



Explanatory Note to Decision 2022/005/R

Fuel/energy planning and management — fuel schemes

RELATED NPAs/CRDs: 2016-06(A), (B) & (C) — RELATED OPINION: NO 02/2020 — RMT.0573

EXECUTIVE SUMMARY

The objective of this Decision is to facilitate the implementation of the new requirements on fuel/energy planning and management introduced into Regulation (EU) No 965/2012 (the ‘Air OPS Regulation’) by Commission Implementing Regulation (EU) 2021/1296. The amended Regulation, which will apply from 30 October 2022, will improve efficiency as regards fuel/energy planning and management for commercial air transport (CAT) aeroplanes, while maintaining a high level of safety in air operations. More flexibility is given to CAT operators through the introduction of the ‘fuel schemes’ concept. The amended Regulation also clarifies and simplifies the requirements for helicopter fuel/energy planning and management. Finally, the amended Regulation incorporates into the EU legal framework the latest International Civil Aviation Organization (ICAO) Annex 6, Parts I, II, and III Standards and Recommended Practices (SARPs) on fuel planning and management.

This Decision issues acceptable means of compliance (AMC) and guidance material (GM) to support the implementation of all the amendments introduced by Commission Implementing Regulation (EU) 2021/1296, particularly those regarding the development and oversight of the air operators’ fuel schemes. The new AMC and GM on fuel schemes consider the robustness of the operators’ management system and are structured around three levels of performance, allowing operators to increase operational efficiency, with both cost-efficiency and environmental benefits.

Domain:	CAT and NCC operations		
Related rules:	AMC and GM to Annexes I to VIII to Regulation (EU) No 965/2012		
Affected stakeholders:	National competent authorities (NCAs); air operator certificate (AOC) holders		
Driver:	Level playing field	Rulemaking group:	Yes
Impact assessment:	Yes	Rulemaking Procedure:	Standard

EASA rulemaking procedure milestones

Start Terms of Reference RMT.0573	Public consultation NPA 2016-06(A)(B)(C)	Proposal to the Commission Opinion No 02/2020	Adoption by the Commission Implementing Act	Decision Certification Specifications, Acceptable Means of Compliance, Guidance Material
27.4.2015	15.7.2016	8.10.2020	4.8.2021	22.3.2022



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1. About this Decision

The European Union Aviation Safety Agency (EASA) developed Decision 2022/005/R in line with Regulation (EU) 2018/1139¹ (the ‘Basic Regulation’) and the Rulemaking Procedure².

Rulemaking Task (RMT).0573 is included in Volume II of the European Plan for Aviation Safety (EPAS) for 2022-2026³. The scope and timescales of the task were defined in the related terms of reference (ToR)⁴.

EASA developed the *draft* text of this Decision based on the input of Rulemaking Group (RMG) RMT.0573⁵. All the interested parties were consulted through Notice of Proposed Amendment (NPA) 2016-06 (A), (B) and (C)⁶:

- (a) sub-NPA 2016-06 (A)⁷ contained, as regards aeroplanes, the proposed draft amendments to Annex I (Definitions), Annex II (Part-ARO), Annex III (Part-ORO), and Annex IV (Part-CAT) to the Air OPS Regulation⁸, as well as to the associated AMC and GM;
- (b) sub-NPA 2016-06 (B)⁹ contained, as regards helicopters, the proposed draft amendments to Annex I (Definitions), Annex IV (Part-CAT), Annex V (Part-SPA), Annex VI (Part-NCC), Annex VII (Part-NCO), and Annex VIII (Part-SPO) to the Air OPS Regulation, as well as to the associated AMC and GM; and
- (c) sub-NPA 2016-06 (C)¹⁰ contained, as regards both aeroplanes and helicopters, the proposed draft amendments to Part-NCC, Part-NCO, and Part-SPO to the Air OPS Regulation, as well as to the associated AMC and GM.

203 comments were submitted to sub-NPA 2016-06 (A), 93 comments to sub-NPA 2016-06 (B), and 47 comments to sub-NPA 2016-06 (C) from interested parties (343 comments in total), including industry, NCAs, pilot associations, aerodrome associations, and associations of other related professional occupations (e.g. flight dispatchers (FDs)).

¹ Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1535612134845&uri=CELEX:32018R1139>).

