



Notice of Proposed Amendment 2019-08

Update of ORO.FC

RMT.0599

EXECUTIVE SUMMARY

The objective of this Notice of Proposed Amendment (NPA) is to improve the safety of helicopter operations through requirements aiming at more efficient flight crew training. Training effectiveness and competence is one of the most significant systemic issues in the European Plan for Aviation Safety (EPAS).

In addition to evidence-based training (EBT), this NPA proposes to improve the existing mandatory requirements of Subpart ORO.FC, which had been developed in the 1990s and transposed from EU-OPS and JAR-OPS. The updates proposed cover aeroplanes and helicopters that carry out commercial air transport (CAT), specialised operations (SPO) and non-commercial operations with complex motor-powered aircraft (NCC).

This NPA proposes to:

- (a) review the applicable conditions for multi-pilot operations of single-pilot certified helicopters,
- (b) review the requirements for initial training and checking under SPO,
- (c) review the requirements for recurrent training and checking under CAT and SPO,
- (d) to review the conditions for the operation on different aircraft types or variants,
- (e) introduce the option for NCC operators to accept previous training and checking, and
- (f) address a number of other minor issues regarding flight crew training and checking.

Some changes are expected to increase safety in a cost-effective way, whereas others should reduce the training costs without an impact on safety. The proposed rules follow a more performance-based approach. Several clarifications are also introduced to maintain a high level of safety for air operations by ensuring a harmonised implementation of Regulations (EU) Nos 1178/2011 and 965/2012.

For EBT, EASA published NPA 2018-07 on 27 July 2018. EBT is a voluntary programme accessible to aeroplane operators that fly multi-pilot operations and have access to simulators, and will soon be extended to helicopters.

Action area:	Human factors and competence of personnel		
Affected rules:	Part-ORO and Part-CAT of the Air OPS Regulation, Part-FCL of the Aircrew Regulation (and the associated AMC & GM)		
Affected stakeholders:	national aviation authorities, pilots, flight instructors, flight examiners, approved training organisations and air operators		
Driver:	Safety	Rulemaking group:	Yes
Impact assessment:	Light	Rulemaking Procedure:	Standard

• EASA rulemaking process milestones

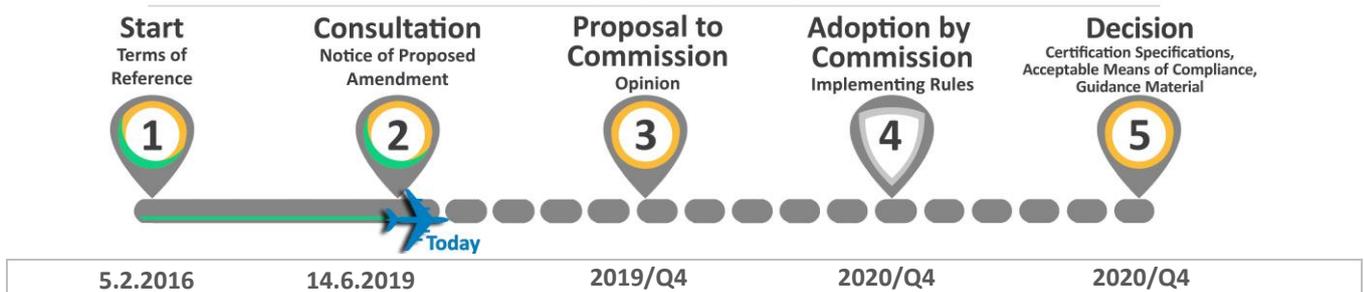


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1. About this NPA

1.1. How this NPA was developed

The European Union Aviation Safety Agency (EASA) developed this NPA in line with Regulation (EU) No 2018/1139¹ (the 'Basic Regulation') and the Rulemaking Procedure². This rulemaking activity is included in EPAS³ under rulemaking task (RMT).0599. The text of this NPA has been developed by EASA based on the input of the Rulemaking Group (RMG) RMT.0599. This group is divided in the:

- (a) [Main group](#)⁴, which ensures consistency across the different tasks of RMT.0599. It also develops an aviation blended learning environment (ABLE) concept and deals with general updates of ORO.FC including interoperability solutions;
- (b) [Evidence-based training \(EBT\) subgroup](#)⁵, which is responsible for developing the EBT concept; and
- (c) [Helicopters subgroup](#)⁶, which is developing and updating the helicopter training requirements including EBT.

This NPA is primarily based on the inputs provided by the helicopters sub-group. EASA has also widened the consultation to cover specialised operations (SPO) by making use of focused consultations. EASA also consulted non-commercial operators of complex motor-powered aircraft (NCC) by organising a workshop⁷ in February 2017.

This NPA focuses on reviewing the existing regulation and fixing some of the implementation issues brought to the attention of EASA. In addition, it proposes new AMC and GM to ORO.FC Section 1 for NCC.

This NPA does not address EBT. EBT for aeroplane commercial air transport (CAT) recurrent training and checking is addressed under NPA 07-2018 published on 27 July 2018. EBT for NCC, for initial training and checking and for helicopters will be addressed in further publications.

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/?uri=CELEX:32018R1139>).

² EASA is bound to follow a structured rulemaking process as required by Article 115 of Regulation (EC) No 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?publication_type%5B%5D=2467

⁴ Chaired by Yann Renier (IATA) and Phill Adrian (AIA). Members: Enrique Monzón (AESA España), Rogier Leeflang (IACA), Ståle Rosland (CAA Norway), David Lord (GAMMA). Project management Francisco Arenas Alvares EASA.

⁵ Chaired by Phil Cullen (UK CAA). Secretariat Ascanio Russo EASA.

⁶ Chaired by Tim Rolfe (Heli-offshore).

⁷ 1st Workshop on the Implementation of the Evidence-based Training <https://www.easa.europa.eu/newsroom-and-events/events/1st-workshop-implementation-evidence-based-training>



1.2. How to comment on this NPA

Please submit your comments using the automated **Comment-Response Tool (CRT)** available at <http://hub.easa.europa.eu/crt/>⁸.

The deadline for submission of comments is **13 September 2019**.

1.3. The next steps

Following the closing of the public commenting period, EASA will review all the comments received.

Based on the comments received, EASA will consider the need for amendments to Regulations (EU) Nos 965/2012⁹ ('Air OPS Regulation') and 1178/2011¹⁰ ('Aircrew Regulation') and, if necessary, issue an opinion. An ED Decision will be developed for the parts of this NPA not linked to amendments to implementing rules (IRs) (e.g. proposed AMC and GM for ORO.FC Section 1 for NCC).

The opinion would be submitted to the European Commission, which will use it as a technical basis in order to take a decision on whether or not to amend the Regulations.

If the Commission decides that the Regulation should be amended, EASA will issue a decision that amends the related acceptable means of compliance (AMC) and guidance material (GM) to comply with the amendments introduced into the Regulation.

The comments received on this NPA and the EASA responses to them will be reflected in a comment-response document (CRD). The CRD will be appended to the opinion.

EASA will further update ORO.FC. These are the future regulatory efforts:

- (a) Following the publication of the concept paper on ABLE, EASA may proposed requirements to allow this concept.
- (b) An EBT operator conversion course (OCC) and EBT type rating training for CAT. This activity will ensure a single philosophy of training in the operator. An NPA pertaining to this activity is scheduled to be published in the course of 2021.
- (c) EBT for helicopters and NCC. This activity will ensure a single philosophy of training across the industry. This may also allow training data exchange across the industry.

⁸ In case of technical problems, please contact the CRT webmaster (crt@easa.europa.eu).

⁹ 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) (<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012R0965&rid=1>).

¹⁰ Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 311, 25.11.2011, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1528301490110&uri=CELEX:32011R1178>).



2. In summary — why and what

2.1. Why we need to change the rules — issue/rationale

The complexity of the aviation system is continuously increasing; also, new technologies are emerging rapidly on the aviation market. Therefore, it is of key importance for the aviation personnel to:

- (a) have the right competencies through the adaptation of training methods in order to cope with new challenges. This is one of the most significant systemic issues in EPAS; and
- (b) take advantage of the safety-enhancing opportunities presented by new technologies (see EPAS chapters on Human factors and competence of personnel).

Elements of the current mandatory training and checking system are getting out of date and are no longer able to address the issues presented above. Also, they are not compatible with further developments regarding the voluntary application of EBT and competency-based training (CBT).

The main implementation issues that justify a full review of the provisions contained in ORO.FC are the following:

- (a) Multi-pilot operations of single-pilot certified helicopters
- (b) Unclear definitions of single-pilot and multi-pilot helicopters result in disharmonised pilot privileges
- (c) Holders of airline transport pilot licence (ATPL) for the helicopter category (ATPL(H)) are very rare except in offshore operations, because few pilots have passed the ATPL(H) theoretical knowledge examination and even fewer pilots manage to acquire the required multi-pilot experience.
- (d) The lack of ATPL(H) holders then restricts multi-pilot operations under CAT
- (e) Multi-pilot operations may take place without the appropriate multi-crew cooperation training.
- (f) Operator proficiency checks (OPCs) for CAT operations with helicopters
- (g) The same failure conditions are repeated every 6 months under CAT OPCs, which does not cater for the training and checking needs
- (h) Training and OPCs for NCC and SPO
- (i) Initial training under SPO is barely defined
- (j) Operations on more than one type or variant of helicopters
- (k) A helicopter pilot involved in CAT is restricted to three helicopter types. This has appeared to be too restrictive in some cases.
- (l) Since the scope of the Air OPS regulation was extended to NCC, SPO and NCO, the number of types flown by a CAT helicopter pilot includes the types flown under NCC, SPO and NCO. This was not intended and is also too restrictive.
- (m) Use of operator difference requirements (ODRs) tables



- (n) Crew resource management (CRM) issues including in-flight CRM assessment
- (o) In-flight CRM assessment on an aircraft where no jump seat is available is theoretically limited to the pre-flight and post-flight briefings. This should not be the case.
- (p) Initial and recurrent training and checking for SPO and CAT operations starting and ending at the same location, with small aircraft.
- (q) Initial training for the purpose of learning a new specialised operation needed to be defined
- (r) Recurrent checking is too restrictive, by requiring one OPC per type or variant, per specialised operation, per year, per pilot.
- (s) The lack of AMC and GM for NCC
- (t) Regulatory material is needed to implement the Basic Regulation requirement (Annex V 'Essential requirements for air operations') that 'the aircraft operator must use only suitably qualified and trained personnel and implement and maintain training and checking programmes for the crew members and other relevant personnel that are necessary to ensure the currency of their certificates, ratings and qualifications'.

This NPA addresses the flight crew training and checking requirements for all operators except those operating under NCO and those who will fully implement EBT.

NPA 2018-07 introduces the concept of EBT to recurrent training and checking, for aeroplane operators involved in CAT.

Future developments will introduce the concept of EBT to initial training and checking, for aeroplane CAT operations, and will extend the concept of EBT to helicopters and NCC.

2.1.1. Safety recommendations (SRs) — outcome of the EASA safety assessment

The following SRs, amongst others, were pertinent to the broader review of ORO.FC, as set out in the Terms of Reference for RMT.0599¹¹. The SRs were considered and for some of them EASA took the decision to take NO regulatory action.

FRAN-2009-007	The French Accident Investigation Board recommends that EASA to study the broadening of the conditions requiring the presence of a crew of two pilots in public transport.
Evaluation of the SR	<p>EASA conducted a safety review of worldwide single-pilot commercial air transport occurrences during the last 10 years.</p> <p>Instrument Flight Rules (IFR) or night operation are common contributing factors evidenced in the review of occurrences and ORO.FC.200 (c) of Regulation (EU) No 965/2012 issued on 5 October 2012 sets the following specific requirements when operating under such conditions:</p> <ul style="list-style-type: none"> • For aeroplanes, the minimum flight crew shall be two pilots for all turbo-propeller aeroplanes with a maximum operational passenger seating configuration (MOPSC) of more than nine and all turbojet aeroplanes. • For helicopters, the minimum flight crew shall be two pilots for all operations with an MOPSC of more than 19 and for operations under IFR of helicopters with an MOPSC of more than 9. • When single-pilot operation is permitted, additional requirements are added in ORO.FC.202 in

¹¹ <https://www.easa.europa.eu/sites/default/files/dfu/ToR%20%26%20Concept%20Paper%20RMT.0599%20Issue%201.pdf>



	<p>terms of crew training and qualification.</p> <p>The occurrence review does not show a predominant risk in single-pilot commercial air transport operations, considering that many historical single-pilot occurrences would require a second crew if those EASA operational rules were applicable.</p> <p>To be complete, a more specific review of helicopter emergency medical service (HEMS) occurrences was conducted, because it introduces specific risks when selecting the landing site and the MOPSC is often below 9. This type of operation is covered by a Specific Approval (Part-SPA, Subpart J) and a minimum crew of 2 pilots at night or 1 pilot and 1 HEMS technical crew member under specific conditions is defined (SPA.HEMS.130 (e)). Part-ORO, Subpart TC defines training requirements for HEMS technical crews.</p> <p>On this basis, the restrictions and mitigation means applied for single-pilot operations appear coherent with the safety review.</p>
Additional information	This NPA will further enable multi-pilot operations of single-pilot certified helicopters on a voluntary basis.

FRAN-2013-52	The French Accident Investigation Board recommends that EASA take priority action to modify the regulations to make mandatory the presence of a two-pilot crew for medical evacuation flights.
Evaluation of the SR	<p>EASA conducted a safety review of worldwide single-pilot commercial air transport occurrences during the last 10 years. This includes air ambulance flights.</p> <p>Instrument Flight Rules (IFR) or night operation are common contributing factors evidenced in the review of occurrences and ORO.FC.200 (c) of Regulation (EU) No 965/2012 issued on 5 October 2012 sets the following specific requirements when operating under such conditions:</p> <ul style="list-style-type: none"> • For aeroplanes, the minimum flight crew shall be two pilots for all turbo-propeller aeroplanes with a maximum operational passenger seating configuration (MOPSC) of more than nine and all turbojet aeroplanes. • For helicopters, the minimum flight crew shall be two pilots for all operations with an MOPSC of more than 19 and for operations under IFR of helicopters with an MOPSC of more than 9. • When single-pilot operation is permitted, additional requirements are added in ORO.FC.202 in terms of training and qualification. <p>The occurrence review does not show a predominant risk in single-pilot commercial air transport operations, considering that many historical single-pilot occurrences would now require a second crew if those EASA operational rules were applicable.</p> <p>To be complete, a more specific review of helicopter emergency medical service (HEMS) occurrences was conducted, because it introduces specific risks when selecting the landing site compared to air ambulance flight and the MOPSC is often below 9. This type of operation is covered by a Specific Approval (Part-SPA, Subpart J) and a minimum crew of 2 pilots at night or 1 pilot and 1 HEMS technical crew member under specific conditions is defined (SPA.HEMS.130 (e)). Part-ORO, Subpart TC defines training requirements for HEMS technical crews.</p> <p>On this basis, the restrictions and mitigation means applied for single-pilots operations appear coherent with the safety review.</p>
Additional information	For helicopters, additional training for emergency medical evacuation flights (HEMS) is considered under NPA 2018-04.



GERF-2009-025	The European Safety Agency (EASA) should regulate to require that ‘Single-Pilot Aircraft’ engaged in EU-OPS 1.940 flights made in accordance with Instrument Flight Rules and at night, must have a minimum crew of two pilots, and that their training is in accordance with JAR-FCL including Multi-Crew-concept (MCC) training.
Evaluation of the SR	<p>Commission Regulation (EU) No 965/2012, of 5 October 2012 related to air operations laid down specific flight crew composition requirement in ORO.FC.100.</p> <p>Even for single-pilot aircraft, the flight crew shall include additional flight crew members when required by the type of operation and shall not be reduced below the number specified in the operations manual. Therefore, two pilots are required to operate Commercial Air Transport operations under Instrument Flight Rules (IFR) or at night under the specific provisions defined in ORO.FC.200:</p> <ul style="list-style-type: none"> - For aeroplanes, the minimum flight crew shall be two pilots for all turbo-propeller aeroplanes with a maximum operational passenger seating configuration (MOPSC) of more than nine and all turbojet aeroplanes. - For helicopters, the minimum flight crew shall be two pilots for all operations with an MOPSC of more than 19 and for operations under IFR of helicopters with an MOPSC of more than 9. - When single-pilot operation is permitted, additional requirements are added in ORO.FC.202 in terms of training and qualification. <p>It is the operator responsibility to designate one pilot-in-command/ commander amongst the flight crew. In accordance with ORO.FC.115:</p> <ul style="list-style-type: none"> - the flight crew member shall have received Crew Resource Management (CRM) training, appropriate to his/her role, as specified in the operations manual; and - elements of CRM training shall be included in the aircraft type or class training and recurrent training as well as in the command course. <p>This address the Multi-Crew-cooperation concept (MCC) training.</p>
Additional information	This NPA will further enable multi-pilot operations of single-pilot certified helicopters and require MCC training for such multi-pilot operations.

IRLD-2014-003	The European Safety Agency should review Council Regulation (EEC) No 3922/91 as amended by Commission Regulation (EC) 859/2008, to ensure that it contains a comprehensive syllabus for appointment to commander and that an appropriate level of command training and checking is carried out.
Evaluation of the SR	<p>Paragraphs ORO.FC.100 and ORO.FC.115 (a) of Annex III (Part-ORO) ‘Organisation Requirements for Air Operations’ to Commission Regulation (EU) No 965/2012 on air operations requires the operator to define the crew composition and provide Crew Resource Management (CRM) training appropriate to the flight crew member’s role as specified in the operations manual.</p> <p>ORO.FC.105 (b) and (c) specify the conditions to be fulfilled by a flight crew member before he/she can be assigned as commander. ORO.FC.205 lists the elements of the command course including training and checking. The development of a detailed course syllabus is the responsibility of the operator and needs to be approved by the authority in accordance with ORO.FC.145 (c).</p> <p>ED Decision 2015/012/R published on 4 May 2015 on Upset Prevention and Recovery Training provides new Guidance Material (GM) to ORO.FC.105 to emphasise that the pilot-in-</p>



	<p>command/commander's knowledge of the route to be flown should include an understanding of environmental phenomena with the potential to induce an upset. It emphasises the need for understanding climatology relevant to the route of operation and relevant mitigating procedures because recent 'loss of control' aeroplane accidents appear to have been connected with convective cloud in the Inter Tropical Convergence Zone (ITCZ).</p> <p>CRM is also a major contributing factor to many occurrences, therefore the Agency significantly extended and modernised the existing CRM training scheme with ED Decision 2015/022/R, which entered into force on 1 October 2016. In particular, AMC1 ORO.FC.115 now refers to the broader integration of CRM principles into flight crew training and operations and requires in-depth knowledge of CRM elements to be included in the command course (ORO.FC.115 (b)).</p> <p>The CRM extension recognises the importance of Human Performance and its non-technical skills. Emphasis is given on Threat and Error Management, which has been instrumental in the development of Evidence Based Training (EBT) as a pilot training concept. EBT pilot competences address both technical and non-technical skills and are used as countermeasures to threat and errors.</p> <p>The Agency considers that the Commander competence is essential and has already taken measures to develop their knowledge and non-technical skills.</p>
Additional information	This NPA considers additional training and checking for SPO and NCC as part of the operator conversion course.

SPAN-2004-030	It is recommended to EASA that they evaluate the possibility of making mandatory requirements to train flight crew in go-around manoeuvres even from below the decision height, with the aim of reducing the response time when faced with unforeseen events.
Evaluation of the SR	<p>Mitigating Loss of Control In-flight (LOC-I) is one of the European Aviation Safety Agency's (EASA's) highest priorities, and the Agency has published provisions on flight crew Upset Prevention and Recovery Training (UPRT) with the specific objective of ensuring that flight crew acquire the necessary competencies to prevent and recover from developing or developed upsets.</p> <p>The Agency published Opinion No 06/2017 on 'loss of control prevention and recovery training' in the wake of rulemaking task RMT.0581 on 29 June 2017. This Opinion proposes to introduce mandatory UPRT, testing and checking at various stages for pilots who intend to pursue a pilot career with a commercial airline.</p> <p>The newly developed advanced UPRT course, which is to be mandated as an addendum to ATP and MPL training courses and also to serve as a prerequisite prior to commencing the first type rating course in multi-pilot operations, is an important step towards enhancing a commercial pilot's resilience to the psychological and physiological aspects often associated with upset conditions. It develops the ability of the pilot to cope with unforeseen events.</p> <p>In support of the new standards, Appendix 9 — Training, skill test and proficiency checks for MPL, ATPL, type and class ratings, and proficiency checks for IRs is amended to include UPRT. It now includes go-arounds with all engines operating from various stages during instrument approach (4.2) and rejected landing with all engines operating from various heights below DH/MDH and after touchdown (4.5).</p> <p>In line with ICAO, the opinion and the decision mentioned above propose UPRT to proficiency during initial and recurrent training.</p>



SPAN-2012-066	It is recommended that the European Aviation Safety Agency (EASA), in the requirements for the issue of authorizations to aerial work operators, include specifically crews training on the spatial disorientation phenomenon and, particularly to those operators intending to perform activities in periodically or permanent snowed mountains, training on 'whiteout' phenomenon.
Evaluation of the SR	<p>This safety recommendation was originally addressed to the Spanish National Aviation Safety Agency (AESAs) and subsequently was forwarded to EASA.</p> <p>Requirements addressed to the operator are defined in Annex III (Part-ORO) to Commission Regulation (EU) No 965/2012 on air operations. The relevant provisions are:</p> <p>ORO.GEN.110 Operator responsibilities.</p> <p>Paragraph (e);</p> <p>'The operator shall ensure that all personnel assigned to, or directly involved in, ground and flight operations are properly instructed, have demonstrated their abilities in their particular duties and are aware of their responsibilities and the relationship of such duties as a whole.'</p> <p>Paragraph (f);</p> <p>'The operator shall establish procedures and instructions for the safe operation of each aircraft type, containing ground staff and crew member duties and responsibilities for all types of operation on the ground and in flight. These procedures shall not require crew members to perform any activities during critical phases of flight other than those required for the safe operation of the aircraft.'</p> <p>ORO.GEN.200 Management system.</p> <p>Paragraph (a);</p> <p>'The operator shall establish, implement and maintain a management system that includes:'</p> <p>[...]</p> <p>(3) 'the identification of aviation safety hazards entailed by the activities of the operator, their evaluation and the management of associated risks, including taking actions to mitigate the risk and verify their effectiveness.'</p> <p>(4) 'maintaining personnel trained and competent to perform their tasks.'</p> <p>[...]</p> <p>Paragraph (b);</p> <p>'The management system shall correspond to the size of the operator and the nature and complexity of its activities, taking into account the hazards and associated risks inherent in these activities.'</p> <p>ORO.FC.145 Provisions for training</p> <p>Paragraph (a)</p> <p>'All the training required in this Subpart shall be conducted:</p> <p>(1) in accordance with the training program and syllabi established by the operator in the operations manual.'</p> <p>According to the above-mentioned provisions, it is the responsibility of the operator to carry out risk assessments for the specific operations to be undertaken (the white-out phenomenon is one of many hazards which will be identified in this process). If the risk assessment defines</p>



	<p>training as a mitigating measure, the operator must establish a specific training programme. Likewise, if specific operational procedures are required, they must be established by the operator. Furthermore, the operator must ensure that the required operational standard is reached and maintained by those involved in the operations.</p> <p>The Regulation is currently only applicable to commercial air transport operations. However, through EASA Opinions Nos 01/2012 and 02/2012, the scope will be extended to commercial aerial work operations and non-commercial operations with complex motor-powered aircraft.</p> <p>The Agency therefore considers that this fulfils the intent of the Safety Recommendation.</p>
Additional information	Opinions Nos 01/2012 and 02/2012 have since been adopted and Part-NCC and Part-SPO are now in force. For helicopters, this topic is further addressed under area competency.

