impacts. Regarding economic impact:

— *the proposed changes will not impact chart providers (Lido, Jeppesen, Navblue, etc.) since their commercial rule manual only considers CAT.OP.MPA.110; therefore, the changes to the AMC to Part-NCC and Part-SPO will not affect their products;*

— *Part-NCC and Part-SPO operators should not be negatively affected either; in fact, there may even be a positive impact of the consistency with AMC1 CAT.OP.MPA.110, since many of these operators are already using the commercial rule manual from the chart providers mentioned above.*

Subpart C: Aircraft performance and operating limitations (NCC.POL)

AMC1 NCC.POL.110(c) Mass and balance data and documentation

SIGNATURE OR EQUIVALENT

Where a signature by hand is impracticable or it is desirable to arrange the equivalent verification by electronic means, the following conditions should be applied in order to make an electronic signature the equivalent of a conventional hand-written signature:

~~(a) electronic 'signing' by entering a personal identification number (PIN) code with appropriate security, etc.;~~

~~(b) entering the PIN code generates a print-out of the individual's name and professional capacity on the relevant document(s) in such a way that it is evident, to anyone having a need for that information, who has signed the document;~~

~~(c) the computer system logs information to indicate when and where each PIN code has been entered;~~

(a) When an electronic means is used as an equivalent to a handwritten signature for the mass and balance documentation, the operator should ensure that such electronic means:

(1) uses a unique identification code or access protocol that enables easy identification of the person responsible for the supervision of the aircraft loading and distribution and of the commander. That unique identification code or access protocol may be used as an electronic signature;

(2) indicates, for each flight number and aircraft registration number, the assigned commander and the person responsible for the supervision of the aircraft loading and distribution;

(3) allows only authorised personnel to complete or modify the mass and balance documentation provided to the commander;

(3) logs information about the date and device identification for each log-in for mass and balance documentation purposes;

(4) complies with the security requirements applicable to the electronic communication of data and unique identification of individuals.

(b~~d~~) T~~t~~he use of the electronic signature~~PIN code~~ is, from a legal ~~and responsibility~~ point of view, considered ~~to be~~ fully equivalent to a handwritten signature ~~by hand;~~.

(c~~e~~) T~~t~~he requirements for record-keeping remain unchanged.~~; and.~~

(d~~f~~) A~~a~~ll personnel concerned are made aware of the conditions associated with electronic signatures and this is documented.

Rationale: *See the rationale for the amendments proposed to AMC1 CAT.POL.MAB.105(c).*

Subpart D: Instruments, data and equipment (NCC.IDE)

GM1 NCC.IDE.A.100~~(d)~~(e) Instruments and equipment — general

POSITIONING OF INSTRUMENTS

[...]

Rationale: *Correction of the reference to the implementing rule. The content of this GM remains unchanged.*

AMC1 NCC.IDE.A.190 First-aid kit

CONTENT OF THE FIRST-AID KIT~~S~~ (FAK)

[...]

(b) The following should be included in the FAK~~s~~:

[...]

(4) Additional equipment. The following additional equipment should be carried on board as part of a FAK. ~~each aircraft equipped with a first-aid kit, though not necessarily in the first-aid kit.~~ The additional equipment need not be located together with the other components of a FAK. A single set of additional equipment should be sufficient to complement all required first-aid kits. When operating multi-deck aircraft, operators should assess whether~~if~~ the additional equipment is needed on each deck. The additional equipment should include, as a minimum:

[...]

(ii) bag-valve masks (masks in three sizes: one for adults, one for children, and one for infants - if the type of operation does not include transport of children or infants, those sizes of bag-valve masks may not be included);

(iii) suitable airway management devices (e.g. supraglottic airway devices, oropharyngeal or nasopharyngeal airways) on all aircraft required to carry at least one cabin crew;

[...]

Rationale:

See the rationales of CAT.IDE.A.220 and AMC1 CAT.IDE.A.220 for more information related to first-aid kits.

In response to comment 2 arguing that there may be no cabin crew on board and that the cabin size is not adequate for correct use of bag-valve mask (similarly to the comment put on the related AMC for helicopters), EASA response is that the bag-valve mask is intended to replace the need for mouth-to-mouth resuscitation, being easy to use as well as more hygienic and safe for both sides. It also has the advantage that it may be performed in tighter spaces compared to the regular mouth-to-mouth. For this reason it should remain included also for aircraft with MOPSC <19.

AMC1 NCC.IDE.A.245 & NCC.IDE.A.250 Radio communication equipment & Navigation and surveillance equipment

PERFORMANCE-BASED COMMUNICATION AND SURVEILLANCE (PBCS) OPERATIONS

[...]

Rationale

The title has been amended to include 'surveillance' for consistency with the corresponding point NCC.IDE.A.245 that addresses the same equipment. The content remains unchanged

.GM1 NCC.IDE.A.245 & NCC.IDE.A.250 Radio communication equipment & Navigation and surveillance equipment

PERFORMANCE-BASED COMMUNICATION (PBC) OPERATIONS

[...]

PBCS OPERATIONS — QUALIFICATION AND TRAINING

[...]

(b) The elements covered during the training should be as a minimum:

[...]

(2) Flight d~~D~~ispatchers~~/flight operations officers~~

[...]

Rationale

'Surveillance' is added for consistency with the corresponding point NCC.IDE.A.245 that addresses the same equipment. The content remains unchanged.

Furthermore, the change to point (b) is made to align the proposed change to the definition of flight operations officer/flight dispatcher, the new proposed requirements in Subpart ORO.OCP and related AMC and GM on operations control personnel, where the term 'flight operations officer' is deleted. Work to determine the meaning assigned to this term in the future is undergoing at ICAO level, in the PTL Panel, proposing amendments to the SARPs on flight operations officers/flight dispatchers in Annex 1 and Annex 6) and flight dispatchers as a specific category of operations control personnel.

Editorial change in the heading after receiving a comment from the MAB. The original proposal in the NPA to change the heading of NCC.IDE.A.245 was moved to NCC.IDE.A.250 as in its point (e) there is the reference to surveillance. As a consequence the related AMC and GM are changed.

GM1 NCC.IDE.A.250 Navigation and surveillance equipment

[...]

Rationale:

Editorial change in the heading after receiving a comment from the MAB. The original proposal in the NPA to change the heading of NCC.IDE.A.245 was moved to NCC.IDE.A.250 as in its point (e) there is the reference to surveillance. As a consequence the related AMC and GM are changed.

GM2 NCC.IDE.A.250 Navigation and surveillance equipment

[...]

Rationale: *See rationale for GM1 NCC.IDE.A.250*

GM1 NCC.IDE.H.100(e~~d~~) Instruments and equipment — general

POSITIONING OF INSTRUMENTS

[...]

Rationale

Correction of the reference to the implementing rule. The content of this GM remains unchanged.

AMC1 NCC.IDE.H.190 First-aid kit

CONTENT OF THE FIRST-AID KIT~~S~~ (FAK)

[...]

(b) The following should be included in the FAK~~first-aid kit~~:

[...]

(4) Additional equipment. The following additional equipment should be carried on board ~~each aircraft equipped with a first-aid kit, though not necessarily in the first-aid kit~~. The additional equipment need not be located together with the other components of the FAK. The additional equipment should include, as a minimum:

[...]

(ii) bag-valve masks (masks in three sizes: one for adults, one for children, and one for infants - if the type of operation does not include transport of children or infants, the respective size may not be included);

(iii) suitable airway management devices (e.g. supraglottic airway devices, oropharyngeal or nasopharyngeal airways) on all helicopters required to carry at least one cabin crew;

[...]

(5) For helicopters with a MOPSC of 6 or less, the operator may determine, based on a risk assessment that should consider at least the average duration of a flight and the availability of medical services in the area of operation, that the bag-valve masks referred to in point (4)(ii) need not be carried on board. When the assessment concludes that bag-valve masks are not needed, the operator should include at least one disposable resuscitation aid in the FAK.

Rationale

See the rationales of CAT.IDE.A.220, CAT.IDE.H.220 and AMC1 CAT.IDE.H.220.