² EASA is bound to follow a structured rulemaking process as required by Article 115(1) of Regulation (EU) 2018/1139. Such a process has been adopted by the EASA Management Board (MB) and is referred to as the ‘Rulemaking Procedure’. See MB Decision No 18-2015 of 15 December 2015 replacing Decision 01/2012 concerning the procedure to be applied by EASA for the issuing of opinions, certification specifications and guidance material (<http://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-18-2015-rulemaking-procedure>).

³ <https://www.easa.europa.eu/document-library/general-publications/european-plan-aviation-safety-2022-2026>

⁴ ToR RMT.0573 *Fuel procedures and planning* Issue 1 (<https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0573>).

⁵ <https://www.easa.europa.eu/downloads/18537/en>

⁶ In accordance with Article 115 of Regulation (EU) 2018/1139, and Articles 6(3) and 7 of the Rulemaking Procedure.

⁷ <https://www.easa.europa.eu/sites/default/files/dfu/NPA%202016-06%20%28A%29.pdf>

⁸ Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1580979298891&uri=CELEX:32012R0965>)

⁹ <https://www.easa.europa.eu/sites/default/files/dfu/NPA%202016-06%20%28B%29.pdf>

¹⁰ <https://www.easa.europa.eu/sites/default/files/dfu/NPA%202016-06%20%28C%29.pdf>



EASA reviewed the comments with the support of Review Group (RG) RMT.0573. The comments received and EASA's responses to them are presented in the following CRDs:

- (a) CRD 2016-06 (A) *Fuel planning and management: Aeroplanes — Annex I (Definitions), Part-ARO, Part-CAT*¹¹;
- (b) CRD 2016-06 (B) *Fuel planning and management: Helicopters — Annex I (Definitions), Part-CAT, Part-SPA, Part-NCC, Part-NCO & Part-SPO*¹²;
- (c) CRD 2016-06 (C) *Fuel planning and management: Aeroplanes/helicopters — Part-NCC, Part-NCO & Part-SPO*¹³.

Based on the input collected during the public consultation, EASA published Opinion No 02/2020 on 8 October 2020, with a summary of the comments in Section 2.4 of the Opinion. The Opinion was addressed to the European Commission, which used it to develop and adopt Commission Implementing Regulation (EU) 2021/1296¹⁴.

EASA developed the *final* text of this Decision with the AMC and GM based on the input of the public consultation and of RMG/RG RMT.0573, and published the Decision on the Official Publication¹⁵ of EASA.

The major milestones of this RMT are presented on the cover page.

¹¹ <https://www.easa.europa.eu/document-library/comment-response-documents/crd-2016-06>

¹² <https://www.easa.europa.eu/document-library/comment-response-documents/crd-2016-06-b>

¹³ <https://www.easa.europa.eu/document-library/comment-response-documents/crd-2016-06-c>

¹⁴ Commission Implementing Regulation (EU) 2021/1296 of 4 August 2021 amending and correcting Regulation (EU) No 965/2012 as regards the requirements for fuel/energy planning and management, and as regards requirements on support programmes and psychological assessment of flight crew, as well as testing of psychoactive substances (OJ L 282, 5.8.2021, p. 5) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R1296>).

¹⁵ <https://www.easa.europa.eu/official-publication>



2. In summary — why and what

2.1. Why we need to amend the AMC and GM — issue/rationale

The main objective of this Decision is to support the implementation of the new provisions on fuel/energy planning and management introduced by Commission Implementing Regulation (EU) 2021/1296 (the ‘fuel Regulation’).

More details on the amendments introduced by the fuel Regulation can be found in Section 2.1 *Why we need to change the rules — issue/rationale* of EASA Opinion No 02/2020¹⁶.

2.2. What we want to achieve — objectives

The overall objectives of the EASA system are defined in Article 1 of the Basic Regulation. This Decision will contribute to achieving the overall objectives by addressing the issue described in Section 2.1 of this Explanatory Note.

More details on the specific objectives of this Decision can be found in Section 2.2 *What we want to achieve — objectives* of EASA Opinion No 02/2020¹⁶.

2.3. How we want to achieve it — overview of the amendments

Detailed explanations on the amendments introduced by the fuel Regulation, as well as the AMC and GM issued by this Decision, were included in Section 2.3 *How we want to achieve it — overview of the proposals* of EASA Opinion No 02/2020¹⁶. These explanations are relevant to understand the amendments introduced by this Decision. Only the items that have been amended since the publication of EASA Opinion No 02/2020¹⁶ will be explained in detail below.