SWED-2011-004	<p>It is recommended that EASA: ensure that safe methods to identify and abort an unsafe visual approach, at an earlier stage (ie 300 feet) than that provided in appendix 9, part 4 of the proposed PART – FCL, be included in future training plans for flight training.</p>
Evaluation of the SR	<p>Commission Regulation (EU) 1178/2011 of 03 November 2011 related to civil aviation aircrew includes, in Appendix 9, details of the training, skill tests and proficiency checks for Multi-crew Pilot licence (MPL), Airline Transport Pilot Licence (ATPL), type and class ratings and proficiency checks for Instrument Ratings.</p> <p>The flight test tolerances provided with every proficiency check in Appendix 9 do not exclude test scenarios as described in the Safety Recommendation. The practical exercise in Section 4 (e.g. exercise/test item 4.6 for single-pilot aeroplanes) requires a go-around at minimum height as a mandatory check item. It is up to the discretion of the examiner to decide at which altitude this exercise will be flown. As a general principle for all approaches, the candidate has to demonstrate good judgement and airmanship. This means also that the abort of an approach might be initiated at an earlier stage.</p> <p>During the initial flight training, the training syllabus already includes different exercises focussing on the landing techniques and possible problems during visual approaches. Some examples are provided in EASA Executive Director (ED) Decision 2011/016/R published on 15 December 2011, on civil aviation aircrew:</p> <p>AMC 1 to Appendix 3 provides in Chapter A ‘ATP integrated course: aeroplanes’ several exercises to provide pilots with the necessary knowledge [see (d)(1) phase 1 and (d)(2) phase 2].</p> <p>AMC1 FCL.210.A related to flight instruction for the private pilot licence aeroplanes provides in Exercise 13 ‘Circuit Approach and Landing’ (with a specific sub-category missed approach/go-around/mislanding) and in Exercise 12/13E ‘Emergencies’ (with a sub-category for mislanding/go-around/missed approach) several exercises to provide pilots with the necessary knowledge and skill.</p> <p>In addition, AMC1 FCL.235 related to the content of the skill test for the Private Pilot Licence PPL(A) contains a test item called ‘go-around from low height’ [see Section 4 item (f)].</p> <p>The Agency therefore considers that this Safety Recommendation has been addressed in the above-mentioned rules and no further rulemaking action is required.</p>



UNKG-2006-102	Considering the circumstances of air ambulance flights, the Civil Aviation Authority in conjunction the JAA should review the circumstances in which a second pilot is required for public transport flights operating air ambulance services.
Evaluation of the SR	<p>The Agency conducted a safety review of worldwide single-pilot commercial air transport occurrences during the last 10 years. This includes air ambulance flights.</p> <p>Instrument Flight Rules (IFR) or night operation are common contributing factors evidenced in the review of occurrences and ORO.FC.200 (c) of Regulation (EU) No 965/2012 issued on 5 October 2012 sets the following specific requirements when operating under such conditions:</p> <ul style="list-style-type: none"> • For aeroplanes, the minimum flight crew shall be two pilots for all turbo-propeller aeroplanes with a maximum operational passenger seating configuration (MOPSC) of more than nine and all turbojet aeroplanes. • For helicopters, the minimum flight crew shall be two pilots for all operations with an MOPSC of more than 19 and for operations under IFR of helicopters with an MOPSC of more than 9. • When single-pilot operation is permitted, additional requirements are added in ORO.FC.202 in terms of training and qualification. <p>The occurrence review does not show a predominant risk in single-pilot commercial air transport operations, considering that many historical single-pilot occurrences would now require a second crew if those EASA operational rules were applicable.</p> <p>To be complete, a more specific review of helicopter emergency medical service (HEMS) occurrences was conducted, because it introduces specific risks when selecting the landing site compared to air ambulance flight and the MOPSC is often below 9. This type of operation is covered by a Specific Approval (Part-SPA, Subpart J) and a minimum crew of 2 pilots at night or 1 pilot and 1 HEMS technical crew member under specific conditions is defined (SPA.HEMS.130 (e)). Part-ORO, Subpart TC defines training requirements for HEMS technical crews.</p> <p>On this basis, the restrictions and mitigation means applied for single-pilot operations appear coherent with the safety review.</p>
Additional information	This NPA will further enable multi-pilot operations of single-pilot certified helicopters and require MCC training for such multi-pilot operations for non-urgent air ambulance services that remain under CAT. For helicopters, additional training for medical evacuation flights (HEMS) is also considered under NPA 2018-04.

2.1.2. Exemptions¹² in accordance with Article 70 ‘Safeguard provisions’/Article 71 ‘Flexibility provisions’ and/or Article 76 ‘Agency measures’ of the Basic Regulation

The exemption in accordance with Article 14 ‘Flexibility provisions’ of Regulation (EC) No 216/2008 and Article 71 of the Basic Regulation pertinent to the scope of this RMT is:

¹² Exemptions having an impact on the development of this RMT content and referring to:

- Article 70(1): Measures taken as an immediate reaction to a safety problem
- Article 71(1): Limited in scope and duration exemptions from substantive requirements laid down in the Basic Regulation and its implementing rules in the event of urgent unforeseeable affecting persons or urgent operational needs of those persons
- Article 71(3): Derogation from the rule(s) implementing the Basic Regulation where an equivalent level of protection to that attained by the application of the said rules can be achieved by other means
- Article 76(7): Individual flight time specifications schemes deviating from the applicable certification specifications which ensure compliance with essential requirements and, as appropriate, the related implementing rules



EASA exemption case 2017/072 and Recommendation No ES/01/2018 on the notification of Spain about its decision to grant a temporary exemption from ORO.FC.145 point (a)(2) of the Air OPS Regulation on the basis of Article 14(4) of Regulation (EC) No 216/2008 to:

- (a) Operators performing commercial specialised operations and/or
- (b) Commercial Air Transport (CAT) operations of passengers conducted under visual flight rules (VFR) by day, starting and ending at the same aerodrome or operating site, within a local area.

The exemption applies to ORO.FC.145 (a)(2) of the Air OPS Regulation which states that in the case of flight and flight simulation training and checking, the personnel providing the training and conducting the checks shall be qualified in accordance with Annex I (Part-FCL) to the Aircrew Regulation. Instead, the exemption allows that the proficiency check required in ORO.FC.145 (a)(2) could be conducted by a suitably qualified commander nominated by the operator, trained in CRM concepts and the assessment of CRM skills. Provided such a suitably qualified commander fulfils a number of requirements that include a minimum experience and specific training.

This exemption adds to the above-mentioned issues regarding CAT OPCs, and SPO initial and recurrent checking.

2.1.3. Alternative means of compliance (AltMoC) relevant to the content of this RMT

AltMoC having an impact on the development of this RMT content are related to the following topics:

- (a) The CAT OPC
- (b) Operations on several types or variants
- (c) Initial and recurrent training for SPO

The AltMoC are the following:

- (1) **AltMoC ORO.FC.230(b)(1)(ii) number 2015-00024 of the UK CAA** regarding the OPC of helicopters. The AltMoC transposes the existing philosophy of aeroplane air operator certificate (AOC) holders' proficiency check to helicopter AOC holders whose operations:
 - (i) are under IFR;
 - (ii) are conducted with multi-pilot crew;
 - (iii) where comprehensive recurrent training makes full use of full flight simulator (FFS);
 - (iv) embody the principles of Multi Crew Operations, CRM and TEM; and
 - (v) are covered by an extensive flight data monitoring (FDM) programme that provides feedback for training.

The AltMoC allows to check all major failures over a period of 3 years. The existing requirement to train all major failures of an aircraft's system over a period of 3 years is maintained.

- (2) **AltMoC 2017/00040 from Switzerland and AltMoC 2014/00026 from France** were taken into account by introducing the flexibility to cross-credit OPCs and line checks across types and variants. See Section 2.3.7.



- (3) **AltMoC 2018/00008 from Spain and AltMoC 2018/00018 from France** were taken into account by amending the requirements regarding the qualification of the person conducting the OPC. See Sections 2.3.6 and 2.3.12.

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 proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Section 2.1.

The general objective of this NPA is to review the flight crew training requirements while taking into account the following high-level objectives:

- (a) maintain the high aviation safety level by:
- (1) ensuring that the recurrent training and checking programmes are adequate to provide pilots with the necessary knowledge, skills and attitude to be competent in their job; and
 - (2) addressing the SRs outlined in Section 2.1.2 ‘Safety recommendations’; and
- (b) contribute to the development of efficient regulations by adapting the necessary training standards and rules to ensure that the level of safety can only be positively affected by:
- (1) introducing performance-based regulation principles;
 - (2) ensuring consistency of training-related requirements across the applicable parts of Annex III (Part-ORO) to the Air OPS Regulation and Annex I (Part-FCL) to the Aircrew Regulation; and
 - (3) ensuring the correct balance between IRs and AMC & GM on the subject issue.

The specific objectives of this NPA are the following:

- (a) Reduce the obstacles to multi-pilot operations of single-pilot certified helicopters
- (b) Increase the safety of multi-pilot operations of single-pilot certified helicopters
- (c) Increase safety by improving the efficiency of initial and recurrent training and checking schemes
- (d) Increase safety and efficiency by improving the training and checking of flight crew members operating on more than one helicopter type or variant
- (e) Increase safety by defining in-depth initial training and checking for specialised operations
- (f) Increase efficiency, without compromising safety, as regards the amount of recurrent checking for specialised operations
- (g) Increase safety and efficiency by improving harmonisation in NCC training and checking



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

2.3.1. Updates to ORO.FC.145 ‘Provision of training’

Domains affected: CAT A and CAT H

Several implementation issues brought to the attention of EASA are addressed with this update. The amendments to ORO.FC.145 are explained in detail in Chapter 3 ‘proposed amendments and rational in detail.’

2.3.2. Update of the applicable training requirements for commercial specialised operations and CAT operations referred to in ORO.FC.005(b)(1) and (2)

After the application of Annex VIII to the Air OPS Regulation, several implementation issues were brought to the attention of EASA, including the Article 14.4 exemption issued by the Kingdom of Spain and described in Section 2.1.2 .

2.3.3. Aerodrome knowledge (ORO.FC.105)

This NPA addresses an issue related to lack of clarity in the acceptable means of compliance regarding route, area and aerodrome knowledge in ORO.FC.105 of Regulation (EU) No 965/2012. The present IR and accompanying AMC are phrased in such a way that it appears that the evaluation and assessment of route, area and aerodrome complexity is left entirely to the operator.

The specific objective is to clarify the AMC with regard to including official information and requirements as promulgated through AIP, when operators are performing such evaluations. There have been several examples of operators unknowingly having missed crucial information regarding route, area and aerodrome requirements as a result of the present regulatory description.

This NPA proposes a minor change to AMC1 ORO.FC.105 (b)(2);(c) where the necessity of complying with AIP restrictions is included.

The proposed changes are expected to clarify the necessity of including all available information and requirements when evaluating area, route and aerodrome complexity, and the need for additional training.

2.3.4. Update to AMC1 ORO.FC.230

2.3.4.1 Editorial update to combine OPC and LPC

This NPA addresses an issue related to an unintended editorial change when the EU-OPS Regulation (EC) No 1899/2006 was transposed into the current Air OPS Regulation. The editorial change involves point (b)(1) of AMC1 ORO.FC.230 and is related to the combined check of a licence proficiency check (LPC) and an OPC.

Regarding the combination of OPCs with aircraft/FSTD training, it has happened that some operators have misunderstood the word ‘combined’. While there is value to allow some training to take place during the OPC session, a single task or manoeuvre cannot be used for training and checking purposes at the same time. The NPA proposes to clarify this.



2.3.5. Multi-pilot operations of single-pilot certified helicopters.

Domains affected: CAT H, NCC H and SPO H

The following problems have appeared with the implementation of the current regulations:

The definitions of multi-pilot helicopters and single-pilot helicopters are unclear.

Most helicopters are certified for single-pilot operations. They qualify as single-pilot helicopters according to the current definition.

All helicopters except single-seaters can be operated with two pilots. If the operations manual says so, then they are multi-pilot helicopters according to the current definition. Therefore, almost all helicopters can be both single-pilot helicopters and multi-pilot helicopters at the same time.

As a result of these definitions, there are different interpretations of the single-pilot and multi-pilot helicopter definitions across the Member States. The different interpretations result in different implementation of the rules as detailed in the section titled 'MCC is needed but not required' below. The NPA proposes to clarify these definitions.

The privileges of type ratings are not harmonised.

Helicopter type ratings should be restricted to single-pilot or multi-pilot operations, depending on the training received and the crew composition during the proficiency check. However, the definitions of single-pilot helicopters and multi-pilot helicopters are unclear. In addition, the current type ratings list does not refer to single-pilot and multi-pilot helicopters or the relevant restrictions on type ratings. As a result, single-pilot and multi-pilot privileges are granted in a disharmonised way across the Member States.

The granting of single-pilot and multi-pilot privileges should be harmonised through better definitions, a better type ratings list, and more standardisation. The NPA proposes changes to the definitions of multi-pilot and single-pilot helicopters accordingly.

MCC is needed but not required.

Every time a CAT, NCC or SPO operator wants to conduct a multi-pilot operation on a voluntary basis, it has to declare it in the operations manual in accordance with ORO.MLR.100(a) and paragraph 8.2 of Annex V to the Basic Regulation. Taking into account the current definition of a multi-pilot helicopter and considering the operations manual as a document equivalent to the air operator certificate and the flight manual, the helicopter then becomes a multi-pilot helicopter.

MCC training has been expected to be required for the first multi-pilot type ratings since 1999 under FCL.720.H and under the equivalent Joint Aviation Rules (JARs). This requirement was expected to lead all pilots involved in multi-pilot crews to undergo MCC training.

Unfortunately, the definition of a multi-pilot helicopter was subject to the interpretation of Joint Aviation Authorities (JAA) Member States until the Aircrew Regulation came into force, and not all Member States used to interpret this definition the way it is interpreted today. More often than not, the interpretation of the 'equivalent document' referred to in the definition of a multi-pilot helicopter below, did not include the operations manual. Indeed, the different documents are not directly related and do not serve the same purpose.



‘Multi-pilot aircraft’:

for helicopters, airships and powered-lift aircraft, it means the type of aircraft which is required to be operated with a co-pilot as specified in the flight manual or by the air operator certificate or equivalent document.

As a result, many pilots were granted type ratings with unrestricted privileges, and have been flying multi-pilot operations without MCC training.

Also, many Member States did not require AOCs or operations manuals or equivalent documents from NCC and SPO operators, until the opt-out periods of Part-NCC and Part-SPO expired on 24 August 2016 and 21 April 2017 respectively.

As a result, a single-pilot certified helicopter operated with two pilots was often not considered a multi-pilot helicopter. This results in a significant number of pilots without MCC training holding the multi-pilot privilege on single-pilot certified helicopters.

The provisions of FCL 720.H are not sufficient to ensure that all pilots involved in multi-crew operations in CAT, NCC and SPO do receive the adequate training, because:

- (a) some pilots hold the multi-pilot privilege on their currently held type ratings without MCC training;
- (b) MCC training is required only for the first Part-FCL multi-pilot type rating. As a result, some of the above-mentioned pilots manage to extend their multi-pilot privilege to new Part-FCL type ratings, even though it was not the intent of the rule to enable them to do so;
- (c) FCL 720.H applies only to applicants for new type ratings. It does not apply to licence-holders who already hold valid type ratings. NCC, SPO and CAT operators will ensure that the privilege of the type rating is not restricted to single-pilot operations, which is often not the case;
- (d) in most cases, it is not obvious that small piston-engined helicopters can be operated in multi-pilot operations, and few Member States restrict such helicopter type ratings to single-pilot operations. As a result, the first type-rating of a helicopter pilot typically includes the multi-pilot privilege. Such pilots are then exempt from MCC training for the rest of their lives; and
- (e) the helicopter type ratings list does not mention single-pilot or multi-pilot restrictions for any helicopter type rating, which does not help authorities conduct the transition in the right way.

Recent high-profile accidents show that some pilots fly single-pilot certified helicopters in multi-pilot operations without adequate training. In one of these accidents, the investigators did not identify non-compliances with the rules but stated that ‘the pilots had not been formally trained or tested operating as a crew of two. It is probable that a formal division of tasks and responsibilities, with pre-planned means of identifying and communicating normal or abnormal progress, could have assisted in achieving and maintaining better situational awareness, and preventing the progressive change in the flight path to the point at which the accident was inevitable.’

Pilots need MCC training as soon as they start flying in a multi-crew environment, not when they eventually acquire their first Part-FCL multi-pilot type rating.

The NPA proposes to require MCC training, or a significant experience in multi-crew cooperation, for multi-pilot helicopter operations in CAT, NCC and SPO. This will require NCC, SPO and CAT pilots flying in a multi-pilot environment to undergo MCC training if they had failed to do so in the past.



Multi-pilot operations on a voluntary basis are unnecessarily hindered by the current rules.

Every time a CAT, NCC or SPO operator wants to carry out multi-pilot operations on a voluntary basis, it has to declare it in the operations manual in accordance with ORO.MLR.100(a). Taking into account the current definition of a multi-pilot helicopter, the helicopter then becomes a multi-pilot helicopter.

The certificate of completion of the ATPL(H) theoretical examination immediately becomes required for all pilots involved, in order to extend their type rating to the multi-pilot privilege or to obtain a new type rating. In addition, in CAT the commander is required to hold an ATPL(H) licence. As not many pilots hold a CPL(H) with a certificate of completion of the ATPL(H) theoretical examination, and the ATPL(H) licence is so difficult to obtain, multi-pilot operations cannot take place and single-pilot operations usually continue instead.

The issue is further developed in the following sections:

- The certificate of completion of the ATPL(H) theoretical examination is required when not needed.
- Not enough experienced pilots hold a certificate of completion of the ATPL(H) theoretical examination.
- Multi-pilot operations in CAT are restricted by the number of pilots holding an ATPL(H) licence.

The NPA proposes to change the definition of a multi-pilot helicopter to address this issue.

The certificate of completion of the ATPL(H) theoretical examination is required when not needed.

The certificate of completion of the ATPL(H) theoretical examination is deemed useful background knowledge when flying large complex helicopters in IFR. The definition of large complex helicopters refers to question 1 below.

The VFR ATPL(H) theoretical examination has been created to give access to the ATPL to VFR pilots since 1999, specifically for Member States where an ATPL did not exist.

An analysis of the gap between the VFR ATPL(H) and the CPL(H) theoretical examinations shows that the gap is covered by type ratings and MCC training. Therefore, a pilot holding a CPL(H) and an MCC training should not need a certificate of completion of the VFR ATPL(H) theoretical examination.

Regardless, the certificate of completion of the ATPL(H) theoretical examination is required in addition to the CPL(H) licence in the following cases:

- (a) 2-pilot VFR operations in NCC, SPO, and for the co-pilot in CAT: Required when pilots are type-rated on a new helicopter type.
- (b) 2-pilot VFR operations for the commander in CAT: required as part of the ATPL(H).

The requirements should be simplified.

The NPA proposal achieves this goal for all helicopters certified with a minimum crew of one pilot for VFR operations, through changes in the definition of the multi-pilot helicopter.

Not enough experienced pilots hold a certificate of completion of the ATPL(H) theoretical examination.

A certificate of completion of the ATPL(H) theoretical examination was expected to be required for the first multi-pilot type ratings under FCL.720.H. This requirement was expected to lead all pilots involved in multi-pilot crews to pass their ATPL(H) theoretical examinations and was also a strong incentive for trainees to take the ATPL(H) theoretical examinations before applying for a CPL(H) licence. The current rules ensure that there will be no shortage of pilots holding the certificate of completion of the ATPL(H) theoretical examination in the distant future, but they create unexpected problems in the short term.

In the JAA times, many Member States interpreted the definition of a multi-pilot helicopter as only including the following:

- (a) Multi-pilot certified helicopters: only the biggest helicopters are certified with a minimum crew of two pilots for VFR operations. Most of them are operated under IFR in an offshore environment
- (b) Helicopters required to be operated in a multi-pilot environment by the operational rule: Helicopters with a seating capability of 10 or more operated in commercial air transport under IFR

As a result, the ATPL/VFR was barely needed. Most pilots underwent the CPL(H) theoretical examination, whilst the others passed the full ATPL/IR theoretical examination.

The lack of experienced pilots with a certificate of completion of the ATPL(H) theoretical examination is not easily bridged because:

- (a) a CPL(H) holder requires a 300-hour bridge training, then success in all 13 modules of the (VFR) ATPL(H) theoretical examination;
- (b) an experienced CPL(H) holder with MCC training and a type rating on a modern single-pilot helicopter will learn little more from the theoretical training than how to pass exams; and
- (c) many experienced CPL(H) holders will not undergo the ATPL(H) theoretical examination because of the costs and because of the perceived waste of time.

In those Member States where FCL.720.H is fully applied, the current requirement for the ATPL(H) theoretical examination is preventing experienced VFR pilots with MCC training from flying with a co-pilot, or from getting a new type rating. This is detrimental to safety and also prevents inexperienced helicopter pilots from entering the job market.

There are still national aviation authorities (NAAs) where the harmonised definition of the multi-pilot helicopter is not implemented. These Member States may continue to issue type ratings with the multi-pilot privilege to pilots who do not hold a certificate of completion of the ATPL(H) theoretical examination. This situation does not encourage a transition towards more pilots holding this certificate.

SPO operations conducted in a multi-crew environment under VFR are often conducted by experienced instructors and examiners with MCC training, who have not passed the ATPL theoretical examination. When the operator changes the helicopter fleet, they are the ones who should be training the less experienced pilots. Instead, their type rating is being restricted to single-pilot operations due to the lack of a certificate of completion of the ATPL(H) theoretical examination. This situation is detrimental to safety.



The proposed changes in the definitions of single-pilot helicopter and multi-pilot helicopter should ensure that the certificate of completion of the ATPL(H) theoretical examination is required only when the following conditions are met:

- (a) In NCC and SPO, when the helicopter is certified with a minimum crew of two pilots (which is seldom the case for VFR operations).
- (b) In CAT, when the helicopter is certified with a minimum crew of two pilots or when the CAT rules require two pilots.

A review of the bridge training and theoretical examination, covering the differences between the CPL(H) theoretical examination and the ATPL(H) theoretical examination, and a review of the learning objectives of the CPL(H) and ATPL(H) theoretical examination could be undertaken as part of a future rulemaking task.

Multi-pilot operations in CAT are restricted by the number of pilots holding an ATPL(H).

It would be desirable if ATPL(H) holders could bring their experience and help safely develop multi-pilot operations that would increasingly take place on a voluntary basis. Unfortunately, there are not enough ATPL(H) holders for such a transition to take place in this manner.

The small number of experienced pilots with a certificate of completion of the ATPL(H) theoretical examination is one of the reasons for the insufficient number of ATPL(H) holders, as explained above.

Another reason for the insufficient number of ATPL(H) holders is the difficulty experienced by pilots to obtain the required multi-pilot experience, as well as night flight and IFR experience.

ATPL(H) holders are found mainly in offshore operations where 2-pilot operations in CAT are mandatory with an MOPSC of 10 or more passengers. Until recently, it was impossible to obtain the 350 multi-pilot hours of experience needed for the ATPL(H) without flying these hours as a co-pilot. The best way to obtain this experience was to fly as an offshore co-pilot in CAT, because this is where almost all commanders that hold an ATPL(H) were flying.

With the NCC and SPO requirements now in place, it is likely that the 350 multi-pilot hours of experience required for the ATPL(H) can be more easily gathered by flying NCC or SPO, because the pilot-in-command is not required to hold an ATPL(H). Neither of the two pilots may have been trained for MCC training for a NCC or SPO flight in a multi-pilot environment because their type ratings may have been granted under a national interpretation of the definition of a multi-pilot helicopter. It was not intended that the multi-pilot experience could be gathered in such a way. This kind of multi-pilot experience may, or may not, be different to single-pilot experience. In some cases, such experience could be detrimental to the crew.

The current situation is that ATPL(H) holders are not available for multi-crew operations to take place on a voluntary basis. Many operations that could be conducted with two pilots, including HEMS operations, are conducted with one pilot instead. This situation is detrimental to safety. In the distant future, there may be more ATPL(H) holders, but if their multi-pilot experience was gathered under NCC or SPO without MCC training and without the supervision of a commander that holds an ATPL, it may not be very different to single-pilot experience. The situation will also be detrimental to safety.



The proposed changes in the definition of multi-pilot operations and the changes in the prerequisites for the ATPL(H) should ensure that the relevant multi-pilot experience can be gathered whenever a flight takes place in a multi-pilot environment, with MCC training. Having all pilots trained for MCC should ensure that multi-crew-oriented standard operating procedures (SOPs) will be implemented at operational level. The experience gained in multi-pilot operations will then be valid for the ATPL(H). The proposed changes also ensure that the ATPL(H) is not needed when operating in a multi-crew environment on a voluntary basis.

A multi-pilot environment with a commander that holds an ATPL(H) may not always be required when needed.

For CAT operations, a large complex helicopter is expected to be operated with a minimum crew of two pilots in IFR, with a commander that holds an ATPL(H).

However, the current rules allow the same helicopter to be flown in IFR by one pilot with a CPL(H), if certified for single-pilot IFR operations and if the MOPSC is reduced to 9 or less.

The NPA contemplates the option to always require a minimum crew of two pilots for CAT IFR operations of helicopters above a certain maximum take-off mass (MTOM).



Summary of proposals for CAT IFR operations and associated question

Question 1:
Which single-pilot certified helicopters should be required to be flown with two pilots in CAT IFR?
 Option 1: Helicopters with an MOPSC of 10 or more (no change)?
 Option 2: Helicopters with an MOPSC of 10 or more or an MTOM of more than 5 700 kg?
 Option 3: Helicopters with an MOPSC of 10 or more or an MTOM of more than 3 175 kg?
 Option 4: Use another mass threshold? Use only a mass threshold and no MOPSC threshold?
 Other?

MINIMUM CREW for CAT IFR operations	Helicopters with a maximum certified seating configuration of 9 or less and an MTOM of less than 3 175 kg	Helicopters with a maximum certified seating configuration of 9 or less and an MTOM between 3 175 and 5 700 kg	Helicopters with a maximum certified seating configuration of 10 or more and an MTOM between 3 175 and 5 700 kg	Helicopters with an MTOM of 5 700 kg or more	Helicopters certified with a minimum crew of two pilots for IFR operations
OPTION 1 (no change)	SINGLE-PILOT	SINGLE-PILOT	MULTI-PILOT. With an MOPSC of 9 or less: SINGLE-PILOT	MULTI-PILOT. With an MOPSC of 9 or less : SINGLE-PILOT	MULTI-PILOT
OPTION 2			MULTI-PILOT	MULTI-PILOT	
OPTION 3		MULTI-PILOT		MULTI-PILOT	

MINIMUM CREW for CAT IFR operations	Resulting CREWING OPTIONS for CAT IFR operations
SINGLE-PILOT	1 CPL/IR or 1 ATPL/IR or 2 CPL/IR/MCC or 1ATPL/IR+1CPL/IR/MCC or 2 ATPL/IR
MULTI-PILOT	1ATPL/IR+1CPL/IR/MCC or 2 ATPL/IR CPL to hold ATPL(H) theory in order to get type rating with MP privilege

Examples of this category of helicopters: with a maximum certified seating configuration of 9 or less and MTOM of less than 3175 kgs: single-engined helicopters, AS355, Bell206L4T, A109, EC135, Bell429

Examples of this category of helicopters with a maximum certified seating configuration of 9 or less and MCTOM between 3175 kgs and 5700 kgs: EC145, Bell 222/230/430

Examples of this category of helicopters with a maximum certified seating configuration of 10 or more and MCTOM between 3175 kgs and 5700 kgs: EC155, S76, AW169, Bell 212/412

Examples of this category of helicopters with a MCTOM of 5700 kgs or more: AW139, AW189

Examples of this category of helicopters certified with a minimum crew of 2 pilots for IFR operations: AS330, AS332/EC225, PZL-W3, H175, S92

The above-mentioned examples are based on helicopter type certification data sheets and may not be accurate for an individual helicopter. Please refer to the helicopter flight manual for the correct data.