As a result of the comments received on NPA 2022-11, the alleviation in point (5) needs to be added to align with AMC1 CAT.IDE.H.220 (b)(6).

GM1 NCC.IDE.H.190 First-aid kit

LOCATION AND USE

The location of the first-aid kit is normally indicated using internationally recognisable signs.

The first-aid kit 'should be readily accessible for use' in helicopter operations should be understood as the first-aid kit being either accessible in flight or immediately after landing.

It is recommended to locate the first-aid kit in the passenger cabin.

In some operations, ~~it is not practicable to use the first-aid kit during flight. Therefore,~~ the first-aid kit may~~can~~ be carried in the cargo compartment, where it will be easily accessible for use as soon as the aircraft has landed, when one of the following conditions is~~are~~ met:

(a) precautionary landing sites are available;

(b) it is impractical for persons to move within the cabin ~~the lack of cabin space is such that movement~~ or the use of the first-aid kit is impaired; ~~and~~ or

(c) the ~~installation~~ carriage of the first-aid kit in the cabin is not practicable.

Rationale: *See the rationales of CAT.IDE.A.220, CAT.IDE.H.220, and GM1 CAT.IDE.H.220.*

GM4 NCC.IDE.H.190 First-aid kit

LITHIUM BATTERIES

The ~~R~~risks related to the presence of lithium batteries should be assessed. All equipment powered by lithium batteries and carried on a helicopter ~~an aeroplane~~ should comply with ~~the provisions of~~ AMC1 NCC.GEN.130(f), including applicable technical standards such as (E)TSO-C142 'NON-RECHARGEABLE LITHIUM CELLS AND BATTERIES'.

Rationale:

This amendment was first published in NPA-2022-11 and received no comments.

AMC1 NCC.IDE.H.226 Crew survival suits

RISK ASSESSMENT FOR THE INSULATION LEVEL OF CREW SURVIVAL SUITS

The risk assessment should ensure that the level of insulation provided is sufficient for the prevailing conditions and not excessive. Table 1 of AMC1 SPA.HOFO.110(b)(3) should be considered.

Rationale:

See the rationale to SPA.HOFO.110 on the survival suits. The proposed changes were first published in NPA 2022-11 and did not receive any comments.

1.1.8. Annex VII (Part-NCO)

Subpart A: General requirements (NCO.GEN)

AMC1 NCO.GEN.105(a)(3) Pilot-in-command responsibilities and authority

CHECKLISTS

(a) The pilot-in-command should have and use the latest checklists provided by the manufacturer~~.~~ or the operator, covering all phases of operation of the aircraft under normal, abnormal and emergency conditions and situations.

[…]

Rationale

CS 23.2620 requires manufacturers to include operating procedures in the AFM. They do so in Section 3 (abnormal/emergency procedures) and Section 4 (normal procedures) of the AFM. Section 3, as it is now in all AFMs, is appropriate both for the safe operation of the aircraft and for instructing pilots to deal with such conditions. This is so because abnormal/emergency procedures are accomplished in a 'read-and-do' process – except memory items – and by sole reference to this section, meaning they do not require any extra supporting documents to be used. However, normal procedures are performed in a 'do–verify' way. This means that normal procedures are incomplete when lacking a separate document – 'normal checklists' – to support them during the 'verify' phase of the process. This supporting document is not published by manufacturers, but it is needed by operators to guarantee the safe operation of the flight and, in the case of approved training organisations, to avoid negative training. This is consistent with the final study report of research project EASA/2012/1, Principles and guidelines relative to the design of checklists and working methods in the cockpit ([12]).

In the case of operations covered by Part-CAT and Part-NCC, ORO.GEN.110 requires operators to establish these checklists, considering not only the aircraft documentation but also observing human factors principles.

In the case of operations covered by Part-SPO, AMC1 SPO.GEN.130(c) refers the pilot to checklists provided by the type certificate holder or the operator.

It is therefore proposed to amend AMC1 NCO.GEN.105(a)(3) in a consistent way, to refer also to checklists provided by the operator. This amendment will be particularly relevant in the case of approved training organisations, where the current text of the AMC has led some authorities to reject alternatives to Section 3 of the AFM, leading to a very low checklist adherence by both students and instructors.

See also the rationale for the proposed changes to NCO.GEN.105.

The proposed changes are expected to have a positive impact on safety and no negative economic impact.

([12]) https://www.easa.europa.eu/en/downloads/1220/en

GM1 NCO.GEN.105(a)(3) Pilot-in-command responsibilities and authority

NORMAL CHECKLISTS

(a) A normal checklist is a written list to confirm that safety-critical actions included in the associated normal procedure have been performed.

(b) When normal checklists are not provided by the manufacturer, the operator may be required to develop normal checklists. The design and the usage of checklists need to observe human factors principles and take into account the latest relevant documentation and information from the manufacturer.

Rationale

This new GM was first published in NPA 2024-02. It is proposed to be added to complement the implementation of the related AMC1 NCO.GEN.105(a)(3). The new text is based on Airbus' 2004 'Flight Operations Briefing Notes on Normal Checklists' and on the final study report of research project EASA/2012/1, Principles and guidelines relative to the design of checklists and working methods in the cockpit.

Moreover, elements of point (h) of ORO.GEN.110 were also considered.

Approved training organisations in particular, as NCO operators, should aim not only to achieve safe operations but also to guarantee the avoidance of negative training. It is paramount that they teach the correct way of operating any aircraft, but especially for those students who will later progress into operators that expect checklist discipline and adherence to already be a habit.

Please refer also to the rationale for the proposed changes to AMC1 NCO.GEN.105(a)(3). The changes proposed are expected to have a positive impact on safety and no negative economic impact.

AMC1 NCO.GEN.155 Minimum equipment list

CONTENT ~~AND APPROVAL~~ OF THE MINIMUM EQUIPMENT LIST (MEL)

[...]

Rationale

This is an editorial amendment of the subtitle, as there is no requirement for NCO that the MEL must be approved. The content of the AMC remains unchanged. One comment suggesting that the AMC or GM should clarify that the MEL does not require an approval has been rejected because Part-ORO (ORO.MLR.105 included) does not apply to NCO operators.

GM4 NCO.GEN.155 Minimum equipment list

OPERATIONAL AND MAINTENANCE PROCEDURES

(a) Operational and maintenance procedures are an integral part of the compensating conditions needed to maintain an acceptable level of safety~~, enabling the competent authority to approve the MEL~~.

[...]

Rationale:

This is an editorial change: the unintentional error regarding the approval of the MEL for NCO operators is proposed to be corrected.

Subpart B: Operational procedures (NCO.OP)

AMC1 NCO.OP.142(b)(5) Destination alternate aerodromes — instrument approach operations

APPROPRIATE CONTINGENCY ACTION

[…]

~~— descent over water or very flat terrain to levels with reduced (but reasonable) obstacle clearance; and~~

[...]

Rationale

This deletion is proposed to prevent a possible misinterpretation between AMC1 NCO.OP.142(b)(5) and point (c)(5) of SERA.5005 and point (b) of SERA.5015 of Commission Implementing Regulation (EU) No 923/2012. The text proposed to be deleted may be interpreted as a clearance to descend below minimum levels (altitude), which would be against SERA.5005 and SERA.5015, and is not the intention of the AMC.

Subpart D: Instruments, data and equipment (NCO.IDE)

AMC1 NCO.IDE.A.145 First-aid kit

CONTENT OF FIRST-AID KITS

(a) First-aid kits should be equipped with appropriate and sufficient ~~medications and~~ instrumentation. However, these kits should be supplemented by the operator according to the characteristics of the operation (scope of operation, flight duration, number and demographics of passengers, etc.).

[…]

Rationale

Comments received on NPA 2022-11 highlighted that the basic medication is not detailed. This led to a review of the draft text proposed by the EASA MED&OPS teams that concluded that considering the usual type of operations conducted under NCO medication should not be required as default. Nevertheless, operators should supplement these kits according to the characteristics of their operations – this includes also medication they consider needed.