In addition to this Decision, EASA will also develop under SPT.0097 *Promotion of the new European provisions on fuel/energy planning and management* further material to support the implementation of the fuel Regulation for stakeholders to achieve the objectives described above. In addition to webinars and other initiatives, EASA plans to publish a Fuel Manual, which will contain further detailed technical explanations on the amendments introduced by the fuel Regulation and this Decision on fuel/energy planning and management and related procedures.

2.3.1 General explanations related to CAT operations

In the context of the fuel Regulation and this Decision, the term ‘fuel scheme’ refers to the entire system that addresses fuel planning and management, while the term ‘fuel planning policy’ refers to one of the three components that define a fuel scheme: fuel planning policy, selection of aerodromes policy, or in-flight fuel management policy. More detailed explanations on the concept of ‘fuel schemes’ can be found in Section 2.1.1 *CAT operations with aeroplanes* of EASA Opinion No 02/2020¹⁶.

Although not all the AMC and GM issued by this Decision are entirely new, they may be difficult to trace back to the old provisions for several reasons:

- (a) the fuel Regulation rearranged/renumbered previous provisions; it also deleted parts of the provisions which are now transferred to AMC level by this Decision. For example, point CAT.OP.MPA.150 was deleted, and part of its text was moved to the new points CAT.OP.MPA.181 and CAT.OP.MPA.191, as well as to AMC1 CAT.OP.MPA.181 and AMC1

¹⁶ <https://www.easa.europa.eu/document-library/opinions/opinion-022020>

CAT.OP.191 (related to basic fuel schemes); point CAT.OP.MPA.185 was partly moved to CAT.OP.MPA.182, and partly included in AMC, in particular AMC6 CAT.OP.MPA.182 (for the basic fuel scheme).

- (b) Following the rearrangement and renumbering of the provisions detailed in point (a), parts of the old AMC and GM associated with those provisions had to be rearranged and renumbered too. For example, AMC1 CAT.OP.MPA.150(b) was split, and its amended text was partly moved to the provisions level (new points CAT.OP.MPA.181 and CAT.OP.MPA.191) and partly moved to new AMC (AMC1 CAT.OP.MPA.181 and AMC2 CAT.OP.MPA.181); GM2 CAT.OP.MPA.185 was moved to the new AMC3 CAT.OP.MPA.182; and a few elements of AMC1 CAT.OP.MPA.150 were moved to the provisions level, especially those relevant to the final reserve fuel.

2.3.2 General explanations related to helicopter operations

More detailed explanations on the amendments introduced by this Decision regarding helicopter operations, particularly regarding helicopter refuelling, fuel planning and selection of aerodromes, and in-flight fuel management can be found in Section 2.1.2 *Helicopter operations (Part-CAT, and Annex V (Part-SPA), Annex VI (Part-NCC), Annex VII (Part-NCO), and Annex VIII (Part-SPO) to the Air OPS Regulation)* of EASA Opinion No 02/2020¹⁷.

2.3.3 General explanations related to non-commercial operations with aeroplanes (Part-NCC, Part-NCO and Part-SPO)

More detailed explanations on the amendments introduced by this Decision regarding operations conducted under Part-NCC, Part-SPO and Part-NCO can be found in Section 2.1.3 *Non-commercial operations with aeroplanes (Part-NCC, Part-NCO and Part-SPO)* of EASA Opinion No 02/2020¹⁷.

2.3.4 Details of the amendments to CAT operations with aeroplanes

GM to Annex I (Definitions) to the Air OPS Regulation

More details on the GM to Annex I (Definitions) introduced by this Decision can be found in Section 2.3.2.2 *Overview of changes to CAT operations with aeroplanes* of EASA Opinion No 02/2020¹⁷. The explanations below only cover the amendments to the draft GM that have been made after the Opinion was issued.

GM30 Annex I Definitions — FUEL/ENERGY EN-ROUTE ALTERNATE (ERA) AERODROME (new)

This GM appeared as ‘GM27’ in EASA Opinion No 02/2020¹⁷. More details on its contents can be found there.