Summary of proposals for CAT VFR operations

CAT VFR	Helicopters certified with a minimum crew of one pilot for VFR operations	Helicopters certified with a minimum crew of two pilots for VFR operations
CREWING OPTIONS	1 CPL or 1 ATPL or 2 CPL/ MCC or 1ATPL+1CPL/ MCC or 2 ATPL	1 ATPL+1 CPL/MCC or 2 ATPL CPL to hold ATPL(H) theory in order to get type rating

Example of helicopters certified with a minimum crew of two pilots for VFR: S92

The above-mentioned example is based on the helicopter type certification data sheet. It may not be accurate for an individual helicopter. Please refer to the helicopter flight manual for the correct data.

Summary of proposals for NCC and SPO

NCC/SPO	Helicopters certified with a minimum crew of one pilot	Helicopters certified with a minimum crew of two pilots
CREWING OPTIONS	1 CPL or 1 ATPL or 2 CPL/ MCC or 1ATPL+1CPL/ MCC or 2 ATPL All pilots to hold IR for IFR.	2 CPL/MCC or 1 ATPL+1 CPL/MCC or 2 ATPL CPL to hold ATPL(H) theory in order to get type rating. All pilots to hold IR for IFR

Example of a helicopter certified with a minimum crew of two pilots for VFR: S92

Examples of helicopters certified with a minimum crew of two pilots for IFR: AS330, AS332/EC225, PZL-W3, EC175, and S92.

The above-mentioned examples are based on helicopter type certification data sheets and may not be accurate for an individual helicopter. Please refer to the helicopter flight manual for the correct data.

Conclusion

The NPA proposes to amend FCL.010, FCL.510.H, FCL.720.H, FCL.905.TRI, FCL.910.TRI, FCL.915.MCCI, ORO.FC.100, ORO.FC.200 and AMC1 ORO.FC.230 in order to achieve the following results:

- (a) A helicopter can no longer be defined as a single-pilot helicopter and a multi-pilot helicopter at the same time.
- (b) A helicopter operated in multi-pilot operations remains a single-pilot helicopter if the second pilot is not required by certification or by the operational rules.
- (c) Pilots are required to have completed an MCC training in order to fly in a multi-pilot environment in CAT, NCC and SPO.
- (d) The intent is to provide grandfather rights to pilots who have multi-pilot experience, and to account for flying experience gained in military operations and non-European operations. 500 hours of experience in multi-pilot operations remains an alternative option to the MCC training, except for the ATPL.



- (e) The hours flown in a multi-pilot environment with MCC training and SOPs relevant to a multi-pilot environment, can be used for the purpose of reaching the multi-pilot experience required for the ATPL(H). These include multi-pilot operations on a voluntary basis in CAT, NCC and SPO.
- (f) Pilots of a helicopter operated in multi-pilot operations on a voluntary basis will require neither a multi-pilot type rating, nor an ATPL theory, nor an ATPL(H).
- (g) The certificate of completion of the ATPL(H) theoretical examination is no longer required in VFR in CAT NCC and NCO, unless the helicopter is certified with a minimum crew of two pilots.
- (h) The ATPL(H) is no longer required in CAT VFR operations, unless the helicopter is certified with a minimum crew of two pilots.
- (i) Instructors and examiners in charge of multi-pilot operation training and checking have relevant experience of multi-pilot operations

2.3.6. Operators' proficiency checks for helicopter CAT operations

Domain affected: CAT H

Currently, the OPC is conducted by a suitably qualified commander trained in the assessment of CRM skills. Considering the contents of the helicopter OPC, the relative lack of simulator availability for helicopter training and checking, and for safety reasons, it is proposed that the person that conducts the OPC should be at least an instructor.

As the person that conducts the OPC is trained in the assessment of CRM skills, the NPA proposes that a CRM assessment should take place during the OPC.

It appears that the crew composition, together with the single-pilot or multi-pilot environment, had not been defined for helicopter OPCs. The NPA therefore makes a proposal to fill in this gap.

The OPC currently consists in a long list of emergency manoeuvres to be repeated every 6 months. In the current prescriptive format, the OPC does not allow to introduce much variations in the checks, making them too repetitive. Considering this situation, the need for all the items in the current list to be checked on a 6-month basis was then reviewed. It appeared that many of the items that are currently checked during every OPC on a 6-month basis could instead be checked on a yearly basis as part of the LPC, or every 3 years.

It was also considered that it was detrimental not to check major failures that did not appear on the list, including helicopter type-specific failures. A 3-year cycle was deemed necessary for the recurrent checking of such failures. Abnormal failures were considered to be too many and often not training-critical. They should therefore not be required to be checked.

The NPA proposes to keep the initial OPC as it is and to introduce a 3-year cycle for the checking of all major failures during recurrent OPCs.

Regarding the combination of OPCs with aircraft/FSTD training, it has happened that some operators have misunderstood the word 'combined'. While there is value to allow some training to take place during the OPC session, a single task or manoeuvre cannot be used for training and checking purposes at the same time. The NPA proposes to clarify this.



The NPA therefore proposes to amend ORO.FC.230(b), AMC1 ORO.FC.220 and AMC1.ORO.FC.230 to create a new helicopter OPC scheme.

2.3.7. Operations on more than one type or variant for helicopter CAT operations and combined helicopter and aeroplane operations

2.3.7.1 Operator proficiency check

Domain affected: CAT H

When transposing JAA material into EU regulations, the grouping of type ratings used for recent experience in FCL.060 and AMC1 FCL.060 was meant to be used for the purpose of grouping type ratings for the purpose of the OPC. Instead, the current regulation mistakenly allowed an OPC on a single-engined helicopter to be valid for twin-engined helicopters in VFR by day. This should not be the case.

Therefore, the grouping of type ratings for the purpose of the OPC had to be reviewed, taking into consideration the following options:

- (a) The grouping of type ratings in accordance with operational suitability data (OSD)
- (b) The same grouping of type ratings as used for recent experience as in AMC1 FCL.060
- (c) The same grouping of type ratings as used for LPCs as in FCL.740.H

The grouping of single-engined helicopter type ratings was deemed necessary for day VFR, because it is a current practice for helicopter pilots to fly several single-engined helicopter types, and the current regulations have proven to be safe in that respect.

- (a) Grouping helicopter types in accordance with OSD was rejected because there is no data available across helicopter types
- (b) Grouping helicopter types as per AMC1 FCL.060 was also rejected because the grouping was restricted to:
 - (1) helicopters that are soon to be phased out of operations (SE 313/318, SA 341/342, and SA 315/316/319);
 - (2) the grouping of Bell 206 and 407 helicopter types; and
 - (3) the grouping of piston-engined helicopters.
- (c) The grouping of helicopter types used for LPCs was considered, and was found satisfactory. Moreover, it made sense to align the conditions for LPCs and OPCs. Keeping the conditions for the grouping of single-engined turbine-powered helicopters for the purpose of the LPC also made sense, in order to avoid disrupting SPO and NCO operations for the purpose of improving the CAT OPC requirements.

The NPA therefore proposes to use the same grouping of type ratings for OPCs, as currently in place for LPCs.



2.3.7.2 Line checks

Domain affected: CAT H

The current ORO.FC.140 (a), ORO.FC.230 (a) and ORO.FC.230 (c)(1) require one line check per type or variant per year, unless the authority would consider the line check on one variant to be relevant for other variants.

It is recognised that a number of type-specific issues will be checked during the line check on a highly-automated helicopter with digital flight displays operated in IFR. However, for the majority of helicopter operations in day VFR, the line check will be operations-oriented and not type-specific. The NPA therefore proposes to allow an operator to consider the grouping of line checks across helicopter types and proposes an AMC to define when it may and may not be acceptable to do so.

2.3.7.3 Operations on aeroplanes and helicopters

Domains affected: CAT A, CAT H

** NCC and SPO are only affected if pilots also fly CAT.*

Operations on aeroplanes and helicopters were found out to be the most restricted, and the least likely to involve confusion between aircraft types. They are also the only ones to be restricted in the IRs instead of an AMC. The NPA proposes a more performance-based approach.

2.3.7.4 Number of helicopter types to be flown by a pilot involved in CAT operations

Domain affected: CAT H

** NCC H and SPO H are only affected if pilots also fly CAT.*

Following feedback from different stakeholders, it was considered that the current limitation to three different helicopter types was too restrictive for CAT operations only.

In addition, AMC1 ORO.FC.240 is applicable only to pilots involved in CAT operations, but was not meant to include helicopter types flown in NCC, SPO or NCO operations as part of the limitation to three helicopter types.

A re-drafting of the AMC was considered necessary, keeping in mind the aim of avoiding confusion between the types during CAT operations, and of ensuring that pilots have sufficient level of knowledge of the aircraft flown in CAT.

The following was then considered:

- (a) The larger helicopters are likely to require the most specialisation.
- (b) If a pilot flies only one helicopter type in CAT, it is likely that the pilot will undergo more training and checking on that particular type. No confusion should occur during CAT flights on this type, regardless of the number of other types flown in NCC, SPO and NCO operations.
- (c) If a pilot flies more than one helicopter type in CAT, then the number of helicopter types flown in NCC and SPO should also be taken into consideration.
- (d) The number of helicopter types or variants flown in NCO should not be taken into account. Types or variants flown in NCO as an instructor in a training organisation would have to be taken into account by the operator's and the training organisation's management systems.
- (e) A number of mitigations could allow the pilot to fly on more than 3 types, such as:



- (1) Flying by day VFR only
- (2) Flying on small, simple helicopters
- (3) Flying on a limited number of variants within each type.

The NPA proposes to redefine the maximum number of helicopter types flown by pilots involved in CAT operations in accordance with these principles, in order to achieve the following:

Maximum number of helicopter types if at least 1 helicopter flown has an MTOM above 5 700 kg

CAT	NCC SPO	NCO
0	No restriction	
2		No restriction

Maximum number of helicopter types if all helicopters have an MTOM of 5 700 kg or less

CAT	NCC SPO	NCO
0	No restriction	
1	No restriction	
3 (up to 5 with mitigations)		No restriction

Question 2:

The NPA proposes to introduce the possibility to fly up to five non-complex helicopter types in day VFR.

Should the MOPSC of each helicopter be limited? If so, to which value should the MOPSC be limited?

2.3.7.5 Conclusion

The NPA proposes to amend:

- (a) ORO.FC.230(b)(4) to support the new helicopter OPC scheme for operations on different types or variants. (*Domain affected: CAT H*)
- (b) ORO.FC.230(c) to support the new helicopter line check scheme for operations on different types or variants. (*Domain affected: CAT H*)
- (c) ORO.FC.240 and AMC1 ORO.FC.240 to apply a more performance-based approach to the operations of aeroplane and helicopter types. (*Domains affected: CAT A, CAT H — NCC and SPO are only affected if pilots also fly CAT.*)
- (d) AMC1 ORO.FC.240 to redefine the maximum number of helicopter types flown by pilots involved in CAT operations. (*Domains affected: CAT A, CAT H — NCC H and SPO H are only affected if pilots also fly CAT.*)



2.3.8. Use of operator difference requirements (ODRs) tables

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

Changes are proposed to ensure that:

- (a) OSD data should be used every time it is available but should not be required for changes in configurations within a given variant of an aircraft, as defined under Part-FCL and as illustrated in the EASA type ratings list.
- (b) The use of ODRs tables is extended to NCC and SPO, with the associated credits regarding recurrent training and checking.
- (c) The use of ODRs tables is extended to difference & familiarisation & equipment training to guide operators in the design of initial training.

These changes are required to align the ORO.FC definition of ‘difference & familiarisation training’ with the Part-FCL definition, by taking ‘equipment and procedure training’ out of this definition. ‘Equipment and procedure training’ remains required under a new paragraph of the regulation.

2.3.9. CRM issues

2.3.9.1 Table 1 in point (g) of AMC1 ORO.FC.115 splits CRM training into a number of training elements

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

The ‘general principles’ do not vary from one aircraft type to another and should not need to be re-trained when changing aircraft types within the same operator. The CRM training elements related to the ‘individual flight crew member’ are connected to the pilot’s competencies. Some of these elements, such as stress, stress management, vigilance, fatigue could be connected to the operating environment and the operator’s fatigue risk management. It would therefore make sense to train these elements when joining an operator and not only during initial and recurrent training. If supported, this change should be followed by the same proposed amendment under ORO.CC so that CRM training of flight crew and cabin crew remain aligned.

2.3.9.2 In-flight CRM assessment when an observer’s seat is not installed

Domains affected: CAT A, CAT H

In-flight CRM performance is the result of non-technical skills and behaviours of the crew working as a team. For this reason, the in-flight CRM assessment ideally takes place only when the person in charge of the assessment is seated in an observer’s seat and has no other tasks. When no observer’s seat is available, and when flying certain helicopter types and small airplanes types in multi-pilot operations, the in-flight CRM assessment will either be slightly biased or not take place at all.

The NPA proposes means of compliance for the CRM assessment in this non-ideal seating configuration. Options include the use of a forward-facing passenger seat with sufficient visibility, the use of a line-oriented part of a flight simulation training device (FSTD) session, and when neither of these options is available, the CRM assessor may also be part of the active crew.



As the person conducting the OPC is trained in the assessment of CRM skills, the NPA proposes that a CRM assessment should also take place during the OPC.

The NPA proposes to amend the following to address these CRM issues:

- (a) AMC1 ORO.FC.115 points (c) and (g) to ensure that CRM theoretical training requirements are consistent with the competencies to be developed.
- (b) AMC1 ORO.FC.230 to introduce means of compliance for in-flight CRM assessment when an observer's seat is not available.
- (c) AMC1 ORO.FC.230 to ensure CRM assessments will take place during the helicopter OPC.

2.3.10. Other helicopter training and checking issues

2.3.10.1 Aerodrome competency

Domains affected: CAT H, NCC H, SPO H

For helicopters, it was postulated that aerodrome competency was not required prior to the flight for day VFR operations, especially as an in-flight reconnaissance can be used. Instead, the area competency should be sufficient to ensure that pilots are capable of selecting aerodromes and operating sites from the ground and from the air, and of establishing a safe flight path for landing and take-off. Areas such as mountains should require specific familiarisation training.

2.3.10.2 Training programmes

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

It was considered that the relevant de-identified feedback from the management system should be used when defining the CRM training programme. It was considered that such feedback should also be used to define other training programmes such as the ground training and the 3-yearly flight training programme.

2.3.10.3 Qualification to fly from either pilots' seats

Domain affected: CAT H

It was found out that this qualification was required only for commanders, whereas helicopter co-pilots may also fly in both seats. The NPA proposes to require this qualification for pilots involved, not only for commanders.

The requirement is also proposed to be clarified, to ensure that no additional checking is required if OPCs alternate between left and right seats.

Finally, this proposal does not exempt instructors and examiners from the requirements. Although most certainly remain proficient in both seats by flying as pilots and instructors, there is no need to exempt them because there is no additional checking.



2.3.10.4 Commanders in charge of conducting line training under supervision and line checks — Helicopter CAT

Domain affected: CAT H

Question 3:

Do we need to introduce a minimum pilot experience for the commander in charge of conducting line training under supervision?

If so: How much would be the minimum experience?

Total flight time in hours?

Flight time as PIC/commander in hours?

Number of OPCs performed at the operator?

For multi-pilot operations, flight time in multi-pilot operations?

For HEMS, night-vision imaging systems (NVIS) and offshore, flight time in the relevant kind of operations?

For helicopter hoist operations (HHO), number of lifting cycles? (human external cargo (HEC)/helicopter external sling load operations (HESLO) cycles included / not included)?

Question 4:

Do we need to introduce a minimum pilot experience for the commander in charge of conducting line checks?

If so: How much would be the minimum experience?

Total flight time in hours?

Flight time as PIC/commander in hours?

Number of OPCs performed at the operator?

For multi-pilot operations, flight time in multi-pilot operations?

For HEMS, NVIS and offshore, flight time in the relevant kind of operations?

For HHO, number of lifting cycles? (HEC/HESLO cycles included / not included)?

2.3.10.5 Conclusion

The NPA proposes to:

- (a) amend ORO.FC.105 to ensure that aerodrome knowledge is not required prior to the flight in day VFR helicopter operations where an in-flight reconnaissance can be used. (*Domains affected: CAT H, NCC H, SPO H*);
- (b) develop a new ORO.FC.220 & 230 to ensure that initial and recurrent training and checking programmes include de-identified feedback from the management system. (*Domains affected: CAT A, CAT H*);
- (c) amend AMC1 ORO.FC.230 to ensure that de-identified feedback from the management system is used to establish aircraft/FSTD training programmes. (*Domains affected: CAT A, CAT H*); and
- (d) amend ORO.FC.235 to ensure that, for helicopters, the qualification to operate from either pilots' seat is required for all pilots who operate on either seat, and to ensure that no additional checking is needed. (*Domain affected: CAT H*).



2.3.11. Initial training and checking for specialised operations

Domains affected: SPO A, SPO H

Initial training for a given specialised operation should take place either under ORO.FC.120, operator's conversion course, or under ORO.FC.125, differences and familiarisation training.

This is not well understood under the current provisions because an operator's conversion course is not required when changing specialised operations, and because familiarisation and differences training was used only under CAT and NCC until 21 April 2017 and was commonly identified as covering only differences between type and variants.

Familiarisation and differences training also covers differences between SOPs with regard to different specialised operations, but the lack of AMC and GM does not make it obvious to the reader.

It was decided to not only split ORO.FC.125 in order to better highlight the training needs in cases of changes in procedures, but also to provide AMC and GM.

Training requirements may vary from one operator to another because each operator has developed their own SOPs. No flight crew operating manual (FCOM) standardises the operating procedures for SPO, and no approved training organisation (ATO) standardises the training.

For the above-mentioned reasons, it is considered necessary to introduce OPCs immediately after SPO initial training. This new requirement is more than offset by the reduction in the provisions for recurrent checking.

2.3.12. Recurrent training and checking for specialised operations

Domains affected: SPO A, SPO H

The combination of ORO.FC.130, ORO.FC.145(a) and ORO.FC.330 currently requires the OPCs to cover normal, abnormal and emergency procedures for each specialised operation every year, for every type.

This adds up to an unreasonable amount of checking and should be changed.

In most cases, SOPs will not vary too much with the helicopter type within a given operator. The alleviation accessible to CAT operators, according to which the CAT OPC is valid for a group of type ratings, should also be accessible to SPO.

In addition, more specifically to SPO, it happens that most pilots are involved in more than one kind of specialised operations. The amount of experience and recent experience, the similarities between different kinds of specialised operations, the compared complexity of the various specialised operations a pilot is involved in, are factors to take into account when defining recurrent training and checking programmes.

Finally, it was considered that the person conducting SPO specific training and checking should be better defined, and should not be required to be an examiner, taking into account that training and checking for SPO is not the same as training and checking for type ratings.



2.3.13. Recurrent training and checking for CAT operations starting and ending at the same location, with small aircraft (CAT A to A)

Domains affected: CAT A, CAT H (only for operations starting and ending at the same location, with small aircraft, as defined in ORO.FC.005(b), point (b)(2) (CAT A to A))

The precise scope of the changes is presented in ORO.FC.005(b)(2), which defines the applicability of ORO.FC Section 3 to CAT operators. CAT operations meeting the criteria of ORO.FC.005(b)(2) are further referred to as 'CAT A to A' operations.

The NPA proposes that alleviations to ORO.FC.145 available to other CAT operations should be also applicable to 'CAT A to A'. These alleviations introduce the flexibility to conduct OPCs without an examiner, and the flexibility to revalidate OPCs on several types or variants at the same time.

2.3.14. Other clarifications and simplifications

A number of IRs in ORO.FC have been identified as unclear, or as duplicating other IRs. The NPA proposes to introduce the necessary clarifications and simplifications.

The NPA proposes to:

- (a) amend AMC1 ORO.FC.115 to align the wording with that of ORO.FC.120 regarding operators' conversion courses. (*Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H*);
- (b) amend ORO.FC.140(b) to clarify the meaning of 'and/or' in the Regulation. (*Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H*);
- (c) amend the title of ORO.FC.145 and related AMC because ORO.FC.140 regulates not only training, but also checking. (*Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H*);
- (d) delete ORO.FC.200(d)(2) because it duplicates ORO.FC.202 requirements. (*Domains affected: CAT A, CAT H*);
- (e) delete points (b)(1)(iv) and (d)(v)(i) of AMC1.ORO.FC.230 because they duplicate ORO.FC.145. (*Domain affected: CAT H*);
- (f) delete the last part of the sentence in ORO.FC.235(c) because it contradicts Appendix 9 to ORO.FC.720 which allows the applicant to choose their seat, and because 'normally occupied seat' is unclear. (*Domain affected: CAT H*);
- (g) amend AMC1 ORO.FC.240 (b)(1)(iv)(C) in order to clarify the meaning of 'and/or in' the AMC. (*Domain affected: CAT H*); and
- (h) amend AMC1 ORO.FC.240 in order to no longer use the wording 'significantly different variant' (a variant being already defined as a significant change), and to ensure that the terms 'type' and 'type or variant' are used in an appropriate manner. (*Domains affected: CAT A, CAT H*).

2.3.15. AMC and GM for NCC

Domains affected: NCC A, NCC H

A lack of AMC and GM was reported by NAAs and many NCC operators. Section 1 of ORO.FC applies to Annex VI to the Air OPS Regulation (Part-NCC) and AMC and GM are partly missing for some sections.



Existing AMC and GM in ORO.FC were introduced only in Section 2 which is applicable to CAT only. These AMC and GM of ORO.FC are therefore not fully applicable to Part-NCC.

The NPA proposes to introduce the following new AMC and GM for NCC in order to contribute to the uniform implementation of ORO.FC requirements for NCC operations, and to improve the safety levels by providing guidance to the competent authorities and operators.

- (a) AMC2 ORO.FC.105(b)(2) 'Designation as pilot-in-command/commander' to specify the requirements and content of the operator's command course for operations other than CAT
- (b) GM2 ORO.FC.105(b)(2) 'Designation as pilot-in-command/commander' to provide the operator with guidance on the aerodrome categorisation.
- (c) AMC1 ORO.FC.105(b)(3) and ORO.FC.120 'Designation as pilot-in-command/commander & operator conversion training' to provide means of compliance for the content of the command course.
- (d) AMC1 ORO.FC.120 'Operator conversion training' provides a standard for the operator conversion course (OCC) for Part-NCC. As stated in the IR, the operator conversion training shall include emergency and safety equipment training.
- (e) AMC1 ORO.FC.130 'Recurrent training and checking' for operations of non-commercial air transport. Annual recurrent flight and ground training shall be completed to ensure competence of each flight crew member in carrying out normal, abnormal and emergency procedures.
- (f) GM1 ORO.FC.130 'Recurrent training and checking' to provide guidance for the use of aircraft/FSTD for a training programme.
- (g) AMC1 ORO.FC.135 'Pilot qualification to operate in either pilot's seat' to provide guidance to the operator how to establish such training.
- (h) AMC1 ORO.FC.125 & ORO.FC.126 & ORO.FC.140(a) 'Differences training and familiarisation training & equipment and procedure training & Operation on more than one type or variant' and GM1 ORO.FC.140 'Operation on more than one type or variant' to clarify the meaning of type or variant.
- (i) AMC2 ORO.FC.145 'Provision of training and conduct of checking' to introduce the possibility of operators to develop a policy for the crediting of training delivered by other persons or organisations. This provision will remove the need for elements of training to be repeated provided the operator has evidence that the training has already taken place.
- (j) GM1 ORO.FC.145 'Provision of training and conduct of checking' for audit pooling to credit training between operators under NCC.

2.4. What are the expected benefits and drawbacks of the proposals

The proposal is expected to optimise training in such a way that great safety benefits should be derived. Some measures in the proposal have economic costs, but others do have economic benefits. The overall economic effects are likely to be beneficial. For the full impact assessment of alternative options, please refer to Chapter 4.



3. Proposed amendments and rationale in detail

The text of the amendment is arranged to show deleted text, new or amended text as shown below:

- deleted text is ~~struck through~~;
- new or amended text is highlighted in grey;
- an ellipsis '[...]' indicates that the rest of the text is unchanged.

3.1. Draft regulation (Draft EASA opinion) — Part-FCL of the Aircrew Regulation

Domains affected: CAT H, NCC H, SPO H

FCL.010 Definitions

(...)

'Multi-pilot operation' means an operation requiring at least two pilots using multi-crew cooperation in either multi-pilot or single-pilot aircraft.

- ~~for aeroplanes, it means an operation requiring at least 2 pilots using multi-crew cooperation in either multi-pilot or single-pilot aeroplanes;~~
- ~~for helicopters, it means an operation requiring at least 2 pilots using multi-crew cooperation~~

(...)

'Multi-pilot aircraft':

- for aeroplanes, it means aeroplanes certificated for operation with a minimum crew of at least two pilots;
- for helicopters, airships and powered-lift aircraft, it means the type of aircraft which is required to be operated with ~~a co-pilot~~ at least two pilots as specified in the flight manual or in accordance with ~~by the air operator certificate or equivalent document~~ Regulation (EU) 965/2012.

(...)

'Single-pilot aircraft': ~~means an aircraft certificated for operation by one pilot.~~

- ~~for aeroplanes, it means an aircraft certificated for operation by one pilot;~~
- ~~for helicopters, airships and powered lift aircraft, it means an aircraft certificated for operation by one pilot and not required to be operated with at least two pilots by Regulation (EU) 965/2012.~~

(...)

Explanatory note to FCL.010 Definitions

Domains affected: CAT H, NCC H, SPO H

FCL.010 is proposed to be amended in order to achieve the needed changes in multi-pilot operations of single-pilot certified helicopters, as described in Section 2.3.5 above.