AMC1 NCO.IDE.H.145 First-aid kit

CONTENT OF FIRST-AID KITS

(a) First-aid kits should be equipped with appropriate and sufficient ~~medications and~~ instrumentation. However, these kits should be supplemented by the operator according to the characteristics of the operation (scope of operation, flight duration, number and demographics of passengers, etc.).

Rationale

Comments received on NPA 2022-11 highlighted that the basic medication is not detailed. This led to a review of the draft text proposed by the EASA MED&OPS teams that concluded that considering the usual type of operations conducted under NCO medication should not be required as default. Nevertheless, operators should supplement these kits according to the characteristics of their operations – this includes also medication they consider needed.

GM1 NCO.IDE.H.145 First-aid kit

LOCATION AND USE

The location of the first-aid kit is normally indicated using internationally recognisable signs.

The first-aid kit 'should be readily accessible for use' in helicopter operations should be understood as the first-aid kit being either accessible in flight or immediately after landing.

It is recommended to locate the first-aid kit in the passenger cabin.

In some operations, ~~it is not practicable to use the first-aid kit during flight. Therefore,~~ the first-aid kit may~~can~~ be carried in the cargo compartment, where it will be easily accessible for use as soon as the aircraft has landed, when one of the following conditions is~~are~~ met:

(a) precautionary landing sites are available;

(b) it is impractical for persons to move within the cabin ~~the lack of cabin space is such that movement~~ or the use of the first-aid kit is impaired; ~~and~~ or

(c) the ~~installation~~carriage of the first-aid kit in the cabin is not practicable.

Rationale: *See the rationales of CAT.IDE.A.220, CAT.IDE.H.220, and NCO.IDE.H.145.*

Subpart E: Specific requirements (NCO.SPEC)

GM1 NCO.SPEC.100 Scope

LIST OF SPECIALISED OPERATIONS

(a) Specialised operations include the following activities:

(1) helicopter external load~~s~~ operations, including external sling load operations;

(2) ~~helicopter survey operations;~~ maintenance check flights;

(3) human external cargo operations;

(4) parachute operations, ~~and~~ skydiving;

(5) agricultural flights, including chemical spreading, crop heating;

(6) aerial photography, aerial shooting (news media, television, films), radio relay flights;

(7) glider towing;

(8) aerial advertising flights, including sky writing, sky typing, sky drawing, banning or target towing, etc.;

(9) calibration flights, including procedure validation for, e.g., aerodrome equipment testing;

(10) construction work flights, including stringing power line operations, clearing saw operations;

(11) oil spill work;

(12) avalanche mining operations; other terms used (depending on the technology implied) are avalanche release operations, avalanche dispersing operations;

(13) survey operations, including aerial mapping operations, pollution control activity;

~~(14) news media flights, television and movie flights;~~

(14~~15~~) special events flights, including ~~such as~~ flying displays, competition flights;

(15~~16~~) ~~aerobatic flights~~dropping or spraying operations;

(16~~17~~) flights related to animals, including for herding, ~~animal~~ rescue, marking, hunting, ~~flights~~ and veterinary purposes~~dropping flights~~;

(17~~18~~) ~~maritime~~ funeral operations;

(18~~19~~) scientific research flights (other than those under Annex ~~I~~I to Regulation (EU) 2018/1139~~(EC) No 216/2008~~);

(19~~20~~) cloud seeding; ~~and~~

(20~~21~~) aerobatic flights;

(21) sensational flights: flights involving extreme aerobatic manoeuvres performed~~carried out~~ for the purpose of allowing the persons on board to experience zero gravity, high G forces~~G forces~~ or similar sensations~~.~~;

(22) reconnaissance flights, with the purpose of becoming familiar with an area of operation, or an operation performed ahead of the specialised operation flight proper.

Rationale:

The changes to this GM were first published in NPA 2022-11. All comments submitted on that NPA have been accepted and are reflected in the current version.

This list is non-exhaustive and further types of flights may be added.

The proposed amendments render the list more general; more examples are added, flights with similar purposes are grouped more logically, and new items are added following feedback from stakeholders.

In point (1), 'sling' is proposed to be added for consistency with the name of that operation (i.e. 'HESLO').

Point (2) is already included in point (13). A new entry is proposed here, for consistency with the scope expressed in the implementing rule and in Article 2(7).

Aerobatic flights are proposed to be deleted from point (16) and added in point (21). A new entry is proposed here, to keep the current numbering as much as possible.

Point (18) is proposed to be amended to include any funeral flights, not just maritime.

The list is consistent with that of similar GM1 SPO.GEN.005 Scope.

A new point '(23) manufacturer flights' will be added here and in GM1 SPO.GEN.005 through another NPA in the context of RMT.0392 on proposed draft requirements for flights conducted by design and production organisations.

1.1.9. Annex VIII (Part-SPO)

Subpart A: General requirements (SPO.GEN)

GM1 SPO.GEN.005 Scope

LIST OF SPECIALISED OPERATIONS

(a) Specialised operations include the following activities:

(1) helicopter external load~~s~~ operations, including external sling load operations;

(2) ~~helicopter survey operations;~~ maintenance check flights;

(3) human external cargo operations;

(4) parachute operations, ~~and~~ skydiving;

(5) agricultural flights, including chemical spreading, crop heating;

(6) aerial photography, aerial shooting (news media, television, films), radio relay flights;

(7) glider towing;

(8) aerial advertising flights, including sky writing, sky typing, sky drawing, banning or target towing, etc.;

(9) calibration flights, including procedure validation for, e.g., aerodrome equipment testing;

(10) construction work flights, including stringing power line operations, clearing saw operations;

(11) oil spill work;

(12) avalanche mining operations; other terms used (depending on the technology implied) are avalanche release operations, avalanche dispersing operations;

(13) survey operations, including aerial mapping operations, pollution control activity;

~~(14) news media flights, television and movie flights;~~

(14~~15~~) special events flights, including ~~such as~~ flying displays, competition flights;

(15~~16~~) ~~aerobatic flights~~dropping or spraying operations;

(16~~17~~) flights related to animals, including for herding, ~~animal~~ rescue, marking, hunting, ~~flights~~ and veterinary purposes~~dropping flights~~;

(17~~18~~) ~~maritime~~ funeral operations;

(18~~19~~) scientific research flights (other than those under Annex ~~I~~II to Regulation (EU) 2018/1139~~(EC) No 216/2008~~);

(19~~20~~) cloud seeding; ~~and~~

(20~~21~~) aerobatic flights;

(21) sensational flights: flights involving extreme aerobatic manoeuvres performed~~carried out~~ for the purpose of allowing the persons on board to experience zero gravity, high G forces~~G-forces~~ or similar sensations~~.~~;

(22) reconnaissance flights, with the purpose of becoming familiar with an area of operation, or an operation performed ahead of the specialised operation flight proper.

Rationale: *See the rationale for the amendments proposed to GM1 NCO.SPEC.100.*

GM1 SPO.GEN.105(e)(2) Crew member responsibilities

GENERAL

In accordance with 7.~~g.~~6 of Annex ~~I~~V to Regulation (EU) 2018/1139 ~~(EC) No 216/2008~~ (Essential Requirements for air operations), a crew member must not perform duties on board an aircraft when under the influence of psychoactive substances or alcohol or when unfit due to injury, fatigue, medication, sickness or other similar causes. This should be understood as including the following:

[…]

AMC1 SPO.GEN.140(a)(18) Documents, manuals and information to be carried

APPROPRIATE METEOROLOGICAL INFORMATION

The appropriate meteorological information should be relevant to the planned operation, as specified in point (a) of point MET.TR.215 of Annex V (Part-MET) to Regulation (EU) 2017/373, and comprise ~~the following:~~

~~(a)~~ the meteorological information that is specified in point (e) of point MET.TR.215 of Part-MET~~;~~ ~~and~~ When this information is not available, complete or sufficient it should be complemented by

~~(b)~~ supplemental meteorological information, including:

(~~1~~a) information other than that specified in point ~~(a)~~ (e) of point MET.TR.215, which should be based on data from certified meteorological service providers; or

(~~2~~b) information from other reliable sources of meteorological information that should be evaluated by the operator.