AMC and GM to Annex II (Part-ARO ‘AUTHORITY REQUIREMENTS FOR AIR OPERATIONS’) to the Air OPS Regulation

More details on the AMC and GM to Annex II (Part-ARO) introduced by this Decision can be found in Section 2.3.2.2 *Overview of changes to CAT operations with aeroplanes* of EASA Opinion No 02/2020¹⁷. The explanations below only cover the amendments to the draft AMC and GM that have been made after the Opinion was issued.

¹⁷ <https://www.easa.europa.eu/document-library/opinions/opinion-022020>

AMC2 ARO.OPS.225(c) Approval of fuel/energy schemes — APPROVAL OF INDIVIDUAL FUEL SCHEMES — APPLICATION OF INDIVIDUAL FUEL SCHEMES — GUIDANCE TO STAFF (new)

In addition to the explanations already provided in EASA Opinion No 02/2020¹⁸, it should be noted that the reference to ‘meteorological capabilities’ of the area of operations in point (b)(2)(ii) should be understood as the means and tools available to present the current and/or forecasted meteorological information necessary for the intended operation.

AMC and GM to Annex III (Part-ORO ‘ORGANISATION REQUIREMENTS FOR AIR OPERATIONS’) to the Air OPS Regulation

More details on the AMC and GM to Annex III (Part-ORO) introduced by this Decision can be found in Section 2.3.2.2 *Overview of changes to CAT operations with aeroplanes* of EASA Opinion No 02/2020¹⁸. The explanations below only cover the amendments to the draft AMC and GM that have been made after the Opinion was issued.

In GM1 ORO.GEN.110(c), AMC1 ORO.GEN.11(c)&(e), AMC2 ORO.GEN.110(f) and GM2 ORO.GEN.110(f), the term ‘flight operations officer(s) (FOOs)’ used in EASA Opinion No 02/2020¹⁸ is made consistent and used as ‘flight operations officer/flight dispatcher(s)’.

GM1 ORO.GEN.110(c) Operator responsibilities — OPERATIONAL CONTROL (amended)

In point (b) of this GM, the ICAO reference is no longer valid and has therefore been replaced with an updated one. ICAO Documents 10106 and 9868 provide updated information about operational control systems, their typical tasks, and provide guidance on how to draft the training programmes, to improve consistency among operators, service providers of operational control and training organisations. These Documents are based on the principle that operator control centres (OCCs) might differ among operators, so for those that have already implemented a robust OCC based on recent relevant standards (i.e. IOSA from IATA), the implementation of these Documents will be relatively easy. Regarding training, the ‘competence-based training’ (CBT) model is now included, enabling a more dedicated training adapted to the different job holders in an OCC considering the specificities of the operators as well.

The Documents provide more references for the training of the OCC personnel, referred to in the AMC as ‘operational control personnel’ (OCP), which encompasses FOO/FD and other relevant tasks at the OCCs. The current Air OPS Regulation refers to the OCP as ‘flight operations officer (FOO)/flight dispatcher (FD)’ indistinctly without naming concrete tasks. ICAO Doc 10106 presents several typical tasks in an OCC and typical designations for these tasks, but leaves the designation of the job titles to the operator.

EASA is also working on this topic under another task (RMT.0392¹⁹) to improve the provisions of the Air OPS Regulation.

¹⁸ <https://www.easa.europa.eu/document-library/opinions/opinion-022020>

¹⁹ Regular update of air operations rules (<https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0392>).

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

Several stakeholders commented that EASA should include a training programme for OCP in the rules and ‘undertake a rulemaking task for the initiation of a flight dispatch system in Europe, similar or identical to that which operates in the USA’ (see CRD 2016-06 (A)).

There is no specific provision in the Basic Regulation that mandates a European licence for OCP as they do not share the responsibility of the operational control of a flight with the commander. In addition, ICAO Annexes 1 and 6 do not require a licence for such personnel either. Nevertheless, EASA acknowledges the importance of the OCP functions and the need for more harmonised training across Europe. Therefore, this new AMC with a training programme for those OCP whose tasks and responsibilities include flight monitoring and flight watch for the purpose of fuel planning and management is now introduced. This is the first step in addressing the training requirements for FOO/FDs in the Air OPS Regulation in a wider context: training requirements for personnel involved in operational control activities. As this is a more complex task, which requires input from experts in the domain of flight operations performed in an OCC, it will be addressed in a separate RMT (RMT.0392²⁰).