Multi-pilot operations are used only to define the relevant experience needed as a prerequisite for the ATPL, and to define the experience needed before MCC training becomes a requirement. The definition is amended to ensure that the relevant experience in multi-pilot operations can be obtained by flying single-pilot certified helicopters.

The amended definitions of multi-pilot helicopter and single-pilot helicopter ensure that a helicopter can no longer belong to both categories at the same time, and thus have consequences on the privileges of the CPL(H) and the requirement for multi-pilot type ratings.

FCL.510.H ATPL(H) — Prerequisites, experience and crediting

Applicants for an ATPL(H) shall:

- (a) hold a CPL(H) ~~and a multi-pilot helicopter type rating~~ and have received instruction in MCC;
- (b) have completed as a pilot of helicopters a minimum of 1 000 hours of flight time including at least:
 - (1) 350 hours in multi-pilot **operations on** helicopters;
 - (...)

Explanatory note to FCL.510.H ATPL(H) Prerequisites, experience and crediting

Domain affected: CAT H

FCL.510.H is proposed to be amended in order to achieve the needed changes in multi-pilot operations of single-pilot certified helicopters, as described in Section 2.3.5 above.

The ATPL(H) is required only for CAT operations of multi-pilot helicopter types, but the relevant multi-pilot experience may now be gathered by flying single-pilot helicopters in multi-pilot operations. By deleting the prerequisite for a multi-pilot helicopter type rating, it becomes possible to take the ATPL(H) examination jointly with a multi-pilot type rating examination.

This also aligns helicopter rules with the aeroplane ATPL(A) prerequisites which do not require the applicant to hold a multi-pilot type rating (see below) and do allow to take the ATPL(A) skill test jointly with a multi-pilot type rating (see Appendix 9 and see below).

FCL.510.A ATPL(A) – Prerequisites, experience and crediting

- (a) Prerequisites. Applicants for an ATPL(A) shall hold:
 - (1) an MPL; or
 - (2) a CPL(A) and a multi-engine IR for aeroplanes. In this case, the applicant shall also have received instruction in MCC.
- (b) Experience.
- (...)



AMC1 FCL.520.A; FCL.520.H ATPL SKILL TEST

The ATPL skill test may serve at the same time as a skill test for the issue of the licence and a proficiency check for the revalidation of the type rating for the aircraft used in the test and may be combined with the skill test for the issue of a MP type rating.

FCL.720.H Experience requirements and prerequisites for the issue of type ratings — helicopters

Unless otherwise determined in the operational suitability data established in accordance with Part 21, an applicant for the issue of the first helicopter type rating shall comply with the following experience requirements and prerequisites for the issue of the relevant rating:

- (a) Multi-pilot helicopters. An applicant for the first a type rating course for a multi-pilot helicopter type shall:
- (1) have at least 70 hours as PIC on helicopters;
 - (2) except when the type rating course is combined with an MCC course:
 - (i) hold a certificate of satisfactory completion of an MCC course in helicopters; or
 - (ii) have at least 500 hours as a pilot in multi-pilot operations; aeroplanes; or
 - (iii) have at least 500 hours as a pilot in multi-pilot operations on multi-engine helicopters;
 - (3) have passed the ATPL(H) theoretical knowledge examinations.
- (b) An applicant for the first a type rating course for a multi-pilot helicopter type who is a graduate from an ATP(H)/IR, ATP(H), CPL(H)/IR or CPL(H) integrated course and who does not comply with the requirement of (a)(1), shall have the type rating issued with the privileges limited to exercising functions as co-pilot only. The limitation shall be removed once the pilot has both:
- (1) completed 70 hours as PIC or pilot-in-command under supervision of helicopters;
 - (2) passed the multi-pilot skill test on the applicable helicopter type as PIC.
 - (...)

Explanatory note to FCL.720.H Experience requirements and prerequisites for the issue of type ratings — helicopters

Domains affected: CAT H, NCC H, SPO H

FCL.720.H is proposed to be amended in order to achieve the needed changes in multi-pilot operations of single-pilot certified helicopters, as described in Section 2.3.5 above.

Multi-crew cooperation skills are deemed to require either formal MCC training under Part-FCL or 500 hours of experience in multi-crew cooperation regardless of the aircraft type or number of engines.

FCL.905.TRI TRI — Privileges and conditions

- (a) The privileges of a TRI are to instruct for:
- (1) the revalidation and renewal of an EIR or an IR, provided the TRI holds a valid IR;



- (2) the issue of a TRI or SFI certificate, provided that the holder has 3 years of experience as a TRI; and
- (...)
- (e) in the case of the TRI for helicopters:
 - (1) the issue, revalidation and renewal of helicopter type ratings;
 - (2) MCC training, ~~provided he/she holds a multi-pilot helicopter type rating;~~
 - (3) the extension of the single-engine IR(H) to multi-engine IR(H);
- (...)

Explanatory note to FCL.905.TRI TRI — Privileges and conditions

Domains affected: CAT H, NCC H, SPO H

FCL.905.TRI is proposed to be amended in order to achieve the needed changes in multi-pilot operations of single-pilot certified helicopters, as described in Section 2.3.5 above.

With the new definitions of single-pilot helicopters, multi-pilot helicopters, and multi-pilot operations, multi-pilot operations will take place on single-pilot helicopters on a voluntary basis. The experience gained in such multi-pilot operations shall be credited towards the prerequisites for the ATPL. It makes sense that a TRI can also credit this experience towards obtaining the privilege of teaching MCC.

FCL.910.TRI TRI — Restricted privileges

- (a) General. If the TRI training is carried out in an FFS only, the privileges of the TRI shall be restricted to training in the FFS.

In this case, the TRI may conduct line flying under supervision, provided that the TRI training course has included additional training for this purpose.

(...)

- (c) TRI for helicopters — TRI(H).
 - (1) The privileges of a TRI(H) are restricted to the type of helicopter in which the skill test for the issue of the TRI certificate was taken. Unless otherwise determined by in the operational suitability data established in accordance with **Part 21** of Regulation (EU) No **748/2012** ~~Part 21~~, the privileges of the TRI shall be extended to further types when the TRI has:
 - (i) completed the appropriate type technical part of the TRI course on the applicable type of helicopter or an FSTD representing that type;
 - (ii) conducted at least 2 hours of flight instruction on the applicable type, under the supervision of an adequately qualified TRI(H); and
 - (iii) passed the relevant sections of the assessment of competence in accordance with FCL.935 in order to demonstrate to an FIE or TRE qualified in accordance with Subpart K ~~his/her~~ **his or her** ability to instruct a pilot to the level required for



the issue of a type rating, including pre-flight, post-flight and theoretical knowledge instruction.

- (2) Before the privileges of a TRI(H) are extended from single-pilot to multi-pilot privileges on the same type of helicopters, the holder shall have at least 350 100 hours in multi-pilot operations on this type and 1 000 hours of flight time as a pilot on helicopters.
- (3) Before the privileges of a TRI(H) are extended to MCC training, the holder shall have at least 350 hours in multi-pilot operations.

(...)

Explanatory note to FCL.910.TRI TRI — Restricted privileges

Domains affected: CAT H, NCC H, SPO H

FCL.910.TRI is proposed to be amended in order to achieve the needed changes in multi-pilot operations of single-pilot certified helicopters, as described in Section 2.3.5 above.

Point (c)(2) is proposed to be changed because helicopters certified for IFR with a maximum certified passenger capacity of 10 or more will continue to exist in single-pilot (SP) and multi-pilot (MP) versions with the new definitions.

In order for a TRI(H)SP on such a helicopter type to become TRI(H)MP on the same type, 350 hours in multi-pilot operations on any type is more relevant than 100 hours on the given type. For consistency, 1 000 hours experience as a pilot on helicopters should be required for a TRI(H) MP, whether the MP privilege is obtained by extending a TRI(H)SP to MP under FCL 910.TRI or the candidate applies for a TRI(H)MP under FCL 915.TRI

Point (c)(3) is introduced because a TRI is no longer required to hold a MP type rating or a TRI(H)MP to teach MCC. Moreover, MCC training can now take place with SP helicopters and no longer requires a TRI(H)MP. 350 hours in multi-pilot operations is a more relevant value for an MCC trainer.

The new requirements under (c)(2) and (c) (3) apply only to TRI(H)SP who currently do not hold a TRI(H)MP. Existing TRI(H)MP are not impacted.

FCL.915.TRI TRI — Prerequisites

An applicant for a TRI certificate shall:

- (a) hold a CPL, MPL or ATPL pilot licence on the applicable aircraft category;
- (...)
- (d) for TRI(H):
 - (1) for a TRI(H) certificate for single-pilot single-engined helicopters, have completed 250 hours as a pilot on helicopters;
 - (2) for a TRI(H) certificate for single-pilot multi-engined helicopters, have completed 500 hours as pilot of helicopters, including 100 hours as PIC on single-pilot multi-engined helicopters;
 - (3) for a TRI(H) certificate for multi-pilot helicopters, have completed 1000 hours of flight time as a pilot on helicopters, including 350 hours in multi-pilot operations,;



- ~~(i) 350 hours as a pilot on multi-pilot helicopters; or~~
- ~~(ii) for applicants already holding a TRI(H) certificate for single-pilot multi-engine helicopters, 100 hours as pilot of that type in multi-pilot operations.~~
- (4) Holders of an FI(H) certificate shall be fully credited towards the requirements of (1) and (2) ~~in the relevant single-pilot helicopter;~~
- (...)

Explanatory note to FCL.915.TRI TRI — Prerequisites

Domains affected: CAT H, NCC H, SPO H

FCL.915.TRI is proposed to be amended in order to achieve the needed changes in multi-pilot operations of single-pilot certified helicopters, as described in Section 2.3.5 above.

Point (d)(3)(i) is amended in line with the new definitions. Experience on multi-pilot helicopters under the previous definitions is the same as experience on multi-pilot operations under the new definitions.

Point (d)(3)(ii) is deleted because holders of a TRI(H) SP who wish to become TRI(H) MP do not reapply for a TRI. Instead, they shall meet the criteria to lift the restriction under FCL 910.TRI.

Point (d)(4) is amended because an FI with no multi-engine (ME) experience should not exercise TRI privilege on ME helicopters until the experience criteria under (d)(2) are met.

The proposed changes apply only to new applicants and do not restrict the privileges of existing TRIs.

FCL.915.MCCI MCCI — Prerequisites

An applicant for an MCCI certificate shall:

- (a) hold or have held a CPL, MPL or ATPL in the appropriate aircraft category;
- (b) have at least:
 - (1) ~~in the case of aeroplanes, airships and powered-lift aircraft, 1500 hours of flying experience as a pilot in multi-pilot operations;~~
 - (2) 350 hours of flying experience in the appropriate aircraft category ~~in the case of helicopters, 1000 hours of flying experience as a pilot in multi-crew operations, of which at least 350 hours in multi-pilot helicopters.~~

Explanatory note to FCL.915.MCCI MCCI — Prerequisites

Domains affected: CAT H, NCC H, SPO H

FCL.915.MCCI is proposed to be amended in order to achieve the needed changes in multi-pilot operations of single-pilot certified helicopters, as described in Section 2.3.5 above.

The multi-pilot experience is increased to 1 500 hours in order to align helicopters with other aircraft categories.

The experience gathered in single-pilot operations with a technical crew member is considered not relevant to multi-pilot operations where the allocation of duties is deemed to be different.



Multi-crew cooperation is an attitude. Pilots with sufficient multi-pilot experience to become an MCCI can teach it on any aircraft. However, it was also argued that point (a) did not provide sufficient experience in the aircraft category, and that 350 hours was a minimum to understand the kind of operations and better reach out to the trainee on a given aircraft category.

New requirements apply only to new applicants and therefore have no consequences on the privileges of existing MCCIs.

3.2. Draft AMC & GM to Part-FCL (Draft EASA decision)

GM5 FCL.010 Multi-pilot operations

For helicopters, multi-pilot operations include operations where two pilots are required by the operations manual or an equivalent document.

Explanatory note to GM5 FCL.010

GM5 FCL.010 is proposed to be amended in order to achieve the needed changes in multi-pilot operations of single-pilot certified helicopters, as described in Section 2.3.5 above.

This GM clarifies that experience under NCO are not included in the definition, whereas experience gathered under an equivalent system to CAT, NCC or SPO such as non-European or military operations may be included.

3.3. Draft regulation (Draft EASA opinion) — Part-ORO of the Air OPS Regulation

ORO.FC.100 Composition of flight crew

- (a) The composition of the flight crew and the number of flight crew members at designated crew stations shall be not less than the minimum specified in the aircraft flight manual or operating limitations prescribed for the aircraft.
- (b) The flight crew shall include additional flight crew members when required by the type of operation and shall not be reduced below the number specified in the operations manual.
- (c) Specific requirements for helicopter operations. If the helicopter is operated with a crew of two pilots, each pilot shall either:
 - (1) hold a certificate of satisfactory completion of an MCC course in accordance with Commission Regulation (EU) No 1178/2011¹³; or
 - (2) have at least 500 hours as a pilot in multi-pilot operations.
- (ed) All flight crew members shall hold a licence and ratings issued or accepted in accordance with Commission Regulation (EU) No 1178/2011¹⁴ and appropriate to the duties assigned to them.
- (de) The flight crew member may be relieved in flight of his/her his or her duties at the controls by another suitably qualified flight crew member.
- (ef) When engaging the services of flight crew members who are working on a freelance or part-time basis, the operator shall verify that all applicable requirements of this Subpart and the

¹³ OJ L 311, 25.11.2011, p. 1.

¹⁴ OJ L 311, 25.11.2011, p. 1.



relevant elements of Annex I (Part-FCL) to Regulation (EU) No 1178/2011, including the requirements on recent experience, are complied with, taking into account all services rendered by the flight crew member to other operator(s) to determine in particular:

- (1) the total number of aircraft types or variants operated; and
- (2) the applicable flight and duty time limitations and rest requirements.

Explanatory note to ORO.FC.100

Domains affected: CAT H, NCC H, SPO H

ORO.FC.100 is proposed to be amended in order to achieve the needed changes in multi-pilot operations of single-pilot certified helicopters, as described in Section 2.3.5 above.

It requires that multi-pilot operations of single-pilot certified helicopters under CAT, NCC or SPO can only be conducted if both pilots have formal multi-crew cooperation training or equivalent experience.

ORO.FC.105 Designation as pilot-in-command/commander

- (a) In accordance with ~~8.e of Annex IV to Regulation (EC) No 216/2008~~ 8.6 of Annex V to Regulation (EU) 2018/1139, one pilot amongst the flight crew, qualified as pilot-in-command in accordance with Annex I (Part-FCL) to Regulation (EU) No 1178/2011, shall be designated by the operator as pilot-in-command or, for commercial air transport operations, as commander.
- (b) The operator shall only designate a flight crew member to act as pilot-in-command/commander if ~~he/she~~ he or she has all of the following:
 - (1) the minimum level of experience specified in the operations manual;
 - (2) adequate knowledge of the route or area to be flown and of the aerodromes, including alternate aerodromes, facilities and procedures to be used;
 - (3) in the case of multi-crew operations, ~~has~~ completed an operator's command course if upgrading from co-pilot to pilot-in-command/commander.
- (c) In the case of commercial operations of aeroplanes and helicopters, the pilot-in-command/commander or the pilot, to whom the conduct of the flight may be delegated, shall have had initial familiarisation training of the route or area to be flown and of the aerodromes, facilities and procedures to be used. This route/area and aerodrome knowledge shall be maintained by operating at least once on the route or area or to the aerodrome within a ~~12-month~~ 12 calendar months' period.
- (d) Point (c) shall not apply in the case of:
 - ~~(1)~~ performance class B aeroplanes involved in commercial air transport operations under VFR by day; ~~and~~
- (e) For helicopter operations under VFR by day, familiarisation training of the route and aerodromes may be provided by other training means, such as area familiarisation training. The other training means shall be described in the operations manual.
 - ~~(2)~~ commercial air transport operations of passengers conducted under VFR by day, starting and ending at the same aerodrome or operating site or within a local area



specified by the competent authority, with other than complex motor powered helicopters, single-engined, with a MOPSC of 5.

Explanatory note to ORO.FC.105

Domains affected: CAT H, NCC H, SPO H

ORO.FC.105 is proposed to be amended in order to achieve the necessary changes regarding aerodrome competency, as described in Section 2.3.10 above.

ORO.FC.125 Differences training and familiarisation training

- (a) Flight crew members shall complete differences or familiarisation training when required by Annex I (Part-FCL) to Regulation (EU) No 1178/2011 ~~and when changing equipment or procedures requiring additional knowledge on types or variants currently operated.~~
- (b) The operations manual shall specify when such differences or familiarisation training is required.

ORO.FC.126 Equipment and procedure training

- (a) Flight crew members shall complete equipment and procedure training when changing equipment or changing procedures requiring additional knowledge on types or variants currently operated.
- (b) The operations manual shall specify when such equipment and procedure training is required.

Explanatory note to ORO.FC.125 and ORO.FC.126

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

ORO.FC.125 is proposed to be amended and ORO.FC.126 is proposed to be introduced in order to:

- (a) align the definitions of differences and familiarisation training with those in Part-FCL;
- (b) introduce the concept of equipment and procedure training in order to cover training previously included in the OPS definition of differences and familiarisation training; and
- (c) clarify that equipment and procedure training is required when changing specialised operations, as described in Section 2.3.11 above.

ORO.FC.130 Recurrent training and checking

- (a) Each flight crew member shall complete annual recurrent flight and ground training relevant to the type, ~~or variant or equipment~~ of aircraft on which ~~he/she~~ he or she operates, including training on the location and use of all emergency and safety equipment carried.
- (b) Each flight crew member shall be periodically checked. Periodic checks shall include operator proficiency checks to demonstrate competence in carrying out normal, abnormal and emergency procedures, and may include line checks to demonstrate competence in carrying out normal line operations described in the operations manual.

Explanatory note to ORO.FC.130

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H



ORO.FC.130 (a) is amended in order to neutralise any impact on ORO.FC.130 of the new ORO.FC.125 differences and familiarisation training, considering its effect on the meaning of a 'variant'.

ORO.FC.130 (b) is proposed to introduce a common definition of OPCs and line checks for all operators. This common definition will be useful to extend alleviations currently existing under commercial air transport to other operators under the amended ORO.FC.140 and ORO.FC.145.

ORO.FC.140 Operation on more than one type or variant

- (a) Flight crew members operating more than one type or variant of aircraft shall comply with the requirements prescribed in this Subpart for each type or variant, unless credits related to the training, checking, and recent experience requirements are defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012 for the relevant types or variants.
- (b) The operator may define groups of single-engined helicopter types. An operator proficiency check on one type shall be valid for all the other types within the group if both of the following conditions are met.
 - (1) The group includes only single-engined turbine helicopters or only single-engined piston helicopters.
 - (2) For commercial air transport, at least two operator proficiency checks per type shall be conducted within a 3-year cycle.
- (c) For specialised operations, elements of the aircraft/FSTD training and operator proficiency check that cover the relevant aspects associated with the specialised task and are not related to the type or group of types may be credited towards the other groups or types, based on a risk assessment performed by the operator.
- (d) For operations on more than one helicopter type or variant that conduct sufficiently similar operations, if line checks alternate between types or variants, each line check shall revalidate the line check for the other helicopter types or variants.
- (~~b~~e) Appropriate procedures and any ~~for~~ operational restrictions shall be specified in the operations manual for any operation on more than one type or variant.

Explanatory note to ORO.FC.140

ORO.FC.140(b)

Domains affected: CAT H, SPO H

A new point (b) is proposed to be introduced, based on a transposition of the previous ORO.FC.230(b)(4), with additional changes in order to achieve the changes regarding operations on more than one helicopter type or variant, as described in Section 2.3.7 above.

The alleviation based of the previous ORO.FC.230(b)(4) and on the current FCL.740.H is proposed to be extended to SPO and 'CAT operations starting and ending at the same location, with small aircraft', as described in Sections 2.3.12 and 2.3.13 above.

ORO.FC.140(c)

Domain affected: SPO H



Point (c) is proposed to be introduced specifically for SPO. It is proposed to extend the alleviation further because many elements of training and checking conducted under SPO are related to the specialised operations, and not directly to the aircraft type. It is therefore proposed to allow elements of a SPO OPC to be valid across the aircraft types, if an operator's risk assessment determines that this is possible. Point (c) introduces the SPO equivalent of the CAT helicopter alleviation for line checks that is proposed in point (d).

ORO.FC.140(d)

Domain affected: CAT H

Point (d) is proposed for helicopter line checks, in order to achieve the changes regarding operations on more than one helicopter type or variant, as described in Section 2.3.7 above.

ORO.FC.140(e)

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

ORO.FC.140(e) is proposed to be amended to achieve the clarification described in Section 2.3.14 above.

ORO.FC.145 Provision of training and conduct of checking

- (a) All the training and checking required in this Subpart shall be conducted:
- (1) in accordance with the training programmes and syllabi established by the operator in the operations manual;
 - (2) by appropriately qualified personnel:
 - (i) In the case of flight and flight simulation training and checking, the personnel providing the training and conducting the checks shall be qualified in accordance with Annex I (Part-FCL) to Regulation (EU) No 1178/2011.
 - (ii) By way of derogation from point (i), the aircraft/FSTD training and the operator proficiency check may be conducted by a suitably qualified pilot-in-command/commander nominated by the operator for any of the following operations:
 - (A) specialised operations;
 - (B) commercial air transport operations meeting the criteria defined in point ORO.FC.005(b)(2);
 - (C) commercial air transport operations of other-than complex motor-powered helicopters by day and over routes navigated by reference to visual landmarks;
 - (D) commercial air transport operations of performance class B aeroplanes.
 - (iii) By way of derogation from point (i), the line check may be conducted by a suitably qualified commander nominated by the operator.
 - (iv) The persons nominated under (ii) and (iii) shall be trained in CRM concepts and the assessment of CRM skills.

- (v) For commercial air transport operations of helicopters, the person nominated under (ii) shall be an instructor.
 - (vi) The operator shall inform the competent authority about the persons nominated under (ii) and (iii) above.
- (3) in addition to the above, for an approved EBT programme:
- (i) personnel providing assessment and training shall hold an Annex I (Part-FCL) instructor or examiner certificate; and
 - (ii) have completed the operator's EBT instructor standardisation.
- Successful completion of the operator's EBT standardisation will qualify the instructor to perform practical assessment in competencies.
- (b) When establishing the training programmes and syllabi, the operator shall include the relevant elements defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012.
 - (c) In the case of CAT operations, training and checking programmes, including syllabi and use of the training means to deliver the programme such as individual flight simulation training devices (FSTDs), and other training devices, shall be approved by the competent authority.
 - (d) The FSTD and other training devices used to meet the requirements of this Subpart shall be qualified in accordance with Regulation (EU) No 1178/2011 and replicate the aircraft used by the operator, as far as practicable. Differences between the FSTD and the aircraft shall be described and addressed through a briefing or training, as appropriate.
 - (e) The operator shall establish a system to adequately monitor changes to the FSTD and to ensure that those changes do not affect the adequacy of the training programmes.

Explanatory note to ORO.FC.145 Provision of training and conduct of checking

Title of ORO.FC.145

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

The amendments to the title and to the first sentence of point (a) are made as points (a)(2), (d) and (e) already refer to checking.

ORO.FC.145(a)(2)

Domains affected: CAT A, CAT H*, SPO A, SPO H (* Only CAT A to A operations with small aircraft as defined in ORO.FC.005)*

Point (a)(2) is proposed to be amended, based on a transposition of the current ORO.FC.230(b)(5), in order to achieve the changes regarding CAT OPCs, as described in Section 2.3.6 above.

The ORO.FC.230(b)(5) alleviation not to require an examiner for OPCs is proposed to be extended to SPO and CAT A to A operations, because of the following:

- (a) The former Annex III to Council Regulation (EEC) No 3922/1991 (EU OPS) Appendix 1 to OPS 1.005 already included the same alleviation for CAT A to A operations.



- (b) For helicopter under CAT A to A, an instructor is required as in other helicopter CAT operations, as explained under Section 2.3.6.
- (c) For helicopter SPO, several abnormal and emergency manoeuvres that require an instructor are already covered by the licence proficiency check. Depending on the specialised operations that the operator is involved in, additional sensitive emergency manoeuvre training and checking may take place on the aircraft every year, once in a 3-year cycle, or only during licence proficiency checks and training towards licence proficiency checks. It is expected that an instructor will always be needed for at least parts of the recurrent flight training. The minimum qualification of the PIC is therefore described in the AMC.

ORO.FC.145(a)(2)(iii) and (a)(2)(vi)

Domains affected: CAT A, CAT H

Points (a)(2)(iii) and (a)(2)(vi) include a new requirement. The need to inform the authority of persons nominated is extended to line checks in order to ensure compliance with the ICAO requirement for authorities to check all persons in charge of flight examinations.

ORO.FC.145 (c) and (d)

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

The amendments to point (c) introduce a generic term ‘training means’. This allows the authority to approve not only the FSTD but also other training means that help to deliver the training and checking programme such as computer-based training or future training means such as virtual reality, augmented reality, etc. The amendment also ensures alignment with the Aircrew Regulation in the use of ‘other training devices (OTD)’.

“FCL.010 Definitions

‘Other training devices’ (OTD) means training aids other than flight simulators, flight training devices or flight and navigation procedures trainers which provide means for training where a complete flight deck environment is not necessary.”

The amendment to point (d) addressed the lack of clear requirements to accept/reject FSTDs used for the operator’s training and checking programmes. This requirement is clear in the Aircrew Regulation with a set of rules to accept and qualify FSTDs. Therefore, the amendment provides the link between the Air OPS Regulation and the Aircrew Regulation.

ORO.FC.200 Composition of flight crew

(...)