Rationale

See the rationale of AMC1 CAT.GEN.MPA.180(a)(18).

GM1 SPO.GEN.140(a)(3) Documents, manuals and information to be carried

PERMIT TO FLY

The scope of a permit to fly issued under Part 21 may include one or more specialised operations as in the examples provided in Table 1.

Table 1

Scope of permit to fly as per Part 21	Related specialised operation
Exhibition and air show	Special events flights, including flying display, competition flights
Record breaking, air racing or similar competition	
Flying an aircraft for troubleshooting purposes or to check the functioning of one or more systems, parts or appliances after maintenance	Maintenance check flights

Rationale:

The new GM is proposed to remind that a permit to fly should meet the requirements in Part-SPO that the aircraft has an airworthiness certificate. It also serves as a reminder that the scope of a permit to fly determines which specialised operations are allowed.

Such GM is deemed necessary following numerous questions on this issue.

GM1 SPO.GEN.140(a)(18) Documents, manuals~~,~~ and information to be carried

DATA FROM CERTIFIED METEOROLOGICAL SERVICE PROVIDERS

~~In addition to GM1 SPO.GEN.140(a)(18) and~~ In the context of point ~~(b)(1)~~(a) of AMC1 SPO.GEN.140(a)(18), […]

Rationale: *See rationale for GM3 SPO.GEN.140(a)(18).*

GM2 SPO.GEN.140(a)(18) Documents, manuals~~,~~ and information to be carried

INFORMATION FROM OTHER RELIABLE SOURCES OF METEOROLOGICAL INFORMATION

In the context of point (b)~~(2)~~ of AMC1 SPO.GEN.140(a)(18), […]

Rationale: *See rationale for GM3 SPO.GEN.140(a)(18).*

GM3 SPO.GEN.140(a)(18) Documents, manuals~~,~~ and information to be carried

SUPPLEMENTAL METEOROLOGICAL INFORMATION AND SUPPLEMENTARY INFORMATION

Supplemental meteorological information: when operating under specific provisions and without the meteorological information from a certified service provider, the operator should use ‘supplemental meteorological information’, such as digital imagery. Related information can be found in point (e)(4) of AMC1 CAT.OP.MPA.192.

Supplementary information: ~~it is included in point (a) of AMC1 CAT.GEN.MPA.180(a)(18) and~~ refers to meteorological information to be reported in specific cases such as freezing precipitation, blowing snow, thunderstorm, etc.

Rationale

It is proposed to update the references to the relevant points in GM1, GM2 and GM3 to SPO.GEN.140(a)(18), following the proposed changes to AMC1 SPO.GEN.140(a)(18).

The proposed amendments are editorial and are expected to have no impact.

Subpart B: Operational procedures (SPO.OP)

AMC3 SPO.OP.110 Aerodrome operating minima — general

TAKE-OFF OPERATIONS

[…]

Table 1

Take-off — aeroplanes (without LVTO approval)

RVR or VIS

~~**Facilities**~~	~~**RVR or VIS (m)***~~
~~Day only: Nil**~~	~~500~~
~~Day: at least runway edge lights or runway centre line markings~~ ~~Night: at least runway edge lights or runway centre line lights and runway end lights~~	~~400~~

~~*: The reported RVR or VIS value representative of the initial part of the take-off run can be replaced by pilot assessment.~~

~~**: The pilot is able to continuously identify the take-off surface and maintain directional control.~~

Minimum RVR* or VIS*	Facilities
500 m (day)	Nil**
400 m (day)	Centre line markings or Runway edge lights or Runway centre line lights
400 m (night)	Runway edge lights and runway end lights; or Runway edge lights and runway centre line lights, of which at least one needs to be colour-coded

* The RVR or VIS value representative of the initial part of the take-off run can be replaced by pilot assessment.

** The pilot is able to continuously identify the take-off surface and maintain directional control.

[…]

Rationale

See the rationale for the proposed changes to AMC3 NCC.OP.110.

GM2 SPO.OP.175 Ice and other contaminants — ground procedures

DE-ICING/ANTI-ICING — PROCEDURES

[...]

(b) Operator's procedures should ensure the following:

[...]

(8) The pilot-in-command~~commander~~ continually monitors the environmental situation after the performed treatment. Prior to take-off, they ~~he/she~~ perform~~s~~ a pre-take-off check, which is an assessment of whether the applied HOT is still appropriate. This pre-take-off check includes~~,~~ but is not limited to~~,~~ factors such as precipitation, wind and OAT.

(9) If any doubt exists as to whether a deposit may adversely affect the aircraft's performance and/or controllability characteristics, the pilot-in-command ~~commander~~ should arrange for a re-treatment or a pre-take-off contamination check to be performed in order to verify that the aircraft's surfaces are free of contamination. Special methods and/or equipment may be necessary to perform this check, especially at night-time or in extremely adverse weather conditions. If this check cannot be performed just before take-off, re-treatment should be applied.

[...]

GM4 SPO.OP.210 Approach and landing conditions — aeroplanes

REPORTING ON RUNWAY BRAKING ACTION — COMPLEX AEROPLANES

[...]

If an aircraft-generated braking action report is available, it should be transmitted, identifying its origin accordingly. If the flight crew have a reason to modify the aircraft-generated braking action report based on their judgement, the pilot-in-command ~~commander~~ should be able to amend such report.

[...]

Subpart C: Aircraft performance and operating limitations (SPO.POL)

AMC1 SPO.POL.~~115~~ 110 Mass and balance system ~~data and documentation – commercial operations with aeroplanes and~~

~~**helicopters and non-commercial operations with complex motor-powered aircraft**~~

GENERAL

(a) The mass and balance documentation should:

(1) enable the pilot-in-command to determine that the load and its distribution are within the mass and balance limits of the aircraft; and

(2) include advic~~s~~e to the pilot-in-command whenever a non-standard method has been used for determining the mass of the load.

(b) The information above may be available in flight planning documents or mass and balance systems.

(c) Any last-minute change should be brought to the attention of the pilot-in-command and entered in the flight planning documents containing the mass and balance information and mass and balance systems.

(d) Where mass and balance documentation is generated by a computerised mass and balance system, the operator should verify the integrity of the output data at intervals not exceeding 6~~six~~ months.

(e) A copy of the final mass and balance documentation may be sent to aircraft via data link or may be made available to the pilot-in-~~-~~command by other means for its acceptance.

(f) The person supervising the loading of the aircraft should confirm by handwritten signature or equivalent that the load and its distribution are in accordance with the mass and balance documentation given to the pilot-in-command. The pilot-in-command should indicate their~~his~~ acceptance by handwritten signature or equivalent, or for helicopter operations with rotors turning, by orally communicating it to ground personnel or task specialist.

In the case of acceptance communicated orally, the ground personnel or task specialist should indicate the acceptance on behalf of the pilot-in-command by handwritten signature or equivalent.

Rationale:

The AMC and GM to point SPO.POL.115 are proposed to be renumbered and assigned to point SPO.POL.110, as the content of point SPO.POL.115 has been integrated into point SPO.POL.110 to ensure consistency with Part-CAT. The amendments proposed to the content of this AMC are linked to the requirements that already exist in point SPO.POL.110 on operator procedures.

The proposed new text transposes helicopter operations best practice, considering that the current framework does not foresee helicopter specifics such as operations with rotors turning.