This new AMC presents a training programme for OCP for CAT operators that implement ‘individual fuel schemes’ as per point CAT.OP.MPA.180(d)(2). The level of OCP used by the operator should be flight dispatchers (FDs) due to the complex task that personnel is going to carry out, as detailed in ICAO Doc 10106. However, in Europe, neither the implementing regulations nor this AMC distinguish between FOO and FDs. This new AMC does not imply that the FOO/FDs will share responsibility for the flight’s operational control with the commander, nor that a licence for this position is required.

It should be noted that the AMC reinforces flight monitoring and flight watch as important tasks for the implementation of individual fuel schemes.

The AMC includes the following:

- training programme for OCP for flight monitoring or flight watch;
- initial training;
- operator-specific training;
- recurrent training; and
- retaining of knowledge, skills, and qualifications for instructors of OCP.

The training programme is based on the provisions of ICAO Annex 1. Additional training elements are included, based on examples of good practices by operators that have already established a training programme for FOOs. These additional elements are the following:

- the effects of meteorological conditions on radio reception on the aircraft used by the operator;
- all-weather operations;
- navigation and radio equipment on the aircraft used by the operator;
- procedures for operations beyond 60 minutes including, if applicable, extended-diversion-time operations (EDTOs);

²⁰ Regular update of air operations rules (<https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0392>).



- de-icing/anti-icing; and
- special aerodromes.

The AMC explains that general (initial) training should be followed by training on specific procedures of the operator (as per the model of type rating training that is followed by operator conversion training).

An interval for the recurrent training is also included, as well as minimum conditions for ground instructors for the retaining of knowledge, skills, and qualifications.

The explanations provided in EASA Opinion No 02/2020²¹ in relation to the definitions of ‘alternate aerodrome’, ‘flight following’, ‘flight monitoring’ and ‘flight watch’ are all relevant to further understand the new GM1 ORO.GEN.130(b) *Changes related to an AOC holder*.

The amendments introduced to this GM are merely editorial to replace the terms that were amended on the level of the Regulation.

AMC3 ORO.MLR.100 Operations manual — general

The amendments introduced to this GM are merely editorial to replace the terms that were amended on the level of the Regulation.

AMC and GM to Annex IV (Part-CAT ‘COMMERCIAL AIR TRANSPORT OPERATIONS’) to the Air OPS Regulation

More details on the AMC and GM to Annex IV (Part-CAT) issued by this Decision can be found in Section 2.3.2.2 *Overview of changes to CAT operations with aeroplanes* of EASA Opinion No 02/2020²¹. The explanations below only cover the amendments to the draft AMC and GM that have been made after the Opinion was issued.

AMC1 CAT.GEN.MPA.180(a)(18) Documents, manuals, and information to be carried — APPROPRIATE METEOROLOGICAL INFORMATION (new)

This new AMC has been created to clarify the term ‘appropriate meteorological information’, and the explanation below differs from that presented in EASA Opinion No 02/2020²¹.

EASA considered it necessary to introduce a cross reference to the regulation laying down the requirements for providers of meteorological services (Annex V (Part-MET) to Commission Implementing Regulation (EU) 2017/373²²). That Regulation, in its points MET.TR.215 (a) and (e), defines how the meteorological information is to be presented and the related flight documentation to be given to operators and crews.

The AMC also includes the new concept of ‘supplemental meteorological information’, to be used especially by helicopter operators in specific operations described in the AMC. The operation of helicopters implies flights where access to appropriate meteorological information is difficult (mountain-isolated aerodromes, offshore operations, etc.), where the pilot can use meteorological

²¹ <https://www.easa.europa.eu/downloads/119248/en>

²² Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011, (EU) No 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011 (OJ L 62, 8.3.2017, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R0373&qid=1645547832343>).

information from other sources, such as human observations or digital imagery. Regarding the latter, modern helicopters are equipped with systems capable of providing the pilot with meteorological information. The AMC includes means for the operator to evaluate when such ‘supplemental meteorological information’ is appropriate for the intended operation.

The term ‘supplemental meteorological information’ explained above should not be confused with the term ‘supplementary information’. The difference is explained in the new GM3 CAT.GEN.MPA.180(a)(18).