- (d) Specific requirements for helicopter operations.
 - (1) For all operations of helicopters with an MOPSC of more than 19 and for operations under IFR of helicopters with an MOPSC of more than 9:
 - ~~(i) —, the minimum flight crew shall be two pilots, — and~~
 - ~~(ii) — the commander shall be the holder of an airline transport pilot licence (helicopter) (ATPL(H)) with an instrument rating issued in accordance with Annex I (Part-FCL) to Regulation (EU) No 1178/2011.~~



- ~~(2) Operations not covered by (d)(1) may be operated by a single pilot under IFR or at night provided that the requirements of ORO.FC.202 are complied with.~~

Explanatory note to ORO.FC.200

Domain affected: CAT H

ORO.FC.200 is proposed to be amended in order to achieve the needed changes in multi-pilot operations of single-pilot certified helicopters, as described in Section 2.3.5 above.

It defines when operations are required to be conducted with two pilots and therefore impacts the definition of ‘multi-pilot helicopter’ and ‘single-pilot helicopter’.

Point (1)(ii) is no longer needed because it is now fully covered under the privileges of the CPL and ATPL and instrument rating, as defined under Part-FCL.

Point (2) is deleted because it duplicated ORO.FC.202 with no added value.

ORO.FC.202 Single-pilot operations under IFR or at night

In order to be able to fly under IFR or at night with a minimum flight crew of one pilot, as foreseen in ORO.FC.200(c)(2) and (d)(2), the following shall be complied with:

- (a) The operator shall include in the operations manual a pilot’s conversion and recurrent training programme that includes the additional requirements for a single-pilot operation. The pilot shall have undertaken training on the operator’s procedures, in particular regarding:
- (1) engine management and emergency handling;
 - (2) use of normal, abnormal and emergency checklist;
 - (3) air traffic control (ATC) communication;
 - (4) departure and approach procedures;
 - (5) autopilot management, if applicable;
 - (6) use of simplified in-flight documentation;
 - (7) single-pilot crew resource management.
- (b) ~~The recurrent checks required by ORO.FC.230 shall be performed in the single pilot role on the relevant type or class of aircraft in an environment representative of the operation.~~
- (c) (...)

Explanatory note to ORO.FC.202

Domains affected: CAT A, CAT H

ORO.FC.200 is proposed to be amended in order to achieve the clarifications and simplifications described in Section 2.3.14 above.

The former point (b) was already duplicated in AMC for helicopters, and is moved to AMC for aeroplanes as well for consistency.



ORO.FC.220 Operator conversion training and checking

- (a) CRM training shall be integrated into the operator conversion training course.
- (b) Once an operator conversion course has been commenced, the flight crew member shall not be assigned to flying duties on another type or class of aircraft until the course is completed or terminated. Crew members operating only performance class B aeroplanes may be assigned to flights on other types of performance class B aeroplanes during conversion courses to the extent necessary to maintain the operation.
- (c) The amount of training required by the flight crew member for the operator's conversion course shall be determined in accordance with the standards of qualification and experience specified in the operations manual, taking into account his or her previous training and experience.
- (d) The flight crew member shall complete:
 - (1) the operator proficiency check and the emergency and safety equipment training and checking before commencing line flying under supervision (LIFUS); and
 - (2) the line check upon completion of line flying under supervision. For performance class B aeroplanes, LIFUS may be performed on any aeroplane within the applicable class.
- (e) By way of derogation from point (d), if the operator has an operational need of limited duration such as applying for a new AOC or aircraft type, the operator may propose a reduced conversion course for a limited number of pilots.
- (f) In the case of aeroplanes, pilots that have been issued a type rating based on a zero flight-time training ('ZFTT') course shall: (...)

Explanatory note to ORO.FC.220

Domains affected: CAT A, CAT H

EASA has identified that national authorities were managing the new AOC or aircraft types through Article 14 of Regulation (EC) No 216/2008 with a validity period of less than two months. This option avoided the need to notify to EASA in accordance with Article 14. However, the implementation of such regulation was different from Member State to Member State. In order to provide a level playing field, EASA proposes a new provision based on the principle of new AOC or aircraft type and for a limited number of pilots. This provision could be supplemented with an AMC or GM. Stakeholders are invited to comment on the need to develop such AMC.

The rule follows a performance-based approach by providing the objective of the provision 'has an operational need of limited duration' followed by two clear examples for which the rule is intended. However, the performance-based approach may also provide room for those small airlines that face the situation of having all their experienced

pilots leaving at the same time.

ORO.FC.230 Recurrent training and checking

- (a) Each flight crew member shall complete recurrent training and checking relevant to the type, or variant and equipment of aircraft on which they operate.



(b) *Operator proficiency check*

- (1) Each flight crew member shall complete operator proficiency checks as part of the normal crew complement ~~to demonstrate competence in carrying out normal, abnormal and emergency procedures.~~
- (2) When the flight crew member will be required to operate under IFR, the operator proficiency check shall be conducted without external visual reference, as appropriate.
- (3) The validity period of the operator proficiency check shall be ~~six~~ 6 calendar months. For operations under VFR by day of performance class B aeroplanes conducted during seasons not longer than ~~eight~~ 8 consecutive months, one operator proficiency check shall be sufficient. The proficiency check shall be undertaken before commencing commercial air transport operations.
- ~~(4) The flight crew member involved in operations by day and over routes navigated by reference to visual landmarks with an other than complex motor-powered helicopter may complete the operator proficiency check in only one of the relevant types held. The operator proficiency check shall be performed each time on the type least recently used for the proficiency check. The relevant helicopter types that may be grouped for the purpose of the operator proficiency check shall be contained in the operations manual.~~
- ~~(5) Notwithstanding ORO.FC.145(a)(2), for operations of other than complex motor-powered helicopters by day and over routes navigated by reference to visual landmarks and performance class B aeroplanes, the check may be conducted by a suitably qualified commander nominated by the operator, trained in CRM concepts and the assessment of CRM skills. The operator shall inform the competent authority about the persons nominated.~~

(c) *Line check*

- ~~(1) Each flight crew member shall complete a line check on the aircraft to demonstrate competence in carrying out normal line operations described in the operations manual. The validity period of the line check shall be 12 calendar months.~~
- ~~(2) Notwithstanding ORO.FC.145(a)(2), line checks may be conducted by a suitably qualified commander nominated by the operator, trained in CRM concepts and the assessment of CRM skills.~~

(d) *Emergency and safety equipment training and checking*

Each flight crew member shall complete training and checking on the location and use of all emergency and safety equipment carried. The validity period of an emergency and safety equipment check shall be 12 calendar months.

(e) *CRM training*

- (1) Elements of CRM shall be integrated into all appropriate phases of the recurrent training.
- (2) Each flight crew member shall undergo specific modular CRM training. All major topics of CRM training shall be covered by distributing modular training sessions as evenly as



possible over each ~~three-year~~ 3-year period. The period shall be counted from the end of the month when the training was taken.

- (f) Each flight crew member shall undergo ground training and flight training in an FSTD or an aircraft, or a combination of FSTD and aircraft training, at least every 12 calendar months. The period shall be counted from the end of the month when the training was taken.
- (g) The validity periods mentioned in (b)(3), (c) and (d) shall be counted from the end of the month when the check was taken.
- (h) When the training or checks required above are undertaken within the last ~~three~~ 3 months of the validity period, the new validity period shall be counted from the original expiry date.

Explanatory note to ORO.FC.230

Domains affected: CAT A, CAT H

ORO.FC.230(a) is amended in order to neutralise any impact on ORO.FC.230 of the new ORO.FC.125 differences and familiarisation training, considering its effect on the meaning of a 'variant'.

The deleted elements of ORO.FC.230 (b) and (c) are moved to ORO.FC.140 and ORO.FC.145 respectively. Alleviations to OPCs are extended to non-CAT operations as well as CAT A to A operations. Elements regarding the line checks are transferred without changes.

ORO.FC.235 Pilot qualification to operate in either pilot's seat

- (a) ~~Commanders~~ Pilots whose duties require them to operate in either pilot seat and ~~carry out the duties of a co-pilot, or commanders required to conduct training or checking duties,~~ shall complete additional training and checking as specified in the operations manual. The check may be conducted together with the operator proficiency check prescribed in ORO.FC.230(b).
- (b) For aeroplanes, ~~the~~ The additional training and checking shall include at least the following:
 - (1) an engine failure during take-off;
 - (2) a one-engine-inoperative approach and go-around; and
 - (3) a one-engine-inoperative landing.
- (c) In the case of helicopters, ~~commanders~~ pilots shall either undergo the additional checking defined in (b) above, or shall also complete their proficiency checks from left- and right-hand seats, on alternate proficiency checks, ~~provided that when the type rating proficiency check is combined with the operator proficiency check the commander completes his/her training or checking from the normally occupied seat.~~
- (d) When engine-out manoeuvres are carried out in an aircraft, the engine failure shall be simulated.
- (e) In the case additional checking is conducted under (b) above, when operating in the co-pilot's seat, the checks required by ORO.FC.230 for operating in the commander's seat shall, in addition, be valid and current.
- (f) The pilot relieving the commander shall have demonstrated, concurrent with the operator proficiency checks prescribed in ORO.FC.230(b), practice of drills and procedures that would



not, normally, be his or her responsibility. Where the differences between left- and right-hand seats are not significant, practice may be conducted in either seat.

- (g) The pilot other than the commander occupying the commander's seat shall demonstrate practice of drills and procedures, concurrent with the operator proficiency checks prescribed in ORO.FC.230(b), which are the commander's responsibility acting as pilot monitoring. Where the differences between left- and right-hand seats are not significant, practice may be conducted in either seat.

Explanatory note to ORO.FC.235

Domains affected: CAT A, CAT H (* Aeroplane operations where the left-hand seat is the commander's seat are not impacted.)*

ORO.FC.235 is proposed to be amended in order to achieve the changes regarding the qualification to fly a helicopter in either pilot's seat, as described in Section 2.3.10 above.

Aeroplane operations where the left-hand seat is the commander's seat are not impacted. The changes in point (a) may impact aeroplane operations where the left-hand seat is the pilot flying's seat.

ORO.FC.240 Operation on more than one type or variant

- (a) The procedures or operational restrictions for operation on more than one type or variant established in the operations manual and approved by the competent authority shall cover:
- (1) the flight crew members' minimum experience level;
 - (2) the minimum experience level on one type or variant before beginning training for and operation of another type or variant;
 - (3) the process whereby flight crew qualified on one type or variant will be trained and qualified on another type or variant; and
 - (4) all applicable recent experience requirements for each type or variant.
- (b) ~~When a flight crew member operates both helicopters and aeroplanes, that flight crew member shall be limited to operations on only one type of aeroplane and one type of helicopter.~~
- (c) ~~Point (a) shall not apply to operations of performance class B aeroplane if they are limited to single-pilot classes of reciprocating engine aeroplanes under VFR by day. Point (b) shall not apply to operations of performance class B aeroplane if they are limited to single-pilot classes of reciprocating engine aeroplanes.~~

Explanatory note to ORO.FC.240

Domains affected: CAT A, CAT H (NCC and SPO are only affected if pilots also fly CAT.)

ORO.FC.240 is proposed to be amended in order to achieve the changes regarding operations on more than one helicopter type or variant, as described in Section 2.3.7 above. The deleted material is transferred to an AMC.



ORO.FC.320 Operator conversion training and checking

The operator's conversion course shall include an operator proficiency check as defined in ORO.FC.330.

ORO.FC.326 Equipment and procedure training and checking

If a flight crew undergoes differences training with regard to standard operating procedures related to a specialised operation, the flight crew shall undergo an operator proficiency check as defined in ORO.FC.330.

Explanatory note to ORO.FC.320 and ORO.FC.326

Domains affected: CAT A, CAT H*, SPO A, SPO H (* Only for operations starting and ending at the same location, with small aircraft, as defined in point (b)(2) of ORO.FC.005 (CAT A to A))*

The NPA proposes to introduce these new requirements in the Regulation in order to achieve the changes regarding initial training and checking for specialised operations and CAT A to A, as described in Section 2.3.11 above.

Initial OPCs are required at completion of the conversion course and at completion of a differences training for specialised operations.

An operator that introduces minor changes to its SOPs may require only ground training, in which case a familiarisation training is required but a differences training is not. In this case, OPCs are not required.

There may also be cases where a pilot needs initial training for a specialised activity that is either closely related to other specialised activities where he or she has experience, or that is not specialised compared to other specialised operations he or she is experienced in. If this is the case, and if the pilot does not change operators, then an initial OPC may not be needed. The new specialised activity may be considered to be covered under the previous OPCs that are relevant to the other equivalent or superior specialised operations for which the pilot is already qualified.

An OPC is always needed at the end of an operator's conversion course if the pilot changes operators. This provision ensures that the operator remains responsible for the competency of the flight crew to implement the operator's SOPs. This should be valid for all commercial operations and is proposed to be also required for CAT A to A operations.

ORO.FC.330 Recurrent training and checking — operator proficiency check

- (a) Each flight crew member shall complete recurrent training and operator proficiency checks to demonstrate his/her competence in carrying out normal, abnormal and emergency procedures. In the case of SPO, the recurrent training and checking shall, covering the relevant aspects associated with the specialised tasks described in the operations manual.
- (b) Appropriate consideration shall be given when operations are undertaken under IFR or at night.
- (c) The validity period of the operator proficiency check shall be 12 calendar months. The validity period shall be counted from the end of the month when the check was taken. When the



operator proficiency check is undertaken within the last ~~three~~ 3 months of the validity period, the new validity period shall be counted from the original expiry date.

Explanatory note to ORO.FC.330

Domains affected: CAT A, CAT H*, SPO A, SPO H (* Only CAT A to A operations with small aircraft, as defined in ORO.FC.005)*

Point (a) is amended for clarity. The definitions of the OPC in ORO.FC.330 and ORO.FC.230 are the same and are therefore moved to ORO.FC.130.

3.4. Draft AMC & GM to Part-ORO (Draft EASA decision)

AMC1 ORO.FC.105(b)(2);(c) Designation as pilot-in-command/commander

GENERAL

The operator should comply with the national qualification requirements published in the Aeronautical Information Publication.

ROUTE, AREA AND AERODROME KNOWLEDGE FOR COMMERCIAL OPERATIONS

~~For commercial operations, the~~ The experience of the route or area to be flown and of the aerodrome facilities and procedures to be used should include the following:

- (a) Area and route knowledge
 - (1) Area and route training should include knowledge of:
 - (i) terrain and minimum safe altitudes;
 - (ii) seasonal meteorological conditions;
 - (iii) meteorological, communication and air traffic facilities, services and procedures;
 - (iv) search and rescue procedures where available; and
 - (v) navigational facilities associated with the area or route along which the flight is to take place.
 - (2) Depending on the complexity of the area or route, as assessed by the operator, the following methods of familiarisation should be used:
- (...)
- (b) Aerodrome knowledge
 - (1) Aerodrome training should include knowledge of obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures, applicable operating minima and ground movement considerations.
 - (2) The operations manual should describe the method of categorisation of aerodromes and, in the case of CAT operations, provide a list of those aerodrome categorised as B or C.
 - (3) All aerodromes to which an operator operates should be categorised in one of these three categories:
 - (i) category A — an aerodrome that ~~meets~~ has all of the following requirements:



- (A) an approved instrument approach procedure;
 - (B) at least one runway with no performance limited procedure for take-off and/or landing;
 - (C) published circling minima not higher than 1 000 ft above aerodrome level; and
 - (D) night operations capability.
- (ii) category B — an aerodrome that does not meet the category A requirements or which requires extra considerations such as:
- (A) non-standard approach aids and/or approach patterns;
 - (B) unusual local weather conditions;
 - (C) unusual characteristics or performance limitations; or
 - (D) any other relevant considerations, including obstructions, physical layout, lighting, etc.
- (iii) category C — an aerodrome that requires additional considerations to those of a category B aerodrome;
- (iv) offshore installations may be categorised as category B or C aerodromes, taking into account the limitations determined in accordance with AMC1 SPA.HOFO.115 'Use of offshore locations'.
- (...)

Explanatory note to AMC1 ORO.FC.105(b)(2);(c)

Domains affected: CAT A, CAT H, SPO A, SPO H

EASA Member States have identified a shortcoming in the requirement for special airport operations. Under the current AMC, the guidance for qualification and experience is too generic and can lead to operators unknowingly not complying with national regulations and AIP instructions.

As an example, operations into the Norwegian category B and C airports have led to safety deviations, incidents and accidents. Enforcement by the Norwegian CAA has been made difficult by the lack of reference to national requirements and AIP information.

To address this issue, the amendment to the AMC is proposed.

The suggested change neither deviates from the current requirements nor introduces anything new, but provides a link to national legislation, which is completely absent today.

AMC2 ORO.FC.105(b)(2);(c) Designation as pilot-in-command/commander

GENERAL

The operator should comply with the national qualification requirements published in the Aeronautical Information Publication.



ROUTE, AREA AND AERODROME KNOWLEDGE FOR NON-COMMERCIAL OPERATIONS

The knowledge of the route, area to be flown and of the aerodrome facilities and procedures to be used should include the following:

(a) Area and route knowledge

(1) Area and route familiarisation should include knowledge of:

- (i) terrain and minimum safe altitudes;
- (ii) seasonal meteorological conditions;
- (iii) meteorological, communication and air traffic facilities, services and procedures;
- (iv) search and rescue procedures where available; and
- (v) navigational facilities associated with the area or route along which the flight is to take place.

(2) The operations manual should describe appropriate methods of familiarisation depending on the complexity of the area or route and the experience of the pilot-in-command.

(b) Aerodrome knowledge

(1) Aerodrome familiarisation should include knowledge of obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures, applicable operating minima and ground movement considerations.

(2) The operator's manual should describe appropriate methods of familiarisation depending on the complexity of the aerodrome.

(3) If the competent authority of the aerodrome or area requires specific training or familiarisation, the operator should maintain all records of this training or familiarisation in accordance with ORO.GEN.220.

(4) For offshore installations, the limitations determined in accordance with AMC1 SPA.HOFO.115 should be taken into account.

Explanatory note to AMC2 ORO.FC.105(b)(2);(c)

Domains affected: NCC A, NCC H, SPO A, SPO H

According to ICAO Annex 6 Part II 3.9.4.1.1., the operator shall ensure that each flight crew member is properly rated and shall be satisfied that flight crew members are competent to carry out assigned duties.

According to ORO.FC.105(b)(2), a flight crew member shall only act as pilot-in-command if she or he has adequate knowledge for take-off, en-route, destination and alternates. National requirements published in the AIP should be complied with.



GM2 ORO.FC.105(b)(2) Designation as pilot-in-command/commander**AERODROME KNOWLEDGE FOR NON-COMMERCIAL OPERATIONS**

The operator may, based on complexity, categorise all aerodromes in one of the following three categories:

- (a) category A — an aerodrome that has all of the following:
 - (1) an approved instrument approach procedure;
 - (2) at least one runway with no performance-limited procedure for take-off and/or landing;
 - (3) published circling minima not higher than 1 000 ft above aerodrome level; and
 - (4) night operations capability.
- (b) category B — an aerodrome that does not meet the category A requirements or which requires extra considerations such as:
 - (1) non-standard approach aids and/or approach patterns;
 - (2) unusual local weather conditions;
 - (3) unusual characteristics or performance limitations; or
 - (4) any other relevant considerations, including obstacles, physical layout, lighting, etc.
- (c) category C — an aerodrome that requires additional considerations to those of a category B aerodrome.

Offshore installations may be categorised as category B or C aerodromes, taking into account the limitations determined in accordance with AMC1 SPA.HOFO.115 'Use of offshore locations'.

Explanatory note to GM2 ORO.FC.105(b)(2)

Domains affected: NCC A, NCC H, SPO A, SPO H

GM2 ORO.FC.105(b)(2) is based on AMC1 ORO.FC.105(b)(2)(c). It was decided to reduce the regulatory burden by moving the paragraph to guidance material, so that a non-commercial operator can also use any other appropriate method specified in the operator's manual.

The decision to keep the published circling minima not higher than 1 500 ft above ground level was taken to be consistent to ORO.FC Section 2.

AMC1 ORO.FC.105(b)(3) & ORO.FC.120 Designation as pilot-in-command/commander & operator conversion training**OPERATOR'S COMMAND COURSE FOR OPERATOR CONVERSION TRAINING FOR NON-COMMERCIAL OPERATIONS WITH COMPLEX MOTOR-POWERED AIRCRAFT (NCC)**

- (a) For aeroplane and helicopter operations, the pilot-in-command should be trained at least on the following elements, as part of either the operator conversion course or command course:
 - (1) command responsibilities training;
 - (2) demonstration of competence operating as pilot-in-command.
- (b) Demonstration of competence operating as pilot-in-command may be achieved by:



- (1) completing a proficiency check in the role of pilot-in-command; or
- (2) operating at least one flight under the supervision and to the satisfaction of a suitably qualified pilot-in-command nominated by the operator.

Explanatory note to AMC1 ORO.FC.105(b)(3) & ORO.FC.120

Domains affected: NCC A, NCC H

AMC1 ORO.FC.105(b)(3) & ORO.FC.120 has been developed to ensure that the pilot-in-command should be familiar with command responsibilities and duties. Command responsibilities training shall be defined by the operator.

Since checking is not required according to ORO.FC.120 of the Air OPS Regulation (see below) and the Basic Regulation requires personnel to be competent, training to proficiency is introduced. A pilot joining the operator or changing aircraft for which a new type or class rating is required, should conduct at least one flight under the supervision and to the satisfaction of a suitably qualified pilot-in-command nominated by the operator to ensure that he or she is able to perform the tasks as required by the operator.

GM1 ORO.FC.105(e) Designation as pilot-in-command/commander

AREA FAMILIARISATION TRAINING — HELICOPTERS

The area familiarisation training for day VFR should ensure that a pilot is capable of selecting aerodromes and operating sites from the ground and from the air, and of establishing a safe flight path for landing and take-off.

The following areas and conditions should require specific area familiarisation training:

- (a) mountain environment;
- (b) offshore environment;
- (c) complex airspace;
- (d) areas that are regularly covered by snow and are prone to white-out phenomena during the cruise or landing phase; and
- (e) other challenging areas or conditions.

Explanatory note to GM1 ORO.FC.105(e)

Domains affected: CAT H, NCC H, SPO H

GM1 ORO.FC.105(e) is proposed to be developed in order to achieve the proposed changes regarding aerodrome competency as described in Section 2.3.10 above.

AMC1 ORO.FC.115 Crew resource management (CRM) training

CRM TRAINING — MULTI-PILOT OPERATIONS

- (...)
- (c) Operator conversion course — CRM training



When the flight crew member undertakes a conversion course with a change of aircraft type or change of ~~operator~~ when joining an operator, elements of CRM training should be integrated into all appropriate phases of the operator's conversion course, as specified in Table 1 of (g).

(...)

(g) CRM training syllabus

Table 1 below specifies which CRM training elements should be covered in each type of training.

The levels of training in Table 1 can be described as follows:

- (1) 'Required' means training that should be instructional or interactive in style to meet the objectives specified in the CRM training programme or to refresh and strengthen knowledge gained in a previous training.
- (2) 'In-depth' means training that should be instructional or interactive in style taking full advantage of group discussions, team task analysis, team task simulation, etc., for the acquisition or consolidation of knowledge, skills and attitudes. The CRM training elements should be tailored to the specific needs of the training phase being undertaken.

Table 1: Flight crew CRM training

CRM training elements	Initial operator's CRM training	Operator conversion course when changing aircraft type	Operator conversion course when changing joining an operator	Annual recurrent training	Command course
General principles					
Human factors in aviation; General instructions on CRM principles and objectives; Human performance and limitations; Threat and error management.	In-depth	Not Required	Required	Required	Required
Relevant to the individual flight crew member					
Personality awareness, human error and reliability, attitudes and behaviours, self-assessment and self-critique; Stress and stress management; Fatigue and vigilance; Assertiveness, situation awareness, information acquisition and processing.	In-depth	Not required	Not Required	Required	In-depth
Relevant to the flight crew					



Automation and philosophy on the use of automation	Required	In-depth	In-depth	In-depth	In-depth
Specific type-related differences	Required	In-depth	Not required	Required	Required
Monitoring and intervention	Required	In-depth	In-depth	Required	Required
Relevant to the entire aircraft crew					
Shared situation awareness, shared information acquisition and processing; Workload management; Effective communication and coordination inside and outside the flight crew compartment; Leadership, cooperation, synergy, delegation, decision-making, actions; Resilience development; Surprise and startle effect; Cultural differences.	In-depth	Required	Required	Required	In-depth
Relevant to the operator and the organisation					
Operator's safety culture and company culture, standard operating procedures (SOPs), organisational factors, factors linked to the type of operations; Effective communication and coordination with other operational personnel and ground services.	In-depth	Required	In-depth	Required	In-depth
Case studies	In-depth	In-depth	In-depth	In-depth	In-depth

Explanatory note to AMC1 ORO.FC.115

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

AMC1 ORO.FC.115 is proposed to be amended in order to achieve the proposed changes regarding crew resource management as described in Section 2.3.9 above.

AMC1 ORO.FC.120 Operator conversion training

OPERATOR CONVERSION TRAINING FOR NON-COMMERCIAL OPERATIONS WITH COMPLEX MOTOR-POWERED AIRCRAFT (NCC)

(a) General



- (1) The operator conversion training should include:
 - (i) emergency and safety equipment training and checking including survival equipment training (completed before operating on any passenger-carrying flight);
 - (ii) passenger handling for operations where no cabin crew is carried; and
 - (iii) a minimum number of sectors and/or flight hours operated under the supervision of a flight crew member nominated by the operator, to demonstrate the standard of qualification specified in the operator's manual.
 - (2) The operator conversion course may be combined with a new type rating as required by Commission Regulation (EU) No 1178/2011.
 - (3) The conversion training should ensure that each flight crew member:
 - (i) has been trained to competency on the emergency and safety equipment installed on the aircraft he or she is to operate; and
 - (ii) is competent in the operating procedures and the use of checklists used by the operator.
- (b) Emergency and safety equipment training should:
- (1) as far as practical, take place in conjunction with cabin/technical crew and emphasis should be placed on the importance of effective coordination and two-way communication between crew members in various emergency situations;
 - (2) address the operational procedures of rescue and emergency services; and
 - (3) cover the items of AMC1 ORO.FC.130(a)(2).