GM1 SPO.POL.~~115~~110 Mass and balance system ~~data and documentation – commercial operations with aeroplanes and~~

~~**helicopters and non-commercial operations with complex motor-powered aircraft**~~

SIGNATURE OR EQUIVALENT

Where a signature by hand is impracticable or it is desirable to arrange the equivalent verification by electronic means, as referred to in AMC1 SPO.POL.115(f), the following conditions should be applied in order to make an electronic signature the equivalent of a conventional hand-written signature:

~~(a) electronic 'signing' by entering a personal identification number (PIN) code with appropriate security, etc.;~~

~~(b) entering the PIN code generates a print-out of the individual's name and professional capacity on the relevant document(s) in such a way that it is evident, to anyone having a need for that information, who has signed the document;~~

~~(c) the computer system logs information to indicate when and where each PIN code has been entered;~~

(a) When an electronic means is used as an equivalent to a handwritten signature for the mass and balance documentation as per point (f) of AMC1 SPO.POL.110, the operator should ensure that such electronic means:

(1) uses a unique identification code or access protocol that enables easy identification of the person responsible for the supervision of the aircraft loading and distribution and of the commander. That unique identification code or access protocol may be used as an electronic signature;

(2) indicates, for each flight number and aircraft registration number, the assigned commander and the person responsible for the supervision of the aircraft loading and distribution;

(3) allows only authorised personnel to complete or modify the mass and balance documentation provided to the commander;

(3) logs information about the date and device identification for each log-in for mass and balance documentation purposes;

(4) complies with the security requirements applicable to the electronic communication of data and unique identification of individuals.

(b~~d~~) T~~t~~he use of the electronic signature~~PIN code~~ is, from a legal ~~and responsibility~~ point of view, considered ~~to be~~ fully equivalent to a handwritten signature ~~by hand~~;

(c~~e~~) T~~t~~he requirements for record-keeping remain unchanged~~; and.~~

(d~~f~~) A~~a~~ll personnel concerned are made aware of the conditions associated with electronic signature and this is documented.

Rationale: *See the rationale for the amendments proposed to AMC1 CAT.POL.MAB.105(c).*

AMC1 SPO.POL.110(a)(1) Mass and balance system ~~– commercial operations with aeroplanes and helicopters and non-commercial operations with complex motor-powered aircraft~~

DRY OPERATING MASS

[...]

Rationale: *The title of the AMC and GM to point SPO.POL.110 is amended for consistency with the amendment to the title of the implementing rule.*

AMC1 SPO.POL.110(a)(2) Mass and balance system ~~– commercial operations with aeroplanes and helicopters and non-commercial operations with complex motor-powered aircraft~~

SPECIAL STANDARD MASSES FOR TRAFFIC LOAD

[...]

Rationale: *Refer to rationale in AMC1 SPO.POL.110(a)(1).*

GM1 SPO.POL.110(a)(2) Mass and balance system ~~– commercial operations with aeroplanes and helicopters and non-commercial operations with complex motor-powered aircraft~~

TRAFFIC LOAD

[...]

Rationale: *Refer to rationale in AMC1 SPO.POL.110(a)(1).*

AMC1 SPO.POL.110(a)(3) Mass and balance system ~~– commercial operations with aeroplanes and helicopters and non-commercial operations with complex motor-powered aircraft~~

FUEL LOAD

[...]

Rationale: *Refer to rationale in AMC1 SPO.POL.110(a)(1).*

GM1 SPO.POL.110(a)(3) Mass and balance system ~~– commercial operations with aeroplanes and helicopters and non-commercial operations with complex motor-powered aircraft~~

FUEL DENSITY

[...]

Rationale: *Refer to rationale in AMC1 SPO.POL.110(a)(1).*

AMC1 SPO.POL.110(a)(4) Mass and balance system ~~– commercial operations with aeroplanes and helicopters and non-commercial operations with complex motor-powered aircraft~~

LOADING — STRUCTURAL LIMITS

[...]

Rationale: *Refer to rationale in AMC1 SPO.POL.110(a)(1).*

GM1 SPO.POL.110(b) Mass and balance system ~~– commercial operations with aeroplanes and helicopters and non-commercial operations with complex motor-powered aircraft~~

GENERAL

[...]

Rationale: *Refer to rationale in AMC1 SPO.POL.110(a)(1).*

AMC1 SPO.POL.~~115(b)~~110(f) Mass and balance data and documentation ~~– commercial operations with aeroplanes and helicopters and non-commercial operations with complex motor-powered aircraft~~

INTEGRITY

[...]

Rationale: *The AMC and GM to point SPO.POL.115 are proposed to be renumbered as per the amendments to the implementing rules: the content of point SPO.POL.115 is integrated into new points (f) and (g) of point SPO.POL.110, for consistency with Part-CAT.*

AMC2 SPO.POL.~~115(b)~~110(f) Mass and balance data and documentation ~~– commercial operations with aeroplanes and~~

~~**helicopters and non-commercial operations with complex motor-powered aircraft**~~

MASS AND BALANCE DOCUMENTATION SENT VIA DATA LINK

[...]

Rationale: *Refer to rationale in AMC1 SPO.POL.110(g).*

GM1 SPO.POL.~~115(b)~~110(f) Mass and balance data and documentation~~ — commercial operations with aeroplanes and helicopters and non-commercial operations with complex motor-powered aircraft~~

ON-BOARD INTEGRATED MASS AND BALANCE COMPUTER SYSTEM

[...]

Rationale: *Refer to rationale in AMC1 SPO.POL.110(g).*

GM2 SPO.POL.~~115(b)~~110(f) Mass and balance data and documentation~~ — commercial operations with aeroplanes and helicopters and non-commercial operations with complex motor-powered aircraft~~

STAND-ALONE COMPUTERISED MASS AND BALANCE SYSTEM

[...]

Rationale: *Refer to rationale in AMC1 SPO.POL.110(g).*

Subpart D: Instruments, data and equipment (SPO.IDE)

GM1 SPO.IDE.A.100~~(d)~~(e) Instruments and equipment — general

POSITIONING OF INSTRUMENTS

[...]

Rationale: *Correction of the reference to the implementing rule. The content of this GM remains unchanged.*

AMC1 SPO.IDE.A.165 First-aid kit

CONTENT OF THE FIRST-AID KIT~~S~~ (FAK) — OTHER-THAN COMPLEX MOTOR-POWERED AEROPLANES

(a) ~~First-aid kits (~~FAKs~~)~~ should be equipped with appropriate and sufficient medication~~s~~ and instrumentation. However, these kits should be amended by the operator according to the

characteristics of the operation (scope of operation, flight duration, number and demographics of persons on boardpassengers, etc.).

[...]

Rationale:

The amendment to point (a) is proposed for accuracy, as there are no passengers in SPO operations.

AMC2 SPO.IDE.A.165 First-aid kit

CONTENT OF THE FIRST-AID KITS (FAK) — COMPLEX MOTOR-POWERED AEROPLANES

(a) First-aid kits (FAKs) should be equipped with appropriate and sufficient medications and instrumentation. However, these kits should be amended by the operator according to the characteristics of the operation (scope of operation, flight duration, number and demographics of persons on boardpassengers, etc.).

(b) The following should be included in the FAKs:

[...]

(3) Other content. The operator should make the instructions readily available. If an electronic format is available, then all instructions should be kept on the same device. If a paper format is used, then the instructions should be kept in the same kit with the applicable equipment and medication. The instructions should include, as a minimum, the following:

[...]

(iii) Bbasic life support instructions cards (summarising and depicting the current algorithm for basic life support); and

(iv) medical incident report form;.

~~(v) biohazard disposal bags; and~~

~~(vi) bag-valve masks for adults.~~

(4) Additional equipment. The operators should carry additional equipment based on a risk assessment that considers the specificities and the nature of itstheir specialised operations:

(i) automated external defibrillator (AED);

(ii) suitable airway management devices (e.g. supraglottic airway devices, oropharyngeal or nasopharyngeal airways); and

(iii) eye irrigator.;

(iv) biohazardous waste disposal bag; and

(v) a bag-valve mask for adults or a disposable resuscitation aid.

Rationale

For the proposed amendments to point (a), see AMC1 SPO.IDE.A.165.

See the rationale for AMC1 CAT.IDE.A.220.

EASA also proposes the correction of an editorial error in point (b)(3) of this AMC2 and AMC2 SPO.IDE.H.165. Bag-valve masks are neither instructions nor available in paper or electronic format.

In addition, EASA proposes that a disposable emergency resuscitation aid may be an alternative to the bag-valve mask in the context of helicopter CAT operations with a MOPSC of 6 or fewer and SPO operations with complex motor-powered aircraft, based on a risk assessment. This follows the already applicable provisions for NCO and SPO with non-complex motor-powered aircraft.