Similar amendments were made to the AMC and GM to Part-NCC and Part-SPO, with the introduction of AMC1 NCC.GEN.140(a)(17) and AMC1 SPO.GEN.140(a)(18) and related GM.

GM1 CAT.GEN.MPA.180(a)(18) and GM2 CAT.GEN.MPA.180(a)(18) Documents, manuals, and information to be carried

These two new GM emphasise the importance of using ‘appropriate meteorological information’ for each operation. It is the responsibility of the operator to make sure that the information comes from certified and/or other reliable sources. For the latter, the operator has an active role in evaluating the source of the information considering certain parameters explained in the GM.

Regarding the term ‘authoritative’ included in GM2 CAT.GEN.MPA.180(a)(18), it is defined in GM1 32 Authoritative source — see GM to Annex I (Definitions) to Commission Implementing Regulation (EU) 2017/373.

AMC1 CAT.OP.MPA.181, point (f)

EASA and the RMG did not conclude on what routing assumptions are necessary for the calculation of the route from the most critical point to the fuel ERA. For example, the ETOPS provisions require ‘a terrain avoidance route’ while the old fuel policy regulation did not explicitly require it. The same applies for the approved threshold distances. Therefore, this Decision does not forbid the following practice:

- (1) to use the great circle distance to the fuel ERA;
- (2) so that the fuel ERA is not limited to the approved threshold distance.

AMC5 CAT.OP.MPA.182 Fuel/energy scheme — aerodrome selection policy — aeroplanes BASIC FUEL SCHEME — SAFETY MARGINS FOR METEOROLOGICAL CONDITIONS (new)

This AMC provides means for the operator to plan the take-off alternate aerodrome using operating minima instead of planning minima. The possibility to use operating minima is also available for planning the destination aerodrome. In most cases, the planning of alternate aerodromes, including destination alternate aerodromes, is done using the planning minima table of AMC1 CAT.OP.MPA.182 *Basic fuel scheme — planning minima*; however, this table is not applicable to take-off alternate aerodromes. The second part of point (a) includes the old requirement in CAT.OP.MPA.185 whereby the commander must check the weather at the take-off alternate aerodrome just before departure and, in addition, ensure that the weather forecast from 1 hour before to 1 hour after the estimated time of arrival (ETA) at the aerodrome will be above the minima. Thus, the possible imprecision of the weather forecast is reduced. (Note: The safety margin of ± 1 hour remains in the AMC.)

Some amendments were made to the text of this AMC since the publication of EASA Opinion No 02/2020²³. Point (c) now details that the limitations related to one-engine-inoperative (OEI) should be considered at the planning stage for the selection of take-off alternate and isolated destination aerodromes. This considers whether one or two safe-landing options are available and whether a single critical failure will prevent the aircraft from landing. When a take-off alternate is required, that means that the departure aerodrome is not available and only the take-off alternate is available. The pilot will use such take-off alternate in the event of a critical failure (no failure means the pilot will fly to destination); therefore, the operator should plan the take-off alternate considering a critical failure. For the basic fuel scheme, such critical failure is an engine failure following the traditional approach. For the isolated destination aerodrome, the same logic applies — there is only a single safe-landing option and at planning stage some consideration must be given to the case of a single failure.

AMC8 CAT.OP.MPA.182 Fuel/energy scheme — aerodrome selection policy — aeroplanes BASIC FUEL SCHEME WITH VARIATIONS — PLANNING MINIMA (new)

During the adoption process of the fuel Regulation, Sweden, Denmark and Norway requested to address an edge case scenario where a number of ILSs at their aerodromes are categorised as Type A instrument approach operation instead of Type B. This usually does not happen in the rest of Europe as the system minima for an ILS is 200 ft. To address this issue, EASA worked together with the NCAs from Sweden, Denmark and Norway to develop a new basic fuel scheme with variations.

The basic fuel scheme with variations in AMC8 CAT.OP.MPA.182 proposes something intermediate of what is included in AMC6 CAT.OP.MPA.182 for basic fuel schemes and AMC9 CAT.OP.MPA.182 for basic fuel schemes with variations.