Explanatory note to AMC1 ORO.FC.120

Domains affected: NCC A, NCC H

According to ORO.GEN.200, the operator shall establish, implement and maintain a management system that includes maintaining personnel trained and competent to perform their tasks.

Since checking is not required according to ORO.FC.120 of the Air OPS Regulation (see below) and the Basic Regulation requires personnel to be competent, training to proficiency is introduced. A pilot joining the operator or changing aircraft for which a new type or class rating is required, should conduct at least one flight under the supervision and to the satisfaction of a suitably qualified pilot-in-command nominated by the operator to ensure that he or she is able to perform the tasks as required by the operator.

According to ICAO Annex 6 Part II 3.9.4.1.1. and 3.9.3.3., the operator shall ensure that all flight crew members are properly rated and shall be satisfied that flight crew members are competent to carry out assigned duties, and the training programme shall include training to competency for all equipment installed.

AMC1 OFO.FC.120 point (a)(1)(i) has been introduced for the following reason: According to ICAO Annex 6 Part II 3.9.3.2., ground training is required. Aircraft systems, normal, abnormal and emergency procedures are part of the type rating course and are covered by the aircraft flight



manual (AFM). There are no operator-specific items. If the operator uses different procedures, this will be covered under (a)(3). However, for the emergency and safety emergency equipment training, there is not a clear provision; that is why this provision is introduced.

AMC1 OFO.FC.120 point (b) has been introduced for the same reason as for point (a)(1)(i): In order to fulfil ICAO 3.9.3.3., the training programme for the operator conversion training (OCC) shall include training to competency for all equipment installed.

AMC1 ORO.FC.125 Differences training and familiarisation training

GENERAL

- (a) Differences training requires additional knowledge and training on the aircraft or an appropriate training device. It should be carried out:
- ~~(1) when introducing a significant change of equipment and/or procedures on types or variants currently operated; and~~
 - (12) in the case of aeroplanes, when operating another variant of an aeroplane of the same type or another type of the same class currently operated; or
 - (23) in the case of helicopters, when operating a variant of a helicopter currently operated.
- (b) Familiarisation training requires only the acquisition of additional knowledge. It should be carried out when:
- ~~(1) operating another helicopter or aeroplane of the same type; or~~
 - ~~(2) when introducing a significant change of equipment and/or procedures on types or variants currently operated.~~

AMC1 ORO.FC.126 Equipment and procedure training

GENERAL

Introducing a change of equipment and/or procedures on types or variants currently operated may require additional knowledge or additional training on the aircraft, or an appropriate training device, or both.

Explanatory note to AMC1 ORO.FC.125 and AMC1 ORO.FC.126

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

AMC1 ORO.FC.125 is proposed to be amended and the new AMC1 ORO.FC.126 is proposed to be introduced in order to:

- (a) align the definitions of differences and familiarisation training with those in Part-FCL; and
- (b) introduce the concept of equipment and procedure training in order to cover training previously included in the OPS definition of differences and familiarisation training.



AMC1 ORO.FC.125 & ORO.FC.126 & ORO.FC.140(a) Differences training and familiarisation training & equipment and procedure training & Operation on more than one type or variant**GENERAL****(a) Terminology**

The terms used in the context of the operation of more than one type or variant have the following meaning:

- (1) 'Base aircraft' refers to an aircraft used as a reference to compare differences with another aircraft.
- (2) 'Variant' refers to an aircraft or a group of aircraft within the same pilot type or class rating that has differences with the base aircraft, and requires differences training or familiarisation training.
- (3) A 'variation in aircraft configuration' refers to an aircraft or a group of aircraft within the same variant that has differences with the base aircraft, and requires equipment and procedure training.
- (4) 'Credit' refers to the recognition of recurrent training, checking or recent experience based on commonalities between aircraft.
- (5) 'Operator difference requirements (ODRs)' refer to a formal description of differences between types or variants or aircraft configurations flown by a particular operator.

(b) Scope of ODRs

The operator should use the ODRs methodology, a means of evaluating aircraft differences and similarities, in order to define the training and checking in the following cases:

- (1) for the introduction of a change of equipment on a type or variant currently operated;
- (2) for the introduction of a new variant within a type or class currently operated;
- (3) for the recurrent training and checking of variations in aircraft configuration. The operator may define credit based on ODRs tables;
- (4) for the operation of more than one type or variant when credit is sought.
 - (i) All recurrent training, checking and recent experience requirements should be completed independently for each type or variant, unless credits have been established by using ODRs tables.
 - (ii) The operator may define credit based on ODRs tables that should not be less restrictive than the OSD.

(c) ODRs methodology

- (1) The operator should conduct a detailed evaluation of the differences or similarities of the aircraft concerned in order to establish appropriate procedures or operational restrictions. This evaluation should be based on the OSD for the relevant types or variants, and should be adapted to the operator's specific variations in aircraft configuration. This evaluation should take into account all of the following:
 - (i) the level of technology;



(ii) operational procedures; and

(iii) handling characteristics.

(2) ODRs tables

The operator should first nominate one aircraft as the base aircraft from which to show differences with the second aircraft type or variant, the 'difference aircraft', in terms of technology (systems), procedures, pilot handling and aircraft management. These differences, known as ODRs, preferably presented in tabular format, constitute part of the justification for operating more than one type or variant and also the basis for the associated differences/familiarisation or reduced type rating training for the flight crew.

(3) The ODRs tables should be presented as follows:

GENERAL OPERATOR DIFFERENCES REQUIREMENTS TABLE										
DIFFERENCE AIRCRAFT: BASE AIRCRAFT:				COMPLIANCE METHOD						
				TRAINING					CHKG/ CURR	
General	Differences	Flt char	Proc chg	A	B	C	D	E	FLT CHK	REC EXP
GENERAL	Range ETOPS certified	No	Yes		CBT					
DIMENSIONS	Configuration per AFM, FCOM	Yes	No		CBT					

SYSTEM OPERATOR DIFFERENCES REQUIREMENTS TABLE										
DIFFERENCE AIRCRAFT: BASE AIRCRAFT:				COMPLIANCE METHOD						
				TRAINING					CHKG/ CURR	
System	Differences	Flt char	Proc chg	A	B	C	D	E	FLT CHK	REC EXP
21 – AIR CONDITIONING	CONTROLS AND INDICATORS: - Panel layout	No	Yes	HO						
21 – AIR CONDITIONING	PACKS: - Switch type - Automatically controlled - Reset switch for both packs	No	Yes		CBT					

MANOEUVRE OPERATOR DIFFERENCES REQUIREMENTS TABLE										
DIFFERENCE AIRCRAFT: BASE AIRCRAFT:				COMPLIANCE METHOD						
				TRAINING					CHKG/ CURR	
Manoeuvre	Differences	Flt char	Proc chg	A	B	C	D	E	FLT CHK	REC EXP
Exterior Preflight	Minor differences	No	No	HO						
Preflight	Differences due to systems, ECL	No	Yes		CBT	FTD				
Normal take off	FBW handling vs Conventional; AFDS TAKEOFF: - Autothrottle engagement FMA indications	No	Yes		CBT			FFS		

(4) Compilation of ODRs Tables

(i) ODRs 1: General

The general characteristics of the candidate aircraft are compared with the base aircraft with regard to:

- (A) general dimensions and aircraft design (number and type of rotors, wing span or category);
- (B) flight deck general design;
- (C) cabin layout;
- (D) engines (number, type and position);
- (E) limitations (flight envelope).

(ii) ODRs 2: Systems

Consideration is given to differences in design between the candidate aircraft and the base aircraft. For this comparison, the Air Transport Association (ATA) 100 index is used. This index establishes a system and subsystem classification and then an analysis is performed for each index item with respect to the main architectural, functional and operations elements, including controls and indications on the systems control panel.

(iii) ODRs 3: Manoeuvres

Operational differences encompass normal, abnormal and emergency situations and include any change in aircraft handling and flight management. It is necessary to establish a list of operational items for consideration on which an analysis of differences can be made.

The operational analysis should take the following into account:



- (A) flight deck dimensions (size, cut-off angle and pilot eye height);
 - (B) differences in controls (design, shape, location and function);
 - (C) additional or altered function (flight controls) in normal or abnormal conditions;
 - (D) handling qualities (including inertia) in normal and in abnormal configurations;
 - (E) aircraft performance in specific manoeuvres;
 - (F) aircraft status following failure;
 - (G) management (e.g. ECAM, EICAS, navaid selection, automatic checklists).
- (iv) Once the differences for ODRs 1, ODRs 2 and ODRs 3 have been established, the consequences of differences evaluated in terms of flight characteristics (FLT CHAR) and change of procedures (PROC CHNG) should be entered into the appropriate columns.
- (v) Difference levels — crew training, checking and currency
- (A) The final stage of an operator's proposal to operate more than one type or variant is to establish crew training, checking and currency requirements. This may be established by applying the coded difference levels from Table 4 to the compliance method column of the ODRs Tables.
 - (B) Differences items identified in the ODRs tables as impacting flight characteristics or procedures, should be analysed in the corresponding ATA section of the ODRs manoeuvres. Normal, abnormal and emergency situations should be addressed accordingly.

(d) Difference levels

(1) Difference levels — general

Difference levels are used to identify the extent of a difference between a base and a candidate aircraft with reference to the elements described in the ODRs tables. These levels are proportionate to the differences between a base and a candidate aircraft. A range of five difference levels in order of increasing requirements, identified as A through E, are each specified for training, checking, and currency.

Difference levels apply when a difference with the potential to affect flight safety exists between a base and a candidate aircraft. Differences may also affect the knowledge, skills, or abilities required from a pilot. If no differences exist, or if differences exist but do not affect flight safety, or if differences exist but do not affect knowledge, skills, or abilities, then difference levels are neither assigned nor applicable to pilot qualification. When difference levels apply, each level is based on a scale of differences related to design features, systems, or manoeuvres. In assessing the effects of differences, both flight characteristics and procedures are considered since flight characteristics address handling qualities and performance, while procedures include normal, non-normal and emergency items.

Levels for training, checking, and currency are assigned independently, but are linked depending on the differences between a base and candidate aircraft. Training at level E usually identifies that the candidate aircraft is a different type to the base aircraft.

- (2) Difference levels are summarised in the table below regarding training, checking, and currency.

DIFFERENCE LEVEL	TRAINING	CHECKING	CURRENCY
A	Self-instruction	Not applicable or integrated with next proficiency check	Not applicable
B	Aided instruction	Task or system check	Self-review
C	System devices	Partial proficiency check using qualified device	Designated system
D	Manoeuvre training devices ¹ or aircraft to accomplish specific manoeuvres	Partial proficiency check using qualified device ¹	Designated manoeuvre(s) ¹
E	FSTDs ² or aircraft	Proficiency check using FSTDs ² or aircraft	As per regulation, using FSTDs ² or aircraft

Footnote (1):

- *Aeroplane: FTD level 2, or FFS, or aeroplane*
- *Helicopter: FTD levels 2 and 3, or FFS, or helicopter*

Footnote (2):

- *Aeroplane: FFS level C or D, or aeroplane*
- *Helicopter: FSTDs having dual qualification: FFS level B and FTD level 3, or FFS level C or D, or helicopter*

Training levels A and B require familiarisation training, levels C and D require differences training. Training level E means that differences are such that type rating training is required.

- (3) Difference level — training

The training difference levels specified represent the minimum requirements. Devices associated with a higher difference level may be used to satisfy a training differences requirement.

- (i) Level A training

Level A differences training is applicable to aircraft with differences that can adequately be addressed through self-instruction. Level A training represents a knowledge requirement such that once appropriate information is provided, understanding and compliance can be assumed to be demonstrated.

Training needs not covered by level A training may require level B training or higher, depending on the outcome of the evaluations described in the aircraft evaluation process (CS FCD.420).

(ii) Level B training

Level B differences training is applicable to aircraft with system or procedure differences that can adequately be addressed through aided instruction.

At level B aided instruction, it is appropriate to ensure pilot understanding, emphasise issues, provide a standardised method of presentation of material, or to aid retention of material following training.

(iii) Level C training

Level C differences training can only be accomplished through the use of devices capable of systems training.

Level C differences training is applicable to variants having 'part task' differences that affect skills or abilities as well as knowledge. Training objectives focus on mastering individual systems, procedures, or tasks, as opposed to performing highly integrated flight operations and manoeuvres in 'real time'. Level C may also require self-instruction or aided instruction of a pilot, but cannot be adequately addressed by a knowledge requirement alone. Training devices are required to supplement instruction to ensure attainment or retention of pilot skills and abilities to accomplish the more complex tasks, usually related to operation of particular aircraft systems.

The minimum acceptable training media for level C is interactive computer-based training, cockpit systems simulators, cockpit procedure trainers, part task trainers (such as Inertial Navigation System (INS), Flight Management System (FMS), or Traffic Collision Avoidance System (TCAS) trainers), or similar devices.

(iv) Level D training

Level D differences training can only be accomplished with devices capable of performing flight manoeuvres and addressing full task differences affecting knowledge, skills, or abilities.

Devices capable of flight manoeuvres address full task performance in a dynamic 'real time' environment and enable integration of knowledge, skills and abilities in a simulated flight environment, involving combinations of operationally oriented tasks and realistic task loading for each relevant phase of flight. At level D, knowledge and skills to complete necessary normal, non-normal and emergency procedures are fully addressed for each variant.

Level D differences training requires mastery of interrelated skills that cannot be adequately addressed by separate acquisition of a series of knowledge areas or skills that are interrelated. However, the differences are not so significant, that a full type rating training course is required. If demonstration of interrelationships between the systems was important, the use of a series of separate devices for systems training would not suffice. Training for level D differences requires a



training device that has accurate, high-fidelity integration of systems and controls and realistic instrument indications. Level D training may also require manoeuvre visual cues, motion cues, dynamics, control loading or specific environmental conditions. Weather phenomena such as low-visibility operations or wind shear may or may not be incorporated. Where simplified or generic characteristics of an aircraft type are used in devices to satisfy level D differences training, significant negative training cannot occur as a result of the simplification.

Appropriate devices as described in CS FCD.415(a), satisfying level D differences training range from those where relevant elements of aircraft flight manoeuvring, performance, and handling qualities are incorporated. The use of a manoeuvre training device or aircraft is limited for the conduct of specific manoeuvres or handling differences, or for specific equipment or procedures.

(v) Level E training

Level E differences training is applicable to candidate aircraft that have such significant 'full task' differences that a full type rating training course or a type rating training course with credit for previous experience on similar aircraft types is required to meet the training objectives.

The training requires a 'high-fidelity' environment to attain or maintain knowledge, skills, or abilities that can only be satisfied by the use of FSTDs or the aircraft itself as mentioned in CS FCD.415(a). Level E training, if done in an aircraft, should be modified for safety reasons where manoeuvres can result in a high degree of risk.

When level E differences training is assigned, suitable credit or constraints may be applied for knowledge, skills or abilities related to other pertinent aircraft types. The training programme should specify the relevant subjects, procedures or manoeuvres.

(4) Difference level — checking

Differences checking addresses any pertinent pilot testing or checking. Initial and recurrent checking levels are the same unless otherwise specified.

It may be possible to satisfactorily accomplish recurrent checking objectives in devices that do not meet the initial checking requirements. In such instances, the applicant may propose for revalidation checks the use of certain devices that do not meet the initial checking requirements.

(i) Level A checking

Level A differences checking indicates that no check related to differences is required at the time of differences training. However, a pilot is responsible for knowledge of each variant flown.

(ii) Level B checking

Level B differences checking indicates that a 'task' or 'systems' check is required following initial and recurring training.



(iii) Level C checking

Level C differences checking requires a partial check using a suitable qualified device. A partial check is conducted relative to particular manoeuvres or systems.

(iv) Level D checking

Level D differences checking indicates that a partial proficiency check is required following both initial and recurrent training. In conducting the partial proficiency check, manoeuvres common to each variant may be credited and need not be repeated. The partial proficiency check covers the specified particular manoeuvres, systems, or devices. Level D checking is performed using scenarios that represent a 'real time' flight environment and uses qualified devices permitted for level D training or higher.

(v) Level E checking

Level E differences checking requires that a full proficiency check be conducted in FSTDs or in an aircraft as mentioned in CS FCD.415(a), following both initial and recurrent training. If appropriate, alternating Level E checking between relevant aircraft is possible and credit may be defined for procedures or manoeuvres based on commonality.

Assignment of level E checking requirements alone, or in conjunction with level E currency, does not necessarily result in assignment of a separate type rating.

(5) Difference level — currency

Differences currency addresses any currency and re-currency levels. Initial and recurrent currency levels are the same unless otherwise specified.

(i) Level A currency

Level A currency is common to each aircraft and does not require separate tracking. Maintenance of currency in any aircraft suffices for any other variant within the same type rating.

(ii) Level B currency

Level B currency is 'knowledge-related' currency, typically achieved through self-review by individual pilots.

(iii) Level C currency

(A) Level C currency is applicable to one or more designated systems or procedures, and relates to both skill and knowledge requirements. When level C currency applies, any pertinent lower level currency is also to be addressed.

(B) Re-establishing level C currency

When currency is lost, it may be re-established by completing required items using a device equal to or higher than that specified for level C training and checking.



(iv) Level D currency

(A) Level D currency is related to designated manoeuvres and addresses knowledge and skills required for performing aircraft control tasks in real time with integrated use of associated systems and procedures. Level D currency may also address certain differences in flight characteristics including performance of any required manoeuvres and related normal, non-normal and emergency procedures. When level D is necessary, any pertinent lower level currency is also to be addressed.

(B) Re-establishing level D currency

When currency is lost, currency may be re-established by completing pertinent manoeuvres using a device equal to or higher than that specified for level D differences training and checking.

(v) Level E currency

(A) Level E currency requires that recent experience requirements of Part-FCL and operational requirements be complied with in each aircraft separately. Level E currency may also specify other system, procedure, or manoeuvre currency item(s) necessary for safe operations, and requires procedures or manoeuvres to be accomplished in FSTDs or in an aircraft as mentioned in CS FCD.415(a). Provisions are applied in a way which addresses the required system or manoeuvre experience.

When level E is assigned between aircraft of common characteristics, credit may be permitted. Assignment of level E currency requirements does not automatically lead to a determination on same or separate type rating. Level E currency is tracked by a means that is acceptable to the competent authority.

When common take-off and landing credit (CTLC) is permitted, any credit or constraints applicable to using FSTDs, as mentioned in CS FCD.415(a), are also to be determined.

(B) Re-establishing level E currency

When currency is lost, currency may be re-established by completing pertinent manoeuvres using a device specified for level E differences training and checking.

(6) Competency regarding non-normal and emergency procedures — currency

Competency for non-normal and emergency manoeuvres or procedures is generally addressed by checking requirements. Particular non-normal and emergency manoeuvres or procedures may not be considered mandatory for checking or training. In this situation, it may be necessary to periodically practise or demonstrate those manoeuvres or procedures specifying currency requirements for those manoeuvres or procedures.



Explanatory note to AMC1 ORO.FC.125 & 126 & 140(a)

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

This AMC is proposed to be developed in order to achieve the proposed changes regarding ODRs tables as described in Section 2.3.8 above. It is based on AMC2 ORO.FC.240 with the following changes:

Point (a)(3) is a new definition needed following the alignment of the Air OPS definition of 'differences and familiarisation training' with the Aircrew definition. For variations that do not fall under the aircrew definition, credit can be established without being backed by OSD.

Point (a)(4) is a simplified definition of credit. The last sentence of the former definition 'For substantiation of the credits ODRs tables or other appropriate documentation for comparison of the relevant aircraft characteristics may be provided.' is moved to point (b) 'Scope of ODRs' and amended.

The former point (b) 'Philosophy' is moved to GM1 ORO.FC.140 because it includes only considerations. See explanatory note to GM1 ORO.FC.140.

A new point (b) 'Scope of ODRs' is introduced to extend the scope of ODRs as proposed above, and to clarify that ODRs tables may define credit without OSD backing for variations in aircraft configuration that do not fall under the aircrew definition of a variant, which has now been extended to the Air OPS Regulation.

The final sentence in the previous point (c)(1) 'The methodology described below should be used as a means of evaluating aeroplane differences and similarities to justify the operation of more than one type or variant, and when credit is sought.' is moved to the new point (b) 'Scope of ODRs' and amended.

Point (c)(1) is amended to clearly refer to OSD instead of 'Commission Regulation (EU) No 748/2012'.

The initial part of the first sentence of previous points (c)(1) and (c)(2) 'Before assigning/requiring flight crew members to operate more than one type or variant of aircraft,' is deleted following the extension of the scope of ODRs to differences and familiarisation training.

Points (c)(3), (c)(4) and (d) are transposed without changes.

AMC1 ORO.FC.120 & 126 & 320 & 326 Operator conversion training and checking & equipment and procedure training and checking**SPECIALISED OPERATIONS**

If a flight crew undergoes training with regard to standard operating procedures related to a specialised operation, either as part of a differences training or a conversion training, the following should apply:

- (a) Initial training for a given specialised operation
 - (1) In-depth training should achieve competence in carrying out normal, abnormal and emergency procedures, covering the standard operating procedures associated with the specialised task.
 - (2) The training should include ground training associated with the specialised task.



- (3) Unless the flight crew member has significant experience in similar specialised operations as defined in the operations manual, the training should include flight training associated with the specialised task.
- (b) Initial training and experience for any level of HEC and HESLO operations: AMC1 SPO.SPEC.HEC.100 and AMC1 SPO.SPEC.HESLO.100 should apply in combination with point (a) above.
- (c) Training when changing operators
- (1) The training should focus on the elements of the standard operating procedures that are specific to the operator.
- (2) The amount of training required by the flight crew member for the operator's conversion course shall be determined in accordance with the standards of qualification and experience specified in the operations manual, taking into account his or her previous training and experience in the given specialised operation and in similar operations.
- (d) The operator proficiency check should take place at the end of the training programme defined in the points above.

Explanatory note to AMC1 ORO.FC.120 & 126 & 320 & 326

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

This AMC defines initial training for a given specialised operation. Initial training is defined as in-depth training that will usually include flight training.

There will be cases where a pilot needs initial training for a specialised activity that is either closely related to other specialised activities where he or she has experience, or not significantly different to other specialised operations he or she is experienced with. In such cases, flight training may not be necessary. The operator should define which experience in what specialised activity it considers sufficient to skip the flight training phase.

The NPA proposes not to provide means to accept and/or credit previous checking for the SPO operator conversion course because commercial operators should always ensure that their flight crew are competent for the tasks they are requested to complete. Also, the operating procedures and training and checking needs are likely to vary from one operator to the other.

AMC1 ORO.FC.130 Recurrent training and checking

RECURRENT TRAINING AND CHECKING TO DEMONSTRATE COMPETENCE FOR NON-COMMERCIAL OPERATIONS WITH COMPLEX MOTOR-POWERED AIRCRAFT (NCC)

(a) Recurrent training

Recurrent training should comprise the following:

(1) Ground training

(i) The ground training programme should include:

(A) aircraft systems;



- (B) operational procedures and requirements, including ground de-icing/anti-icing and pilot incapacitation; and
 - (C) accident/incident and occurrence review.
 - (ii) When the ground training is conducted within 3 calendar months prior to the expiry of the 12 calendar months' period, the next ground recurrent training should be completed within 12 calendar months of the original expiry of the previous training.
- (2) Emergency and safety equipment training
- (i) Emergency and safety equipment training may be combined with emergency and safety equipment checking and should be conducted in an aircraft or a suitable alternative training device.
 - (ii) Every year the emergency and safety equipment training programme should include the following:
 - (A) actual donning of a life jacket, where fitted;
 - (B) actual donning of protective breathing equipment, where fitted;
 - (C) actual handling of fire extinguishers of the type used;
 - (D) instruction on the location and use of all emergency and safety equipment carried on the aircraft; and
 - (E) instruction on the location and use of all types of exits.
 - (iii) When the emergency and safety equipment training is conducted within 3 calendar months prior to the expiry of the 12 calendar months' period, the next emergency and safety equipment training should be completed within 12 calendar months of the original expiry of the previous training.
- (3) Elements of CRM, as specified in Table 1 of AMC1 ORO.FC.115 should be integrated into all appropriate phases of recurrent training.
- (4) Aircraft/FSTD training
- (i) The aircraft/FSTD training programme should be established in such a way that all the major failures of aircraft systems and associated procedures will have been covered in the preceding 3-year period.
 - (ii) When engine-out manoeuvres are carried out in an aircraft, the engine failure should be simulated.
 - (iii) When the aircraft/FSTD training is conducted within 3 calendar months prior to the expiry of the 12 calendar months' period, the next aircraft/FSTD training should be completed within 12 calendar months of the original expiry date of the previous training.
- (b) Periodic check to demonstrate competence
- (1) Each flight crew member should complete the periodic check as part of the normal crew complement.

- (2) Periodic demonstrations of competence should be conducted every 12 months and may be combined with the proficiency check required by Regulation (EU) No 1178/2011.
- (3) When the demonstration of competence is conducted within 3 calendar months prior to the expiry of the 12 calendar months' period, the next check to demonstrate competence should be completed within 12 calendar months of the original expiry date of the previous check to demonstrate competence.
- (c) When the training or checks required above are undertaken within the last 3 months of the validity period, the new validity period should be counted from the original expiry date. The validity period may be counted from the end of the month when the check was taken.

Explanatory note to AMC1 ORO.FC.130

Domains affected: NCC A, NCC H

Point (a) was introduced because, according to ICAO Annex 6 Part II, 3.9.3.1., an operator shall establish and maintain a training programme that is designed to ensure that a person who receives training acquires and maintains the competency to perform assigned duties, including skills related to human performance.