GM1 SPO.IDE.A.215 & NCC.IDE.A.220 Radio communication equipment & Navigation equipment

[…]

PBCS OPERATIONS — QUALIFICATION AND TRAINING

[…]

(b) The elements covered during the training should be as a minimum:

[…]

(2) Flight d~~D~~ispatchers~~/flight operations officers~~

[…]

Rationale

The change is made to align the proposed change to the definition of flight operations officer/flight dispatcher, the new proposed requirements in Subpart ORO.OCP and related AMC and GM on operations control personnel, where the term 'flight operations officer' is deleted. Work to determine the meaning assigned to this term in the future is undergoing at ICAO level, in the PTL Panel, proposing amendments to the SARPs on flight operations officers/flight dispatchers in Annex 1 and Annex 6) and flight dispatchers as a specific category of operations control personnel.

AMC1 SPO.IDE.A.220 Navigation and surveillance equipment

NAVIGATION WITH VISUAL REFERENCE TO LANDMARKS — OTHER-THAN COMPLEX AEROPLANES

[…]

Rationale

The title has been amended to include 'surveillance' for consistency with the corresponding point CAT.IDE.A.345 and SPO.IDE.A.220 that deals with the same equipment. The content remains unchanged. The proposed change was first published in NPA 2022-11 and received no comments.

GM1 SPO.IDE.A.220 Navigation and surveillance equipment

AIRCRAFT ELIGIBILITY FOR PERFORMANCE-BASED NAVIGATION (PBN) SPECIFICATION NOT REQUIRING SPECIFIC APPROVAL

[…]

Rationale

The title has been amended to include 'surveillance' for consistency with the corresponding point CAT.IDE.A.345 and SPO.IDE.A.220 that deals with the same equipment. The content remains unchanged. The proposed change was first published in NPA 2022-11 and received no comments.

GM2 SPO.IDE.A.220 Navigation and surveillance equipment

GENERAL

[...]

Rationale

The title has been amended to include 'surveillance' for consistency with the corresponding point CAT.IDE.A.345 and SPO.IDE.A.220 that deals with the same equipment. The content remains unchanged. The proposed change was first published in NPA 2022-11 and received no comments.

GM1 SPO.IDE.H.100(e~~d~~) Instruments and equipment — general

POSITIONING OF INSTRUMENTS

[...]

Rationale

Correction of the reference to the implementing rule. The content of this GM remains unchanged. The proposed change was first published in NPA 2022-11 and received no comments.

AMC2 SPO.IDE.H.165 First-aid kit

CONTENT OF THE FIRST-AID KIT~~S~~ (FAK) — COMPLEX MOTOR-POWERED HELICOPTERS

[...]

(b) The following should be included in the FAK~~s~~:

[...]

(3) Other content. The operator should make instructions available ~~instructions~~ either in a paper-based or an electronic format. If an electronic format is available, then all instructions should be kept on the same device. If a paper format is used, then the instructions should be kept in the same kit with the applicable equipment and medication. The instructions should include, as a minimum, the following:

[...]

(iii) ~~B~~basic life support instruction~~s~~ cards (summarising and depicting the current algorithm for basic life support); and

(iv) medical incident report form~~;~~.

~~(v) biohazard disposal bags; and~~

~~(vi) bag-valve masks for adults.~~

(4) Additional equipment. The operator~~s~~ should carry additional equipment based on a risk assessment that considers the specificities and the nature of its~~their~~ specialised operations:

(i) automated external defibrillator (AED);

(ii) suitable airway management devices (e.g. supraglottic airway devices, oropharyngeal or nasopharyngeal airways); ~~and~~

(iii) eye irrigator~~.~~;

(iv) biohazardous waste disposal bag; and

(v) a bag-valve mask for adults or a disposable resuscitation aid.

Rationale: *See the rationale for AMC1 SPO.IDE.A.165 and AMC1 CAT.IDE.A.220.*

GM1 SPO.IDE.H.165 First-aid kit

LOCATION AND USE

The location of the first-aid kit is normally indicated using internationally recognisable signs.

The first-aid kit 'should be readily accessible for use' in helicopter operations should be understood as the first-aid kit being either accessible in flight or immediately after landing.

It is recommended to locate the first-aid kit in the passenger cabin.

In some operations, ~~it is not practicable to use the first-aid kit during flight. Therefore,~~ the first-aid kit may~~can~~ be carried in the cargo compartment, where it will be easily accessible for use as soon as the aircraft has landed, when one of the following conditions is~~are~~ met:

(a) precautionary landing sites are available;

(b) it is impractical for persons to move within the cabin ~~the lack of cabin space is such that the movement~~ or the use of the first-aid kit is impaired; ~~and~~ or

(c) the ~~installation~~ carriage of the first-aid kit in the cabin is not practicable.

Rationale

GM1 NCO.IDE.H.145 clearly explains how "readily accessible for use" should be understood. Consequently, the the new explanations are more suitable.

See the rationale for CAT.IDE.A.220 and CAT.IDE.H.220 for more information related to first-aid-kit

GM4 SPO.IDE.H.165 First-aid kit

LITHIUM BATTERIES

The ~~R~~risks related to the presence of lithium batteries should be assessed. All equipment powered by lithium batteries and carried on a helicopter ~~an aeroplane~~ should comply with ~~the provisions of~~ AMC1 CAT.GEN.MPA.140(f), including applicable technical standards such as (E)TSO-C142 'NON-RECHARGEABLE LITHIUM CELLS AND BATTERIES'.

Rationale:

Editorial amendment to improve the understanding of the text. The proposed change was first published in NPA 2022-11 and received no comments.

AMC1 SPO.IDE.H.198 Survival suits — complex motor-powered helicopters

RISK ASSESSMENT FOR THE INSULATION LEVEL OF CREW SURVIVAL SUITS

(a) The risk assessment should ensure that, whenever possible, the level of insulation provided is sufficient for the prevailing conditions and not excessive.

(b) Table 1 of AMC1 SPA.HOFO.110(b)(3) should be taken into account for the flight crew.

(c) For task specialists, the risk assessment should take into account the compatibility of the task specialist's mission with the wearing of a survival suit and with the insulation levels provided in Table 1 of AMC1 SPA.HOFO.110(b)(3) and Table 1 of AMC1 SPA.HOFO.165(b).

Rationale: *.*

See the rationale to SPA.HOFO.110 on the survival suits. The proposed changes were first published in NPA 2022-11 and did not receive any comments.

Subpart E: Specific requirements (SPO.SPEC)

AMC1 SPO.SPEC.HESLO.100 Standard operating procedures

STANDARD OPERATING PROCEDURES (SOPs)

[...]

(d) Crew members

[...]

(3) Pilot experience

[...]

(iii) Before acting as unsupervised PIC:

(A) For ~~HELSO~~ HESLO 1, 300 hours of helicopter flight experience as PIC; and

[...]

Rationale*: The amendment proposed is merely editorial. The proposed changes were first published in NPA 2022-11 and did not receive any comments.*

AMC1 SPO.SPEC.HESLO.101(a) Mass and balance data and documentation

LOAD METER

If the AFM instructions require not to rely on the load meter information, then the operator should have at least an estimate of the mass of the loads to be carried to complement it. The following should apply:

(a) In case of discrepancy between the estimated load and the load meter information, the higher value should be retained.

(b) The operator should take advantage of flights where the load mass is precisely known check the function and accuracy of the load meter.

Rationale:

The AMC provides a way to make best use of the installed load meter in case of any disclaimers or restrictions to its use in the rotorcraft flight manual. Such restrictions in the flight manual may be the consequences of insufficient reliability, rather than that of insufficient accuracy. The probability of an under-estimation of the mass of the load or of inaccurate information provided to the operator may be greater than that of the under-estimation of the load mass by the load meter, due to time or financial pressure, or simply human error. The consequences of under-estimating the load mass would also be greater than the consequences of over-estimating it.