GM1 CAT.OP.MPA.182 Fuel/energy scheme — aerodrome selection policy — aeroplanes — BASIC FUEL SCHEME (new)

A new point (c) titled ‘ONE OR MORE AERODROMES’ was introduced following feedback received from Member States during the adoption of the fuel Regulation. Member States requested further clarification on the relationship between:

- CAT.OP.MPA.182 point (d) which requires one or more aerodromes to be selected in the ATC flight plan to ensure two safe-landing options; and
- CAT.OP.MPA.181 point (c)(4)(ii) which allows to operate without an alternate.

The new point (c) complements point (d) of the same GM (already proposed in Opinion No 02/2021²⁴).

2.3.5 Details of the amendments to helicopter operations

More details on the AMC and GM applicable to helicopter operations issued by this Decision can be found in Section 2.3.2.3 *Overview of changes to Part-CAT and Part-SPA operations for helicopters, as well as helicopter-specific changes to Part-NCC, Part-NCO, and Part-SPO* of EASA Opinion No 02/2020²⁵. Only editorial changes have been made to the AMC and GM after the Opinion was issued.

²³ <https://www.easa.europa.eu/downloads/119248/en>

²⁴ Opinion No 02/2021 *All-weather operations and review of crew training requirements* (<https://www.easa.europa.eu/document-library/opinions/opinion-022021>).

²⁵ Opinion No 02/2020 *Fuel/energy planning and management* (<https://www.easa.europa.eu/downloads/119248/en>).

2.3.6 Details of the amendments to Part-NCC, Part-NCO and Part-SPO non-commercial operations with aeroplanes and helicopters — helicopter operations

More details on the AMC and GM to Part-NCC, Part-NCO and Part-SPO issued by this Decision can be found in Section 2.3.2.4 *Overview of changes to Part-NCC, Part-NCO, and Part-SPO non-commercial operations with aeroplanes and helicopters* of EASA Opinion No 02/2020²⁶. The explanations below only cover the amendments to the draft AMC and GM that have been made after the Opinion was issued.

AMC1 NCC.GEN.140(a)(17) and related GM

The explanations included above in relation to AMC1 CAT.GEN.MPA.180(a)(18) apply to AMC1 NCC.GEN.140(a)(17) and the related GM.

AMC1 SPO.GEN.140(a)(18) and related GM

The explanations included above in relation to AMC1 CAT.GEN.MPA.180(a)(18) apply to AMC1 SPO.GEN.140(a)(18) and the related GM.

2.4. What are the stakeholders' views — outcome of the consultation

Please refer to Section 2.4 *What are the stakeholders' views — outcome of the consultation* of EASA Opinion No 02/2020²⁶.

2.5. What are the benefits and drawbacks of the amendments

Please refer to Sections 2.3.1 *Regulatory impact assessment (RIA) summary*, 2.4 *What are the stakeholders' views — outcome of the consultation* and 2.5 *What are the expected benefits and drawbacks of the proposals* of EASA Opinion No 02/2020²⁶, which explain in detail the benefits and drawbacks expected from the amendments introduced by the fuel Regulation and this Decision.

As explained in Section 2.3.4 of the Explanatory Note, this Decision introduces a new basic fuel scheme with variations in AMC8 CAT.OP.MPA.182 *Fuel/energy scheme — aerodrome selection policy — aeroplanes — BASIC FUEL SCHEME WITH VARIATIONS — PLANNING MINIMA*. When assessing the impact of this new scheme, EASA identified that it reinforces the overall positive impact of the aerodrome selection policy. Therefore, the conclusions drawn in EASA Opinion No 02/2020 (in particular those in Section 2.3.1, point 'RIA update for the new CAT.OP.MPA.182 and related AMC') remain valid.

²⁶ Opinion No 02/2020 *Fuel/energy planning and management* (<https://www.easa.europa.eu/downloads/119248/en>).

3. How we monitor and evaluate the amended AMC and GM

Please refer to Section 2.6 *How we monitor and evaluate the rules* of EASA Opinion No 02/2020²⁷.

²⁷ Opinion No 02/2020 *Fuel/energy planning and management* (<https://www.easa.europa.eu/downloads/119248/en>).