Also, according to the IR, each flight crew member shall complete annual recurrent flight and ground training including training on the location and use of all emergency and safety equipment carried.

Point (b) was introduced because a periodic check to demonstrate competency is required according the Air OPS Regulation (ORO.FC.130(b)) and ICAO Annex 6 Part II (3.9.4.4).

Point (b)(1) was introduced to ensure that, whenever multi-pilot operations take place on a voluntary basis, the check takes place with a multi-pilot crew. Flight experience gathered in multi-pilot operations under NCC can then be credited towards the prerequisites of the ATPL, the MCCI and the MCC training privilege of the TRI.

Point (c) was based on material from Sections 2 and 3 of ORO.FC and introduces the same flexibility for NCC as that already existing for CAT.

GM1 ORO.FC.130 Recurrent training and checking

RECURRENT TRAINING AND CHECKING TO DEMONSTRATE COMPETENCE FOR NON-COMMERCIAL OPERATIONS WITH COMPLEX MOTOR-POWERED AIRCRAFT (NCC) — USE OF AIRCRAFT/FSTD FOR TRAINING PROGRAMME

When an FSTD is not available, the operator should establish mitigating measures to ensure that an adequate level of safety is maintained when conducting the training or checking in an aircraft. If one or more of the major failures cannot be practised in the aircraft because of their associated risks or because of environmental considerations, the failure(s) may be partially replicated for crew training purposes using pre-briefed, risk-assessed measures that avoid degrading the aircraft's performance below a predetermined level, and which permit immediate reversion to normal operating conditions.



Explanatory note to GM1 ORO.FC.130

Domains affected: NCC A, NCC H

This GM was introduced because, according to ICAO Annex 6 Part II, Chapter 3, Section 3.9.3.4. 'Flight crew member training programmes', 'Flight simulators should be used to the maximum extent practicable for initial and annual recurrent training.' If an FSTD is not available, the operator needs to perform training and checking on the aircraft.

This GM may help operators set up a training programme to minimise the risk if the aircraft is used for training instead of an FSTD.

AMC1 ORO.FC.135 Pilot qualification to operate in either pilot's seat**GENERAL**

The training and checking for pilot qualification to operate in either pilot's seat should include any safety-critical items as specified in the operations manual where the action to be taken by the pilot is different according to which seat he or she occupies.

NON-COMMERCIAL OPERATIONS WITH COMPLEX MOTOR-POWERED AIRCRAFT (NCC)

Training should be arranged so that all such items will have been covered in the preceding 3-year period.

Explanatory note to AMC1 ORO.FC.135

Domains affected: NCC A, NCC H

For proportionality reasons, it was decided that for NCC, training should take place on a 3-year cycle, and that no recurrent checking would be required once a pilot is qualified.

AMC1 ORO.FC.130(a) Recurrent training and checking**OPERATIONS ON MORE THAN ONE TYPE OR VARIANT, OR WITH VARIATIONS IN AIRCRAFT CONFIGURATION**

If applicable, AMC1 ORO.FC.125 & 126 & 140(a) should be used to determine the recurrent training and checking relevant to:

- (a) each type or variant of aircraft; and
- (b) variations in aircraft configuration.

Explanatory note to AMC1 ORO.FC.130(a)

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

This new AMC clarifies that AMC1 ORO.FC.125&126&140(a) should be used to define the relevant training and checking for operations on more than one type or variant.

In cases defined in ORO.FC.140 (b), (c), and (d), AMC1 ORO.FC.140(a) does not apply and OSD is not necessary, which is why the sentence is introduced by 'if applicable'.



GM1 ORO.FC.140 Operation on more than one type or variant**PHILOSOPHY**

The concept of operating more than one type or variant depends upon the experience, knowledge and ability of the operator and the flight crew concerned.

The first consideration is whether or not aircraft types or variants allow the safe operation of all types and variants.

The second consideration is if and how to achieve adequate training to address potential confusion and increased workload caused by the operation of the types or variants.

Explanatory note to GM1 ORO.FC.140

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

Elements of the previous point (b) of AMC2 ORO.FC.240 are proposed to be moved to guidance material. As the considerations introduced in this GM are valid for all operators, it is proposed to introduce it as GM to ORO.FC.140. It was finally considered that ‘sufficient similarity between the types or variants’ was not the only key factor to safely operate more than one type or variant. The focus of the GM was broadened accordingly.

AMC1 ORO.FC.140(b) Operation on more than one type or variant**GROUPS OF SINGLE-ENGINED PISTON HELICOPTER TYPES FOR THE REVALIDATION OF THE OPC**

AMC1 FCL.740.H should be complied with for the purpose of operator proficiency check cross-crediting.

Explanatory note to AMC1 ORO.FC.140(b)

Domains affected: CAT H, SPO H

A new AMC1 ORO.FC.140(b) is proposed to be developed in order to achieve the changes regarding operations on more than one helicopter type or variant, as described in Section 2.3.7 above.

AMC1 ORO.FC.140(d) Operation on more than one type or variant**LINE CHECKS — HELICOPTERS**

(a) Prior to using a line check on one helicopter type or variant to revalidate the line check on other helicopter types or variants, the operator should consider whether the kind of operations are sufficiently similar in terms of:

- (1) use of aerodromes or operating sites;
- (2) day VFR, night VFR or IFR operations;
- (3) use of operational approvals and specific approvals;
- (4) normal procedures, including take-off and landing procedures;
- (5) use of automation; and
- (6) for IFR flights, flight instrument displays and human-machine interface.



- (b) A single-engined and a multi-engined helicopter type have significantly different normal procedures for take-off and landing and should be line-checked separately every year.
- (c) For IFR operations of complex helicopters, a line check on one type or variant should revalidate the line check for the other type or variant only if such credits are defined in operational suitability data established in accordance with Commission Regulation (EU) No 748/2012.
- (d) Line check cross-crediting should be defined in the operations manual.

Explanatory note to AMC1 ORO.FC.140(d)

Domain affected: CAT H

The new AMC1 ORO.FC.140(d) is proposed to be developed in order to achieve the changes regarding operations on more than one helicopter type or variant, as described in Section 2.3.7 above.

AMC1 ORO.FC.145 Provision of training and conduct of checking

ACCEPTANCE OF PREVIOUS TRAINING FOR NON-COMMERCIAL OPERATIONS WITH COMPLEX MOTOR-POWERED AIRCRAFT (NCC)

- (a) Operators may develop a policy for the crediting of previous training. Details of any such policy should be included in the operations manual.
- (b) The policy should as a minimum include measures to ascertain:
 - (1) the content of the training;
 - (2) whether the training was delivered by suitably qualified personnel or organisations;
 - (3) whether the aircraft, FSTD or other equipment used for the training was sufficiently similar to the aircraft and equipment the crew member will operate; and
 - (4) whether the operating procedures used during such training were sufficiently representative of the procedures used by the new operator.
- (c) Where previous training delivered by other suitably qualified personnel or organisations is found to satisfy all or some of the requirements in ORO.FC.120, the training may be credited and an abbreviated conversion course may be used. Such an abbreviated course should cover all items not credited from previous training.
- (d) Where a pilot flies for more than one operator and training delivered by that other operator is found to satisfy some of the requirements of ORO.FC.130, then such training may be credited and an abbreviated recurrent training programme may be used. Such an abbreviated recurrent training programme should cover all items not credited from training conducted by the other operator.
- (e) An aircraft operator remains responsible for all training required by this part regardless of whether training is conducted by the operator, another operator, a certificated organisation or another sub-contractor, as defined in ORO.GEN.205.



- (f) An operator accepting any previous training should be satisfied that the flight crew member is competent to operate in accordance with that operator's procedures and to use the specific equipment installed on the aircraft to be operated.
- (g) Previous training needs to be formally documented.
- (h) The assessment under (b) and the documents referred to under (g) should be stored as part of the crew member training, checking and qualifications records.

Explanatory note to AMC1 ORO.FC.145

Domains affected: NCC A, NCC H

It was identified that there is a common practice of NCC operators to exchange pilots between NCC operations, or to employ pilots trained under CAT for NCC operations.

Under CAT, the operator conversion course takes into account to the previous training and experience of the individual in accordance with ORO.FC.220, and authorities may approve recurrent training and checking programmes to be valid for several operators.

This AMC has been developed to clarify how previous training should be accepted and/or credited under NCC.

This AMC does not provide for the acceptance of previous checkings, but there is already less checking in NCC than in CAT or SPO.

Also, the title of the AMC is proposed to be changed following the change in the title of the rule.

GM1 ORO.FC.145 Provision of training and conduct of checking

POLICY FOR ACCEPTANCE OF PREVIOUS TRAINING AND CHECKING FOR OTHER THAN COMMERCIAL AIR TRANSPORT OPERATIONS (NCC)

Operators may wish to enter into 'audit pooling' arrangements in order to satisfy the requirements of ORO.GEN.205 in relation to contracted training providers or other aircraft operators.

Explanatory note to AMC1 ORO.FC.145 and GM1 ORO.FC.145

Domains affected: NCC A, NCC H

AMC1 ORO.FC.145 and GM1 ORO.FC.145 are proposed to be amended in order to achieve the clarification described in Section 2.3.15 above.

AMC1 ORO.FC.145(a)(1) Provision of training and conduct of checking

TRAINING AND CHECKING PROGRAMMES AND SYLLABI

Training and checking programmes and syllabi should include as a minimum:

- (a) When training is combined with checking, the distinction between the two phases;
- (b) List of items covered;
- (c) Minimum time allocation (duration);
- (d) Means of delivery (e.g. FSTD, OTD, computer-based, VR, etc.);
- (e) Personnel providing the training and conducting the checks.



Further details should be included depending on the complexity of the operations.

Explanatory note to AMC1 ORO.FC.145(a)(1)

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

This AMC is proposed to improve international harmonisation and due to standardisation issues:

The international harmonisation is as follows:

- (a) ICAO universal safety oversight audit programme (USOAP) protocol questions 4.221 and associated guidance material requires the following:

'(d) comprehensive syllabi, including lesson plans for approved training.'

- (b) Federal Aviation Administration (FAA) Part 121 also provides a similar requirement as follows:

'§121.403 Training program: Curriculum.

- (a) *Each certificate holder must prepare and keep current a written training program curriculum for each type of airplane with respect to dispatchers and each crewmember required for that type airplane. The curriculum must include ground and flight training required by this subpart.*

- (b) *Each training program curriculum must include:*

- (1) *A list of principal ground training subjects, including emergency training subjects that are provided.*
- (2) *A list of all the training device mockups, systems trainers, procedures trainers, or other training aids that the certificate holder will use. No later than March 12, 2019, a list of all the training equipment approved under §121.408 as well as other training aids that the certificate holder will use.*
- (3) *Detailed descriptions or pictorial displays of the approved normal, abnormal, and emergency maneuvers, procedures and functions that will be performed during each flight training phase or flight check, indicating those maneuvers, procedures and functions that are to be performed during the inflight portions of flight training and flight checks.*
- (4) *A list of airplane simulators or other training devices approved under §121.407, including approvals for particular maneuvers, procedures, or functions.*
- (5) *The programmed hours of training that will be applied to each phase of training.*
- (6) *A copy of each statement issued by the Administrator under §121.405(d) for reduction of programmed hours of training.'*

- (c) In regard to standardisation issues, in May 2017 the OPS TeB approved a document to address the standardisation issues related to training programmes; the proposed AMC is based on that document.



AMC1 ORO.FC.145(a)(2) Provision of training and conduct of checking

PERSONNEL CONDUCTING TRAINING AND CHECKING — GENERAL

Training and checking should be conducted by the following personnel:

- (a) Ground and refresher training by suitably qualified personnel;
- (b) Emergency and safety equipment training and checking by suitably qualified personnel as specified in the operator's manual;
- (c) CRM
 - (1) For commercial air transport, integration of CRM elements into all the phases of the recurrent training by all the personnel conducting recurrent training. The operator should ensure that all personnel conducting recurrent training are suitably qualified to integrate elements of CRM into this training;
 - (2) Classroom CRM training by at least one CRM trainer, qualified as specified in AMC3 ORO.FC.115 who may be assisted by experts in order to address specific areas.

AMC1 ORO.FC.145(a)(2)(i) Provision of training and conduct of checking

PERSONNEL PROVIDING AIRCRAFT/FSTD TRAINING AND CONDUCTING OPERATOR PROFICIENCY CHECKING

Training should be provided and checking should be conducted by the following personnel:

- (a) Flight training by a type rating instructor (TRI) or class rating instructor (CRI), flight instructor (FI) or, in the case of the FSTD content, a synthetic flight instructor (SFI). For commercial air transport, the FI, TRI, CRI or SFI satisfies the operator's experience and knowledge requirements sufficient to instruct on aircraft systems and operational procedures and requirements.
- (b) Operator proficiency check by a type rating examiner (TRE), class rating examiner (CRE) or, if the check is conducted in an FSTD, a TRE, CRE or a synthetic flight examiner (SFE), trained in CRM concepts and the assessment of CRM skills.
- (c) For aircraft/FSTD training, line flying under supervision, operator proficiency checks and line checks taking place under multi-pilot operations of helicopters, by personnel holding 350 hours flying experience in multi-pilot operations.

Explanatory note to AMC1 ORO.FC.145(a)(2) and AMC1 ORO.FC.145(a)(2)(i)

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H (AMC1 ORO.FC.145(a)(2))

Domains affected: CAT A, CAT H, NCC A, NCC H (AMC1 ORO.FC.145(a)(2)(i))

The AMC are proposed to be introduced by moving elements of the ORO.FC.230 AMC into Section 1, and by restricting them to commercial air transport as necessary.

It is clarified that the elements of the former ORO.FC.230 AMC that have been moved to AMC1 ORO.FC.145(a)(2)(i) are only applicable when ORO.FC.145(a)(2)(i) applies, and therefore does not contradict the ORO.FC.145(a)(2)(ii) and (a)(2)(iii) alleviations previously existing under ORO.FC.230(b)(5). This achieves the clarification and simplification described in Section 2.3.14.



Point (c) of AMC1 ORO.FC.145(a)(2)(i) is introduced to ensure that, whenever multi-pilot operations take place on a voluntary basis, the person conducting the check has sufficient experience of multi-pilot operations. Flight experience gathered in multi-pilot operations can then be credited towards the prerequisites of the ATPL, the MCCI and the MCC training privilege of the TRI, whether they are flown under CAT NCC or SPO.

AMC1 ORO.FC.145(a)(2)(ii) & (a)(2)(iii) Provision of training and conduct of checking

GENERAL

- (a) The nominated PIC/commander in charge of conducting training should receive training which should cover at least:
- (1) techniques of briefing and debriefing;
 - (2) CRM concepts;
 - (3) for SPO, which manoeuvres the nominated PIC/commander should not train or check unless qualified as an instructor.
- (b) In addition, the nominated PIC/commander/instructor in charge of conducting operator proficiency checks should receive additional training which should cover at least:
- (1) how to perform a check;
 - (2) flight techniques applicable to checks performed in flight;
 - (3) the assessment of CRM skills.
- (c) The nominated PIC/commander/instructor in charge of conducting aircraft/FSTD training, line flying under supervision, operator proficiency checks or line checks taking place under multi-pilot operations of helicopters should have 350 hours flying experience in multi-pilot operations.
- (d) The nominated PICs/commanders, or the criteria for nominating PICs/commanders, should be included in the operations manual.

CAT — SUITABLY QUALIFIED COMMANDER OR INSTRUCTOR NOMINATED BY THE OPERATOR

- (a) For commercial air transport operations under visual flight rules (VFR) by day, the minimum experience of the nominated commander should be more than 750 hours total flight time with at least 50 hours on the type, class or the aircraft variant.
- (b) For commercial air transport operations of performance class B aeroplanes under night VFR or under instrument flight rules (IFR), the minimum experience of the nominated commander should be more than 1 000 hours total flight time with at least 100 hours on the type, class or the aircraft variant.



SPO — SUITABLY QUALIFIED PIC OR INSTRUCTOR NOMINATED BY THE OPERATOR

- (a) For SPO, the person conducting the aircraft/FSTD training and the operator proficiency check should meet the following criteria:
- (1) Training and checking covering normal, abnormal and emergency procedures relevant to the type or variant should be conducted in accordance with AMC1 ORO.FC.145(a)(2)(i).
 - (2) Training and checking covering the relevant aspects associated with HEC and HESLO should be conducted by a HEC or HESLO instructor as defined in AMC1 SPO.SPEC.HEC.100 and AMC1 SPO.SPEC.HEC.100.
 - (3) Training and checking covering the relevant aspects associated with a specialised operation other than HEC and HESLO should be conducted by a nominated PIC with the following flight experience:
 - (i) more than 750 hours total flight time with at least 50 hours on the type, class or the aircraft variant;
 - (ii) for specialised operations other than HEC and HESLO, either:
 - (A) the nominated PIC experience in the applicable specialised operation should be at least 500 hours, or
 - (B) the nominated PIC experience should be 1 000 hours in specialised operations and the number of hours in the applicable specialised operation as defined by the operator, based on a risk assessment, taking into account the complexity of the relevant aspects associated with the applicable specialised operation.
 - (4) In addition to (2) and (3) above, flight training and checking of sensitive type-related manoeuvres in combination with the training and checking of the relevant aspects associated with a specialised task, should be conducted by a qualified instructor.
- (b) In addition to (a) above, if the SPO operator combines the operator proficiency check with a licence proficiency check, the person conducting the check should meet the requirements for licence proficiency checks.

Explanatory note to AMC1 ORO.FC.145(a)(2)(ii)

Domains affected: CAT A, CAT H*, SPO A, SPO H (* Only for operations starting and ending at the same location, with small aircraft, as defined in ORO.FC.005(b), point (b)(2) (CAT A to A))*

The new AMC1 ORO.FC.145(a)(2)(ii) is developed in order to achieve the changes regarding recurrent training and checking for SPO and 'CAT A to A', as described in Sections 2.3.12 and 2.3.13 above.

Point (c) is introduced to ensure that, whenever multi-pilot operations take place on a voluntary basis, the person conducting the check has sufficient experience of multi-pilot operations. Flight experience gathered in multi-pilot operations can then be credited towards the prerequisites of the ATPL, the MCCI and the MCC training privilege of the TRI, whether they are flown under CAT, NCC or SPO.



The AMC defines the required experience of the person conducting SPO and 'CAT A to A' training and checking. It introduces a mitigation to the fact that examiners are no longer required to conduct OPCs, and instructors are no longer required to conduct flight training for SPO.

It is based on an exemption granted to Spain and has been extended to cover a wide variety of specialised operations. The exemption had been based on the national regulation in use before the introduction of the Air OPS Regulation. Also, Spain has provided the results of a safety assessment which stated that the accident/incident rate was equivalent to other countries in Europe.

The AMC also defines the required experience of the person conducting training and checking under commercial air transport other than 'CAT A to A'. In addition, said person is not required to be an instructor/examiner, extending thus the scope of the exemption granted to Spain.

AMC1 ORO.FC.145(b) Provision of training and conduct of checking

NON-MANDATORY (RECOMMENDATION) ELEMENTS OF OPERATIONAL SUITABILITY DATA

When developing the training programmes and syllabi, the operator should **include** ~~consider~~ the non-mandatory (recommendation) elements for the relevant type that are provided in the operational suitability data established in accordance with Commission Regulation (EU) No 748/2012¹⁵.

Explanatory note to AMC1 ORO.FC.145(b)

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

The title of the AMC is proposed to be changed following the change in the title of the rule. The verb 'consider' is replaced with 'include' for consistency, because operational suitability data cannot be disregarded.

AMC1 ORO.FC.145(d) Provision of training and conduct of checking

FULL FLIGHT SIMULATORS (FFS)

(...)

Explanatory note to AMC1 ORO.FC.145(d)

Domains affected: CAT A, CAT H, NCC A, NCC H, SPO A, SPO H

The title of the AMC is proposed to be changed following the change in the title of the rule.

AMC1 ORO.FC.205 Command course

COMBINED UPGRADING AND CONVERSION COURSE — HELICOPTER

If a pilot is converting from one helicopter type or ~~variant~~ to another when upgrading to commander:

- (a) the command course should also include a conversion course in accordance with ORO.FC.220;
and

¹⁵ OJ L 243, 27.9.2003, p. 6.



- (b) additional flight sectors should be required for a pilot transitioning onto a new type of helicopter.

Explanatory note to AMC1 ORO.FC.205

Domains affected: CAT A, CAT H

AMC1 ORO.FC.205 is proposed to be amended in order to achieve the proposed changes regarding operations on more than one helicopter type or variant, as described in Section 2.3.7 above. The term 'variant' is not appropriate here because the conversion course in (a) only applies when changing types, and (b) applies only when changing types.

The conversion from one variant to another is already covered under familiarisation and differences training.

AMC1 ORO.FC.220 Operator conversion training and checking

OPERATOR CONVERSION TRAINING SYLLABUS

(...)

- (c) Emergency and safety equipment training and checking
- (1) Emergency and safety equipment training should take place in conjunction with cabin/technical crew undergoing similar training with emphasis on coordinated procedures and two-way communication between the flight crew compartment and the cabin.
 - (2) On the initial conversion course and on subsequent conversion courses as applicable, the following should be addressed:
 - (i) Instruction on first-aid in general (initial conversion course only); instruction on first-aid as relevant to the aircraft type of operation and crew complement, including those situations where no cabin crew is required to be carried (initial and subsequent).
 - (ii) Aero-medical topics, including:
 - (A) hypoxia;
 - (B) hyperventilation;
 - (C) contamination of the skin/eyes by aviation fuel or hydraulic or other fluids;
 - (D) hygiene and food poisoning; and
 - (E) malaria.
 - (iii) The effect of smoke in an enclosed area and actual use of all relevant equipment in a simulated smoke-filled environment.
 - (iv) Actual fire fighting, using equipment representative of that carried in the aircraft on an actual or simulated fire except that, with Halon extinguishers, an alternative extinguisher may be used.
 - (v) The operational procedures of security, rescue and emergency services.



- (vi) Survival information appropriate to their areas of operation (e.g. polar, desert, jungle or sea) and training in the use of any survival equipment required to be carried.
- (vii) A comprehensive drill to cover all ditching procedures where flotation equipment is carried. This should include practice of the actual donning and inflation of a life-jacket, together with a demonstration or audio-visual presentation of the inflation of life-rafts and/or slide-rafts and associated equipment. This practice should, on an initial conversion course, be conducted using the equipment in water, although previous certified training with another operator or the use of similar equipment will be accepted in lieu of further wet-drill training.
- (viii) Instruction on the location of emergency and safety equipment, correct use of all appropriate drills, and procedures that could be required of flight crew in different emergency situations. Evacuation of the aircraft (or a representative training device) by use of a slide where fitted should be included when the operations manual procedure requires the early evacuation of flight crew to assist on the ground.

(3) Operations where no cabin crew is required

(i) Passenger handling

Other than general training on dealing with people, emphasis should be placed on the following:

- (A) advice on the recognition and management of passengers who appear or are intoxicated with alcohol, under the influence of drugs or aggressive;
- (B) methods used to motivate passengers and the crowd control necessary to expedite an aircraft evacuation; and
- (C) the importance of correct seat allocation with reference to aircraft mass and balance. Particular emphasis should also be given on the seating of special categories of passengers.

(ii) Discipline and responsibilities

Emphasis should be placed on discipline and an individual's responsibilities in relation to:

- (A) his or her ongoing competence and fitness to operate as a crew member with special regard to flight and duty time limitation (FTL) requirements; and
- (B) security procedures.

(iii) Passenger briefing/safety demonstrations

Training should be given in the preparation of passengers for normal and emergency situations.

(...)

(e) Operator proficiency check



- (i) For helicopters, the operator proficiency check that is part of the operator's conversion checking should include at least the following emergency/abnormal procedures as relevant to the helicopter and operations:
- (A) engine fire;
 - (B) interior helicopter fire or smoke;
 - (C) emergency operation of undercarriage;
 - (D) hydraulic failure;
 - (E) electrical failure;
 - (F) flight and engine control system malfunctions;
 - (G) recovery from unusual attitudes;
 - (H) landing with one or more engine(s) inoperative;
 - (I) instrument meteorological conditions (IMC) autorotation techniques;
 - (J) autorotation to a designated area;
 - (K) pilot incapacitation;
 - (L) directional control failures and malfunctions; and
 - (M) engine failure and if relevant, relight
- And for multi-engined helicopters:
- (A) engine failure during take-off before decision point;
 - (B) engine failure during take-off after decision point;
 - (C) engine failure during landing before decision point; and
 - (D) engine failure during landing after decision point.
- (ii) For helicopter pilots required to engage in IFR operations, the proficiency check includes the following additional abnormal/emergency procedures:
- (A) 3D approach operation to minima;
 - (B) go-around on instruments;
 - (C) 2D approach operation to minima;
 - (D) if relevant, at least one of the 3D or 2D approach operations should be an RNP APCH or RNP AR APCH operation;
 - (E) in the case of multi-engined helicopters, a simulated failure of one engine to be included in either the 3D or 2D approach operation to minima; and
 - (F) where appropriate to the helicopter type, approach with flight control system/flight director system malfunctions, flight instrument and navigation equipment failures.