AMC1 SPO.SPEC.HESLO.101(b) Mass and balance data and documentation

STANDARD MASSES

(a) The standard masses for flight crew members should be as defined in AMC2 CAT.POL.MAB.100(d).

(b) The standard masses for task specialists should be the sum of the following:

(1) the standard masses defined for flight crew members in AMC2 CAT.POL.MAB.100(d);

(2) an increment representative of any task specialist equipment or luggage planned to be carried.

Rationale:

This proposed new AMC ensures that if standard masses are used, they will be realistic. For HESLO, task specialists are not expected to carry specific equipment or luggage, except in the context of Article 5(7) of the cover regulation. This new AMC was first published in NPA 2022-11 and it received no comments.

GM1 SPO.SPEC.HESLO.105 Specific HESLO equipment

MIRROR OR ALTERNATIVE

The required mirror or alternative enables the pilot in command to see the load, or the unloaded hook.

One or more additional device may also enable the crew or the task specialist to see the undercarriage and the belly hook.

Rationale:

Clarification of the rule. This new GM was first published in NPA 2022-11 and received comments, following which it was further clarified that the pilot in command should see the load.

AMC1 SPO.SPEC.HEC.100 Standard operating procedures

STANDARD OPERATING PROCEDURES (SOPs)

(a) Before conducting any HEC operations, the operator should develop its SOPs taking into account the elements below.

(b) Nature and complexity of the activity

(1) Nature of the activity and exposure:

HEC operations are usually performed at a low height. In the case of airframe-mounted PCDSs, they may also be conducted very close to or even in contact with objects in the air or on the ground.

(2) Complexity of the activity:

(i) The complexity of the activity varies with the length of the rope and the characteristics of the pick-up and drop-off zones, etc.

(ii) In the case of airframe-mounted PCDSs, the complexity of the activity varies with the circumstances:

(A) The helicopter is flown very close to an object or any other surrounding obstacle (horizontal distance between the main or tail rotor tips is less than 2 m in a vertical window of 0,5D above and below the main rotor disc).

(B) During the activity, the helicopter is tethered to an object.

(C) Mobile tools or parts are handled outside the helicopter.

Table 1: HEC levels

HEC 1:	Sling or cable length is less or equal to 25 m
HEC 2:	Sling or cable length is greater than 25 m
HEC P	Airframe-mounted PCDS without the use of hoist or cargo hook

(3) Operational environment and geographical area:

HEC may be performed over any geographical area. Special attention should be given to:

(i) hostile congested and non-congested environment;

(ii) mountains;

(iii) sea;

(iv) jungle;

(v) desert;

(vi) artic;

(vii) lakes and river canyons; and

(viii) environmentally sensitive areas (e.g. national parks, noise sensitive areas).

(c) Equipment

(1) The helicopter may be equipped with:

(i) additional mirror(s) and/or video camera(s);

(ii) a bubble window;

(iii) supplementary hook(s) or multi-hook device(s); ~~and~~

(iv) load data recorder (lifts, weights, torques, power, forces, shocks and electrical activities);~~.~~

(v) external storage devices for tools and parts;

(v) means for potential equalisation; and/or

(vi) fender(s) or protective bracket(s).

(2) When conducting single-pilot vertical reference operations with no assistance of a task specialist or other crew member, additional engine monitoring in the pilot line of vision or an audio warning system is recommended.

(3) Adequate ~~radio~~ interphone communication equipment (e.g. VHF, UHF, FM) should be installed in the helicopter for coordination~~co-ordination~~ with the task specialist involved in the operation.

(4) Task specialists involved in ~~the~~ HEC 1 and 2 operations should be equipped with handheld~~hand-held~~ communication equipment, protective helmets with integrated earphones and microphones, as well as personal protective equipment.

(5) Task specialists involved in HEC P operations should be equipped with all personal protective equipment and communication equipment required for the intended operation.

~~(6) Task specialists involved in the operation should be secured with a restraint system that is fail-safe against accidental activation of the release mechanism.~~

(d) Crew members

(1) Crew composition:

(i) The minimum flight crew is stated in the approved AFM. For operational or training purposes, an additional qualified crew member may assist the PIC in a single-pilot operation. In such a case:

(A) for HEC 1 and 2 operations, procedures are in place for a member of the flight crew to monitor the flight, especially during the departure, approach and HEC operations, to ensure that a safe flight path is maintained; and

(B) when a task specialist is tasked with assisting the pilot, the procedures according to which this assistance is provided ~~taking place~~ should be clearly defined.

(ii) For safety and/or operational purposes, a task specialist may be required by the operator to fulfil the task (e.g. to establish vertical reference or to operate the release safety device for the belly rope).

(2) Pilot initial training for HEC 1 or HEC 2 operations:

Before acting as PIC, the pilot should demonstrate to the operator that ~~he/she has~~ they have the required skills and knowledge, as follows:

(i) Theoretical knowledge:

(A) load rigging techniques;

(B) external load procedures;

(C) site organisation and safety measures;

(D) short line, long line, construction, wire stringing or cable laying flying techniques, as required for the operation.

(ii) Pilot experience prior to commencing the HEC 1 or HEC 2 training:

(A) 10 hours of flight experience on the particular ~~the~~ helicopter type;

(B) type rating completed;

(C) HESLO type 1 or 2 completed;

(D) relevant experience in the field of operation;

(E) training in human factors principles; and

(F) ground instruction completed (marshaller syllabus).

(iii) Pilot experience prior to commencin~~d~~g unsupervised HEC 1 or 2 flights:

(A) HEC flight instruction completed;~~.~~

(B) 1 000 hours of helicopter flight experience as PIC;~~.~~

(C) for mountain operations, 500 hours of flight experience as PIC in mountain operations;~~.~~

(D) for HEC 2, HESLO type 2 completed.

(3) Pilot proficiency prior to commencing unsupervised HEC 1 or 2 flights:

Pilot proficiency has been assessed by a HEC instructor nominated by the operator as sufficient for the intended operations and environment under the relevant HEC level~~, by a HEC instructor nominated by the operator~~.

(4) Pilot recurrent training and checking at least every 2~~two~~ years for HEC 1 or 2 operations:

(i) review of the sling technique;

(ii) external load procedures;

(iii) training in human factors principles; and

(iv) review of the applicable flying techniques, which should take place during a training flight if the pilot has not performed HEC or HHO operations within the past 24 months.

(5) Conditions of HEC 1 and 2 instruction:

(i) Maximum sling length according to the applicable level ~~applicable~~:

(A) 1 task specialist (with radio) at the pick-up point;

(B) 1 task specialist (with radio) at the drop-off point/on the line;

(C) helicopter fitted with cargo mirror/bubble window or alternative means for the flight crew to see the unloaded hook or externally transported person;

(D) flight instruction with dual controls ~~DC/~~: ~~Cycles DC/~~minimum 10 cycles which of 5 ~~H~~human ~~C~~cargo ~~S~~sling; and

(E) flight instruction solo with on-site supervision/~~C~~cycles solo/minimum 10 cycles.

(ii) HEC instructor:

The HEC instructor should be assigned by the operator on the basis of the following:

(A) the HEC instructor for pilots should have:

— ~~have~~ a minimum experience of 100 cycles in HEC 1 or 2 operations at HEC levels equal to or greater than that at~~on~~ which instruction, supervision and proficiency assessment are to be provided; and

— ~~have~~ attended the 'teaching and learning' part of the flight instructor or type rating instructor training, or have prior experience as an aerial work instructor subject to national rules;

(B) the HEC instructor for task specialists should be suitably qualified as determined by the operator and have at least 2 years of experience in HEC operations as a task specialist.

(6) Sufficient prior experience relevant to HEC P. A pilot is considered to have sufficient prior experience relevant to HEC P if all the following experience criteria are met:

(i) 1 000 hours of flight experience in helicopters;

(ii) 50 hours of flight experience in the particular helicopter type; and

(iii) the pilot has experience as a HESLO instructor or experience in unsupervised HESLO 4, or 10 hours of experience in unsupervised HEC 1 or 2.