4. References

4.1. Related EU regulations

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

4.2. Related EASA decisions

- Decision N° 2012/015/Directorate R of the Executive Director of the Agency of 24th October 2012 on Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council — ‘Guidance Material to Annex I — Definitions’
- Decision 2014/025/R of the Executive Director of the Agency of 28 July 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-ARO of Regulation (EU) No 965/2012 and repealing Decision 2014/014/R of the Executive Director of the Agency of 24 April 2014 — ‘AMC and GM to Part-ARO — Issue 3’
- Decision 2014/017/R of the Executive Director of the Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-ORO of Regulation (EU) No 965/2012 and repealing Decision 2012/017/R of the Executive Director of the Agency of 24 October 2012 — ‘AMC and GM to Part-ORO — Issue 2’
- Decision 2014/015/R of the Executive Director of the Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-CAT of Regulation (EU) No 965/2012 and repealing Decision 2012/018/R of the Executive Director of the Agency of 24 October 2012 — ‘AMC and GM to Part-CAT — Issue 2’
- Decision N° 2012/019/Directorate R of the Executive Director of the Agency of 24th October 2012 on Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council — ‘Acceptable Means of Compliance and Guidance Material to Part-SPA’
- Decision N° 2013/021/Directorate R of the Executive Director of the Agency of 23 August 2013 on adopting Acceptable Means of Compliance and Guidance Material for Non-commercial operations with complex motor-powered aircraft (Part-NCC)
- Decision 2014/016/R of the Executive Director of the Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-NCO of Regulation (EU) No 965/2012 and repealing Decision 2013/022/R of the Executive Director of the Agency of 23 August 2013 — ‘AMC and GM to Part-NCO — Issue 2’
- Decision 2014/018/R of the Executive Director of the Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-SPO of Regulation (EU) No 965/2012 — ‘AMC and GM to Part-SPO’

4.3. Other reference documents

- ICAO Annex 6 to the Convention on International Civil Aviation ‘Operation of Aircraft’, Part I, International Commercial Air Transport — Aeroplanes, 10th edition, July 2016, Amendment 41
- ICAO Doc 9976 ‘Flight Planning and Fuel Management (FPFM) Manual’, 1st edition, 2015
- ICAO Doc 4444, ‘Procedures for Air Navigation Services — Air Traffic Management’, 16th edition, 2-16
- ICAO Circular 303-AN/176 ‘Operational Opportunities to Minimize Fuel Use and Reduce Emissions’, February 2003
- EASA SIB 2018-08 ‘In-Flight Fuel Management — Phraseology for Fuel-Related Messages between Pilots and Air Traffic Control’, 8 May 2018
- EASA SIB 2014-16 ‘Aeroplane Refuelling with One Engine Running’, 23 May 2014, corrected 1 July 2014
- EASA SIB 2014-20 ‘Aeroplane Operations in Crosswind Conditions’, 23 June 2014
- Safety Recommendation FRAN-2012-026, Bureau d'enquêtes et d'analyses pour la sécurité de l'aviation civile (BEA)



5. Related documents

- CRD 2016-06 (A) *Fuel planning and management: Aeroplanes — Annex I (Definitions), Part-ARO, Part-CAT*²⁸
- CRD 2016-06 (B) *Fuel planning and management: Helicopters — Annex I (Definitions), Part-CAT, Part-SPA, Part-NCC, Part-NCO & Part-SPO*²⁹
- CRD 2016-06 (C) *Fuel planning and management: Aeroplanes/helicopters — Part-NCC, Part-NCO & Part-SPO*³⁰
- NPA 2016-06 (A) *Fuel planning and management: Aeroplanes — Annex I (Definitions), Part-ARO, Part-CAT*³¹
- NPA 2016-06 (B) *Fuel planning and management: Helicopters — Annex I (Definitions), Part-CAT, Part-SPA, Part-NCC, Part-NCO & Part-SPO*³²
- NPA 2016-06 (C) *Fuel planning and management: Aeroplanes/helicopters — Part-NCC, Part-NCO & Part-SPO*³³

²⁸ <https://www.easa.europa.eu/document-library/comment-response-documents/crd-2016-06>

²⁹ <https://www.easa.europa.eu/document-library/comment-response-documents/crd-2016-06-b>

³⁰ <https://www.easa.europa.eu/document-library/comment-response-documents/crd-2016-06-c>

³¹ <https://www.easa.europa.eu/document-library/notices-of-proposed-amendment/npa-2016-06>

³² <https://www.easa.europa.eu/document-library/notices-of-proposed-amendment/npa-2016-06-b>

³³ <https://www.easa.europa.eu/document-library/notices-of-proposed-amendment/npa-2016-06-c>