(7) Pilot initial training for HEC P:

(i) Before acting as PIC, the pilot should demonstrate to the operator that they have the required skills and knowledge, as follows:

(ii) Theoretical knowledge:

(A) tools and equipment requirements for the intended operation, and their limitations;

(B) additional operational limitations for the helicopter due to the special equipment or the kind of intended operation;

(C) additional or amended emergency procedures due to the special equipment or the kind of intended operation; and

(D) site organisation and safety measures.

(iii) Pilot experience before commencing the training:

(A) 10 hours of flight experience in the particular helicopter type;

(B) type rating completed;

(C) either the pilot has sufficient prior experience relevant to HEC P, or the following criteria should be met:

— 500 hours of helicopter flight experience; and

— the pilot demonstrates the ability to fly a stable hover flight with direct view on a close-by object in flight with a HEC P instructor;

(D) relevant experience in the field of operation; and

(E) training in human factors principles.

(iv) Pilot experience prior to commencing unsupervised HEC P flights: either the pilot has sufficient prior experience relevant to HEC P, or the following experience criterion should be met:

(A) at least 2 hours of applicable HEC P flight instruction completed with a HEC P instructor, including 20 approaches and stabilised hover flights simulating the time required for the intended operation.

(v) Pilot proficiency prior to commencing unsupervised HEC P flights:

(A) pilot proficiency has been assessed by a HEC P instructor nominated by the operator as sufficient for the intended operations and environment under the relevant operational HEC conditions;

(B) if the pilot has sufficient prior experience relevant to HEC P, the operator may replace the HEC P instructor with a pilot that has sufficient prior experience relevant to HEC P; this may result in a self-assessment, which should take place in flight in real conditions on a non-commercial flight.

(8) The pilot recurrent training and checking for HEC P should be as follows, at least every 2 years:

(i) review of the specific HEC equipment and procedures;

(ii) review of the applicable flying techniques including emergency procedures, which should take place in flight unless the pilot has performed 10 hours of HEC P operation within the last 12 months;

(iii) review of the human factors principles.

(9) HEC P instructor:

The HEC P instructor should be assigned by the operator on the basis of the following:

(i) 1 000 hours of flight experience in helicopters;

(ii) 50 hours of flight experience in the particular helicopter type;

(iii) for HEC P with close proximity to or contact with objects, 50 hours of experience in unsupervised HEC P with close proximity to or contact with objects (which can be reduced to 10 hours if the criteria in point (6)(iii) are met);

(iv) for HEC P with no close proximity to or contact with objects, 10 hours of experience in unsupervised HEC P, or the criteria of point (i)(3)(i)(B) of AMC1 ORO.FC.146(f) are met.

(e) Task specialists

Before acting as task specialists, they should demonstrate to the operator that they have been appropriately trained and have the required skills and knowledge including training on human factors principles. The initial and recurrent training and briefing of task specialists involved in HEC operations should meet point SPO.OP.230. In addition, for HEC 1 and 2 operations, the following should apply:

(1) Task specialists should receive training relevant to their tasks, including:

(i) fitting and removal of system; and

(ii) normal procedure.

For task specialists in charge of assisting the pilot, the relevant CRM training elements as specified in AMC1 ORO.FC.115.

(2) Briefings

Briefings on the organisation and coordination between flight crew and task specialist involved in the operation should take place prior to each operation. These briefings should include at least the following:

(i) location and size of pick-up and drop-off site, and operating altitude,~~;~~

(ii) location of refuelling site and procedures to be applied,~~;~~ and

(iii) load sequence, danger areas, performance and limitations, and emergency procedures;~~.~~

(iv) for task specialists who have not received the relevant elements of the CRM training as specified in AMC1 ORO.FC.115, the operator's crew coordination concept, including the relevant CRM elements ~~of crew resource management~~.

(3) Recurrent training

(i) The annual recurrent training should include the items listed in the initial training as described in point (e)(1) ~~above~~.

(ii) The operator should establish a formal qualification list for each task specialist.

(iii) The operator should establish a system of record-keeping that allows for adequate storage and reliable traceability of:

(A) the initial and recurrent training; and

(B) the task specialists' qualifications (qualification list).

(f) Performance

HEC should be performed with the following power margins: the mass of the helicopter should not exceed the maximum mass specified in accordance with point SPO.POL.146(c)(1).

(g) Normal procedures

(1) Operating procedures:

HEC should be performed in accordance with the AFM. Operating procedures should include, for each type of operation:

(i) crew individual safety equipment (e.g. helmet, fire-retardant suits) and their use;

(ii) crew responsibilities;

(iii) crew coordination and communication;

(iv) selection and size of pick-up and drop-off sites;

(v) selection of flight routes;

(vi) fuel management in the air and on the ground;

(vii) task management; ~~and~~

(viii) third-party risk management;~~.~~ and

(ix) for HEC P, handling of tools and parts during the flight, and tethering of the tools.

(2) Ground procedures:

The operator should specify appropriate procedures, including:

(i) use of ground equipment;

(ii) ~~F~~for HEC 1 and 2, load rigging;

(iii) size and weight assessment of loads;

(iv) attachment of suitably prepared loads to the helicopter;

(v) two-way radio communication procedures;

(vi) selection of suitable pick-up and drop-off sites;

(vii) safety instructions for ground task specialists or other persons required for the safe conduct of the operation;

(viii) helicopter performance~~s~~ information;

(ix) fuel management on the ground;

(x) responsibility and organisation of the personnel on the ground involved in the operation, including for HEC P operations the handling of tools and parts on the ground (e.g. loading and securing of tools and parts);

(xi) task management of personnel on the ground involved in the operation;

(xii) third-party risk management; and

(xiii) environmental protection.

(h) Emergency procedures

(1) Operating procedures:

In addition to the emergency procedures published in the AFM or OM, the operator should ensure that the flight crew:

(i) is familiar with the appropriate emergency procedures;

(ii) has appropriate knowledge of the emergency procedures for personnel on the ground involved in the operation; and

(iii) reports emergencies as specified in the AFM or OM.

(2) Ground procedures:

The operator should ensure that the task specialist on the ground involved in the operation:

(i) is familiar with the appropriate emergency procedures;

(ii) has appropriate knowledge of the emergency procedures for personnel on the ground involved in the operation;

(iii) reports emergencies as specified in the AFM or OM; and

(iv) prevents, as far as possible, environmental pollution.

Rationale: *See rationale for SPO.SPEC.HEC.105. This new AMC was first published in NPA 2022-11 and received no comments.*

AMC1 SPO.SPEC.HEC.105 Specific HEC equipment

HEC EQUIPMENT OTHER THAN SIMPLE PCDS - INTENDED USE

The operator should use specific HEC equipment only in accordance with the intended function of its airworthiness approval.

TETHERING EQUIPMENT

If the operation requires specific equipment to tether the helicopter to an object (e.g. for potential equalisation), the connecting device should be considered part of the specific HEC equipment. This should ensure that it has an airworthiness approval appropriate to the intended use. This should include a safe self-disconnection if the helicopter shifts or has to suddenly fly away from the object (e.g. in an emergency).

Rationale: *See rationale for SPO.SPEC.HEC.105. This new AMC was first published in NPA 2022-11 and received no comments.*

GM1 SPO.SPEC.HEC.105 Specific HEC equipment

MIRROR OR ALTERNATIVE

The required mirror or alternative enables the crew or the task specialist to see the externally transported person or the unloaded hook.

Rationale: *See rationale for SPO.SPEC.HEC.105. This new GM was first published in NPA 2022-11 and received no comments.*

1.1.10. AMC 20-6

AMC 20-6C Extended Range Operation with Two-Engine Aeroplanes ETOPS ~~and Operation~~

(1) Chapter III 'Operational approval considerations' is proposed to be deleted in its entirety.

(2) Appendices 3, 4, 5, 6 and 7 are proposed to be deleted.

(3) Appendix 8 is renumbered as Appendix 3.

Rationale

The content of AMC 20-6 related to the operations domain is proposed to be deleted and transferred to AMC to the Air OPS Regulation.