- (iii) For helicopters, the flight crew should be assessed on their CRM skills in accordance with the methodology described in AMC1 ORO.FC.115 and as specified in the operations manual.
 - (iv) The person in charge of the operator proficiency checks, the composition of the flight crew, and the possible combinations with training or with the licence proficiency check should be as defined in AMC1 ORO.FC.230.
- (ef) Line flying under supervision (LIFUS)
- (...)
- ~~(f) Passenger handling for operations where no cabin crew is required~~
- ~~— Other than general training on dealing with people, emphasis should be placed on the following:~~
- ~~(1) advice on the recognition and management of passengers who appear or are intoxicated with alcohol, under the influence of drugs or aggressive;~~
 - ~~(2) methods used to motivate passengers and the crowd control necessary to expedite an aircraft evacuation; and~~
 - ~~(3) the importance of correct seat allocation with reference to aircraft mass and balance. Particular emphasis should also be given on the seating of special categories of passengers.~~
- ~~(g) Discipline and responsibilities, for operations where no cabin crew is required~~
- ~~— Emphasis should be placed on discipline and an individual's responsibilities in relation to:~~
- ~~(1) his/her ongoing competence and fitness to operate as a crew member with special regard to flight and duty time limitation (FTL) requirements; and~~
 - ~~(2) security procedures.~~
- ~~(h) Passenger briefing/safety demonstrations, for operations where no cabin crew is required~~
- ~~— Training should be given in the preparation of passengers for normal and emergency situations.~~

Explanatory note to AMC1 ORO.FC.220

Domains affected: CAT A, CAT H

Former points (f), (g) and (h) are proposed to be moved to the new point (c)(3) for clarification and simplification of the structure of the AMC.

Domain affected: CAT H

A new point (e) is proposed to be developed in order to achieve the changes regarding operations on more than one helicopter type or variant, as described in Section 2.3.7 above. The list of manoeuvres to be checked, initially included in AMC1 ORO.FC.230, is proposed to be updated and maintained only for the initial OPC.



AMC3 ORO.FC.220 & 230 Operator conversion training and checking & recurrent training and checking**TRAINING PROGRAMMES**

The operator should ensure that training programmes include de-identified feedback from the management system, including occurrence reporting and flight data monitoring programmes.

Explanatory note to AMC1 ORO.FC.220 & 230

Domains affected: CAT A, CAT H

A new AMC is proposed to ensure that training programmes are improved following feedback from various sources.

AMC1 ORO.FC.230 Recurrent training and checking**RECURRENT TRAINING SYLLABUS****(a) Recurrent training**

Recurrent training should comprise the following:

(1) Ground training

(i) The ground training programme should include:

- (A) aircraft systems;
- (B) operational procedures and requirements, including ground de-icing/anti-icing and pilot incapacitation; and
- (C) accident/incident and occurrence review.

(ii) Knowledge of the ground training should be verified by a questionnaire or other suitable methods.

(iii) When the ground training is conducted within 3 calendar months prior to the expiry of the 12 calendar months' period, the next ground and refresher training should be completed within 12 calendar months of the original expiry date of the previous training.

(2) Emergency and safety equipment training

(i) Emergency and safety equipment training may be combined with emergency and safety equipment checking and should be conducted in an aircraft or a suitable alternative training device.

(ii) Every year the emergency and safety equipment training programme should include the following:

- (A) actual donning of a life-jacket, where fitted;
- (B) actual donning of protective breathing equipment, where fitted;
- (C) actual handling of fire extinguishers of the type used;



- (D) instruction on the location and use of all emergency and safety equipment carried on the aircraft;
 - (E) instruction on the location and use of all types of exits;
 - (F) security procedures.
- (iii) Every 3 years the programme of training should include the following:
- (A) actual operation of all types of exits;
 - (B) demonstration of the method used to operate a slide where fitted;
 - (C) actual fire-fighting using equipment representative of that carried in the aircraft on an actual or simulated fire except that, with Halon extinguishers, an alternative extinguisher may be used;
 - (D) the effects of smoke in an enclosed area and actual use of all relevant equipment in a simulated smoke-filled environment;
 - (E) actual handling of pyrotechnics, real or simulated, where applicable;
 - (F) demonstration in the use of the life-rafts where fitted. In the case of helicopters involved in extended over water operations, demonstration and use of the life-rafts.

Helicopter water survival training

Where life-rafts are fitted for helicopter extended overwater operations (such as sea pilot transfer, offshore operations, regular, or scheduled, coast-to-coast overwater operations), a comprehensive wet drill to cover all ditching procedures should be practised by aircraft crew. This wet drill should include, as appropriate, practice of the actual donning and inflation of a life-jacket, together with a demonstration or audio-visual presentation of the inflation of life-rafts. Crews should board the same (or similar) life-rafts from the water whilst wearing a life-jacket. Training should include the use of all survival equipment carried on board life-rafts and any additional survival equipment carried separately on board the aircraft;

- consideration should be given to the provision of further specialist training such as underwater escape training. Where operations are predominately conducted offshore, operators should conduct 3-yearly helicopter underwater escape training at an appropriate facility;
 - wet practice drill should always be given in initial training unless the crew member concerned has received similar training provided by another operator;
- (G) particularly in the case where no cabin crew is required, first-aid, appropriate to the aircraft type, the kind of operation and crew complement.



- (iv) The successful resolution of aircraft emergencies requires interaction between flight crew and cabin/technical crew and emphasis should be placed on the importance of effective coordination and two-way communication between all crew members in various emergency situations.
 - (v) Emergency and safety equipment training should include joint practice in aircraft evacuations so that all who are involved are aware of the duties other crew members should perform. When such practice is not possible, combined flight crew and cabin/technical crew training should include joint discussion of emergency scenarios.
 - (vi) Emergency and safety equipment training should, as far as practicable, take place in conjunction with cabin/technical crew undergoing similar training with emphasis on coordinated procedures and two-way communication between the flight crew compartment and the cabin.
 - (vii) When the emergency and safety equipment training is conducted within 3 calendar months prior to the expiry of the 12 calendar months' or 36 calendar months' period, the next emergency and safety equipment training should be completed within 12 or 36 calendar months of the original expiry date of the previous training as defined in (ii) and (iii) above.
- (3) CRM
- Elements of CRM training, as specified in Table 1 of AMC1 ORO.FC.115, should be integrated into all appropriate phases of recurrent training.
- (4) Aircraft/FSTD training
- (i) General
 - (A) The aircraft/FSTD training programme should be established in a way that all major failures of aircraft systems and associated procedures will have been ~~covered~~ trained in the preceding ~~3-year~~ 3-year period.
 - (B) When engine-out manoeuvres are carried out in an aircraft, the engine failure should be simulated.
 - (C) ~~Aircraft/FSTD training may be combined with the operator proficiency check.~~ The recurrent aircraft/FSTD training and operator proficiency check of an item should not take place at the same time.
 - (D) When the aircraft/FSTD training is conducted within 3 calendar months prior to the expiry of the 12 calendar months' period, the next aircraft/FSTD training should be completed within 12 calendar months of the original expiry date of the previous training.
 - (ii) Helicopters
 - (A) Where a suitable FSTD is available, it should be used for the aircraft/FSTD training programme. If the operator is able to demonstrate, on the basis of a compliance and risk assessment, that using an aircraft for this training provides equivalent standards of training with safety levels similar to those



achieved using an FSTD, the aircraft may be used for this training to the extent necessary.

- (B) ~~Where a suitable FSTD is available, it should be used to complete the following additional items: The recurrent training should include the following additional items, which should be completed in an FSTD:~~

- settling with power and vortex ring;
- loss of tail rotor effectiveness.

- (5) For operations with other-than-complex motor-powered aeroplanes, all training and checking should be relevant to the type of operation and class of aeroplane on which the flight crew member operates with due account taken of any specialised equipment used.

(b) Recurrent checking

Recurrent checking should comprise the following:

(1) Operator proficiency checks

(i) Aeroplanes

As part of the demonstration of competence in carrying out normal, abnormal and emergency procedures as part of the normal crew complement, ~~where applicable~~, operator proficiency checks should include, ~~where applicable~~, the following manoeuvres as pilot flying:

- (A) rejected take-off when an FSTD is available to represent that specific aeroplane, otherwise touch drills only;
- (B) take-off with engine failure between V_1 and V_2 (take-off safety speed) or, if carried out in an aeroplane, at a safe speed above V_2 ;
- (C) 3D approach operation to minima with, in the case of multi-engine aeroplanes, one-engine-inoperative;
- (D) 2D approach operation to minima;
- (E) at least one of the 3D or 2D approach operations should be an RNP APCH or RNP AR APCH operation;
- (F) missed approach on instruments from minima with, in the case of multi-engine aeroplanes, one-engine-inoperative;
- (G) landing with one-engine-inoperative. For single-engine aeroplanes a practice forced landing is required.

(ii) Helicopters

- (A) ~~Where applicable, operator proficiency checks should include the following abnormal/emergency procedures:~~

- ~~— engine fire;~~
- ~~— fuselage fire;~~



- ~~— emergency operation of under carriage;~~
- ~~— fuel dumping;~~
- ~~— engine failure and relight;~~
- ~~— hydraulic failure;~~
- ~~— electrical failure;~~
- ~~— engine failure during take-off before decision point;~~
- ~~— engine failure during take-off after decision point;~~
- ~~— engine failure during landing before decision point;~~
- ~~— engine failure during landing after decision point;~~
- ~~— flight and engine control system malfunctions;~~
- ~~— recovery from unusual attitudes;~~
- ~~— landing with one or more engine(s) inoperative;~~
- ~~— instrument meteorological conditions (IMC) autorotation techniques;~~
- ~~— autorotation to a designated area;~~
- ~~— pilot incapacitation;~~
- ~~— directional control failures and malfunctions.~~

The aircraft/FSTD checking programme should be established in a way that all major failures of aircraft systems and associated procedures will have been checked in the preceding 3-year period.

The operator should define which failures are major for the purpose of the operator proficiency check based on a risk assessment, taking the following into account:

- (a) cautions or warnings associated with the failure;
- (b) the criticality of the situation or failure;
- (c) the outcome of the procedure (land immediately or as soon as possible as opposed to land as soon as practical); and
- (d) the list of abnormal/emergency procedures described in point (e)(i) of AMC1 ORO.FC.220.

In addition, for single-engined helicopters, each operator proficiency check should include at least the following procedures:

- (a) engine failure;
- (b) directional control failures and malfunctions; and
- (c) hydraulic failure as applicable.



- (B) When a group of single-engined turbine or piston-powered helicopters is defined for the purpose of extending the validity of the operator proficiency check, all major system failures should nevertheless be checked on every type within a 3-year cycle unless credits related to the training, checking and recent experience requirements are defined in operational suitability data established in accordance with Commission Regulation (EU) No 748/2012 for the relevant types or variants.
- (BC) For pilots required to engage in IFR operations, proficiency checks include the following additional abnormal/emergency procedures:
- 3D approach operation to minima;
 - go-around on instruments ~~from minima with, in the case of multi-engined helicopters, a simulated failure of one engine;~~
 - 2D approach operation to minima;
 - ~~if relevant,~~ at least one of the 3D or 2D approach operations should be an RNP APCH or RNP AR APCH operation;
 - in the case of multi-engined helicopters, a simulated failure of one engine to be included in either the 3D or 2D approach operation to minima;
 - ~~landing with a simulated failure of one or more engines;~~
 - where appropriate to the helicopter type, approach with flight control system/flight director system malfunctions, flight instrument and navigation equipment failures.
- (CD) Before a flight crew member without a valid instrument rating is allowed to operate in VMC at night, ~~he/she~~ ~~he or she~~ should be required to undergo a proficiency check at night. Thereafter, each second proficiency check should be conducted at night.
- (E) Operator proficiency checks should be conducted with two qualified pilots in multi-pilot operations, and one qualified pilot in single-pilot operations. A pilot flying both single-pilot and multi-pilot operations should be checked in multi-pilot conditions with the essential malfunctions or manoeuvres below to be also checked in single-pilot role:
- (a) engine failure;
 - (b) 3D approach for IFR operations;
 - (c) autorotation for single-engined operations; and
 - (d) additional manoeuvres relevant to the type based on a risk assessment.
- (F) The flight crew should be assessed on their CRM skills in accordance with the methodology described in AMC1 ORO.FC.115 and as specified in the operations manual.



- (iii) ~~Once every 12 months the~~ The checks prescribed in (b)(1) ~~(ii)(A)~~ may be combined with the skill test or proficiency check required for the issue, the revalidation or renewal of the ATPL and the aircraft type rating.
- ~~(iv) Operator proficiency checks should be conducted by a type rating examiner (TRE) or a synthetic flight examiner (SFE), as applicable.~~
- (2) Emergency and safety equipment checks
- The items to be checked should be those for which training has been carried out in accordance with (a)(2).
- (3) Line checks
- (i) Line checks should establish the ability to perform satisfactorily a complete line operation, including pre-flight and post-flight procedures and use of the equipment provided, as specified in the operations manual. The route chosen should be such as to give adequate representation of the scope of a pilot's normal operations. When weather conditions preclude a manual landing, an automatic landing is acceptable. The commander, or any pilot who may be required to relieve the commander, should also demonstrate his/her his or her ability to 'manage' the operation and take appropriate command decisions.
- (ii) The flight crew should be assessed on their CRM skills in accordance with the methodology described in AMC1 ORO.FC.115 and as specified in the operations manual.
- (iii) CRM assessment should not be used as a reason for a failure of the line check, unless the observed behaviour could lead to an unacceptable reduction in safety margin.
- (iv) When pilots are assigned duties as pilot flying and pilot monitoring, they should be checked in both functions.
- (v) Line checks should be conducted by a commander nominated by the operator. The operator should inform the competent authority about the persons nominated. The person conducting the line check should occupy an observer's seat where installed. ~~His/her~~ His or her CRM assessments should solely be based on observations made during the initial briefing, cabin briefing, flight crew compartment briefing and those phases where ~~he/she~~ he or she occupies the observer's seat.
- (A) For aeroplanes, in the case of long haul operations where additional operating flight crew are carried, the person may fulfil the function of a cruise relief pilot and should not occupy either pilot's seat during take-off, departure, initial cruise, descent, approach and landing.
- (B) When an observer's seat is not installed but a forward-facing passenger seat allows a good view and sound of the cockpit and the crew, this seat should be used as an observer's seat.



(C) When an observer's seat is not available and cannot be installed, the commander nominated by the operator should occupy a pilot seat to conduct the line check. In addition, the CRM assessments should take place in a line-oriented flight scenario (LOFT/LOE/EVAL) of an FSTD session. This CRM assessment may be credited towards the line check requirement. If line operations require a technical crew, they should take part in the FSTD session.

If the above options are not available, then the operator should define the best way to assess CRM taking into account the CRM principles above.

- (vi) Where a pilot is required to operate as pilot flying and pilot monitoring, ~~he or she he/she~~ should be checked on one flight sector as pilot flying and on another flight sector as pilot monitoring. ~~However, where the operator's procedures require integrated flight preparation, integrated cockpit initialisation and that each pilot performs both flying and monitoring duties on the same sector, then the line check may be performed on a single flight sector.~~
- (4) When the operator proficiency check, line check or emergency and safety equipment check are undertaken within the final 3 calendar months of validity of a previous check, the period of validity of the subsequent check should be counted from the expiry date of the previous check.
- (5) In the case of single-pilot operations ~~with helicopters~~, the recurrent checks referred to in (b)(1), ~~(2)~~ and (3) should be performed in the single-pilot role ~~on a particular helicopter type~~ in an environment representative of the operation.
- (c) Flight crew incapacitation training, except single-pilot operations
- (1) Procedures should be established to train flight crew to recognise and handle flight crew incapacitation. This training should be conducted every year and can form part of other recurrent training. It should take the form of classroom instruction, discussion, audio-visual presentation or other similar means.
- (2) If an FSTD is available for the type of aircraft operated, practical training on flight crew incapacitation should be carried out at intervals not exceeding 3 years.
- ~~(d) Personnel providing training and checking~~
- ~~Training and checking should be provided by the following personnel:~~
- ~~(1) ground and refresher training by suitably qualified personnel;~~
- ~~(2) flight training by a flight instructor (FI), type rating instructor (TRI) or class rating instructor (CRI) or, in the case of the FSTD content, a synthetic flight instructor (SFI), providing that the FI, TRI, CRI or SFI satisfies the operator's experience and knowledge requirements sufficient to instruct on the items specified in paragraphs (a)(1)(i)(A) and (B);~~
- ~~(3) emergency and safety equipment training by suitably qualified personnel;~~
- ~~(4) CRM;~~



- ~~(i) — integration of CRM elements into all the phases of the recurrent training by all the personnel conducting recurrent training. The operator should ensure that all personnel conducting recurrent training are suitably qualified to integrate elements of CRM into this training;~~
 - ~~(ii) — classroom CRM training by at least one CRM trainer, qualified as specified in AMC3-ORO.FC.115 who may be assisted by experts in order to address specific areas.~~
 - ~~(5) — recurrent checking by the following personnel:~~
 - ~~(i) — operator proficiency check by a type rating examiner (TRE), class rating examiner (CRE) or, if the check is conducted in an FSTD, a TRE, CRE or a synthetic flight examiner (SFE), trained in CRM concepts and the assessment of CRM skills.~~
 - ~~(ii) — emergency and safety equipment checking by suitably qualified personnel.~~
- (ed) Use of FSTD
- (1) Training and checking provide an opportunity to practice abnormal/emergency procedures that rarely arise in normal operations and should be part of a structured programme of recurrent training. This should be carried out in an FSTD ~~whenever possible~~ when available.
 - (2) The line check should be performed in the aircraft. All other training and checking should be performed in an FSTD, or, if it is not reasonably practicable to gain access to such devices, in an aircraft of the same type or in the case of emergency and safety equipment training, in a representative training device. The type of equipment used for training and checking should be representative of the instrumentation, equipment and layout of the aircraft type operated by the flight crew member.
 - (3) Because of the unacceptable risk when simulating emergencies such as engine failure, icing problems, certain types of engine(s) (e.g. during continued take-off or go-around, total hydraulic failure), or because of environmental considerations associated with some emergencies (e.g. fuel dumping) these emergencies should preferably be covered in an FSTD. If no FSTD is available, these emergencies may be covered in the aircraft using a safe airborne simulation, bearing in mind the effect of any subsequent failure, and the exercise must be preceded by a comprehensive briefing.
 - (4) The operator should make the FSTD accessible, by using its training syllabi and nominated persons.
 - (5) Availability and accessibility of FSTD
 - (i) ‘Available FSTD’ means any flight simulation training device (FSTD) that is vacant for use of the FSTD operator or of the customers irrespective of any time consideration.
 - (ii) ‘Accessible’ means that a device can be used by the operator to conduct training or checking pertaining to this Subpart, and by the nominated person conducting the training or checking.

Explanatory note to AMC1 ORO.FC.230

Domains affected: CAT A, CAT H

Deletion of 'and refresher' in point (a)(1)(iii)

The NPA proposes the deletion of the phrase 'and refresher' because it is not aligned with the title of point (a)(1) 'ground training'.

Point (a)(2)(vii)

The provision is introduced in order to align the emergency and safety equipment training validity with the validity of ground training and flight checking.

Point (a)(4)(ii)(B)

The amendment is proposed to clarify that, in case no FSTD suitable to perform those exercises is available, the operator may perform those exercises in the helicopter or not at all.

Point (b)(1)(i)

The wording is improved to better link the AMC to the related IR (ORO.FC.230(b)(1)).

Point (b)(1)(ii)

Point (b)(1)(ii) is proposed to be amended in order to achieve the changes regarding OPCs and operations on more than one helicopter type or variant, as described in Sections 2.3.6 and 2.3.7 above.

Point (b)(1)(iii)

The existing wording in AMC1 ORO.FC.230 (b)(1) caused an uneven implementation issue across Member States because of a tabulation error which introduces a confusion for combined LPC/OPC content. Moreover, AMC1 ORO.FC.230 (b)(1) do not clearly mention the possibility to combine licence skill test (LST) with OPC.

The objective of this proposal is to clarify that the OPC content can also be combined with the LST for the ATPL and the initial issue of a type rating.

The possibility to combine licence proficiency check (LPC) and the OPC is a well-established European practice existing since the 1990s under the Joint Aviation Requirements (JARs). The provisions applicable to commercial air transport concerning combined LPC/OPC were based on JAR-OPS 1.965 and have been transferred into EU OPS 1.965. Besides the changes in the legal value of the texts, the EU-OPS has introduced the possibility to combine the LST with the OPC.

In 2012, the Air OPS Regulation entered into force and the wording related to the combined LPC/OPC originates from the JAR-OPS initial wording with an error in the tabulation that is contained today in AMC1 ORO.FC.230 (b)(1)(iii). To be noted that 'CRD 2009 02.c' Organisation Requirements preceding publication of the Air OPS does not contain any comments on this issue.

The AMC1 ORO.FC.230 (b)(1)(iii) wording introduces first a confusion for combined LPC/OPC content due to the tabulation error. Secondly, AMC1 ORO.FC.230 (b)(1) is more restrictive compared to EU-OPS because it is not clearly mentioned that it is possible to combine LST with OPC.

The AMC1 ORO.FC.230 (b)(1)(iii) wording caused an uneven implementation issue across Member States and should be reviewed due to its strong impact on operators without safety justification. In



particular, the combined LST/OPC is done by operators on a regular basis during conversion courses and less often when first officers perform their ATPL upgrade. There is an industry need for a clarification on this issue.

Points (b)(1)(iv) and (d)

Points (b)(i)(iv) and (d) are proposed to be deleted and moved to an AMC to ORO.FC.145 in order to extend their scope to non-CAT operations.

Point (b)(3)(v)

Point (b)(3)(v) is proposed to be amended to achieve the improvements to CRM training described in Section 2.3.9 above.

Point (b)(3)(vi)

The regulator (JAA-1990s) intended this provision to promote task sharing, for operators with Monitoring approaches and integrated flight & cockpit preparation.

Today, manufacturer's documentation (e.g. FCOM) provides comprehensive SOPs promoting appropriate task sharing and best practices (e.g. integrated flight & cockpit preparation).

CRM and other provisions in the Air OPS Regulation further promote such practices.

Therefore the promotion of those procedures has become obsolete.

Point (d)(5)

Point (d)(5) is proposed to be amended in order to achieve the needed changes in multi-pilot operations of single-pilot certified helicopters, as described in Section 2.3.5 above. It should ensure that, whenever multi-pilot operations take place on a voluntary basis, the check takes place with a multi-pilot crew and the person conducting the check has sufficient experience of multi-pilot operations. Flight experience gathered in multi-pilot operations under SPO can then be credited towards the prerequisites of the ATPL, the MCCI and the MCC training privilege of the TRI.

Points (d) and (e)

The amendment proposed aligns the terminology used in the FSTD domain between Part-ORO and Part-FCL:

- (a) This NPA proposes an amendment to ORO.FC.145 in order to establish a link between Part-ORO and Part-FCL in the FSTD domain. See amendments to ORO.FC.145.
- (b) Since December 2018 the Aircrew Regulation includes a definition of 'available FSTD' and 'accessible'. The definitions are as follows. The definition of 'accessible' was made operator-centric for the purpose of the Air OPS Regulation and used to incentivise the use of FSTD. The Aircrew definitions are provided below for reference.

'available FSTD' means any flight simulation training device (FSTD) that is vacant for use of the FSTD operator or of the customers irrespective of any time consideration.

'Accessible' means that a device can be used by:

- the approved training organisation (ATO) under whose approval a training course for a class or type rating is being conducted; or



- the examiner conducting the assessment of competence, skill test or proficiency check for the purpose of assessing, testing or checking.

GM1 ORO.FC.230 Recurrent training and checking

LINE CHECK AND PROFICIENCY TRAINING AND CHECKING

- Line checks, route and aerodrome knowledge and recent experience requirements are intended to ensure the crew member's ability to operate efficiently under normal conditions, whereas other checks and emergency and safety equipment training are primarily intended to prepare the crew member for abnormal/emergency procedures.
- The line check is considered a particularly important factor in the development, maintenance and refinement of high operating standards, and can provide the operator with a valuable indication of the usefulness of his/her his or her training policy and methods. Line checks are a test of a flight crew member's ability to perform a complete line operation, including pre-flight and post-flight procedures and use of the equipment provided, and an opportunity for an overall assessment of his/her his or her ability to perform the duties required as specified in the operations manual. The line check is not intended to determine knowledge on any particular route.
- Proficiency training and checking

When an FSTD is used, the opportunity should be taken, where possible, to use LOFT.

MAJOR FAILURES — HELICOPTERS

- The list of major failures to be covered under the 3-yearly training programme may be more extensive than the list covered in the 3-yearly operator proficiency checking programme for the following reasons:
 - It may happen that several training elements are covered by a single check; and
 - Certain complex system malfunctions are best explored under recurrent training, where the trainee will derive more benefit and training to proficiency is also employed.

Explanatory note to GM1 ORO.FC.230

Domain affected: CAT H

GM1 ORO.FC.230 is proposed to be amended in order to achieve the changes regarding OPCs, as described in Section 2.3.6 above.

AMC1 ORO.FC.230(a) Recurrent training and checking

OPERATIONS ON MORE THAN ONE TYPE OR VARIANT, OR WITH VARIATIONS IN AIRCRAFT CONFIGURATION

If applicable, AMC1 ORO.FC.125 & 126 & 140(a) should be used to determine the recurrent training and checking relevant to:

- each type or variant of aircraft
- variations in aircraft configuration



Explanatory note to AMC1 ORO.FC.230(a)

Domains affected: CAT A, CAT H

This new AMC clarifies that AMC1 ORO.FC.125&126&140(a) should be used to define the relevant training and checking for operations on more than one type or variant.

In cases defined in ORO.FC.140 (b), (c) and (d), AMC1 ORO.FC.140(a) does not apply and OSD is not necessary, which is why the sentence is introduced by 'if applicable'.

AMC1 ORO.FC.235(b) Pilot qualification to operate in either pilot's seat**VALIDITY OF THE PILOT QUALIFICATION TO OPERATE IN EITHER PILOT'S SEAT**

The operator should either check the elements every year or alternate training and checking every year. When the training or checking is conducted within 3 calendar months prior to the expiry of the 12 calendar months' period, the next training or checking should be completed within 12 calendar months of the original expiry date of the previous training or checking.

Explanatory note to AMC1 ORO.FC.235(b)

Domains affected: CAT A, CAT H

AMC1 ORO.FC.235(b) is introduced because the pilot qualification is linked to the recurrent OPC and should therefore expire with time. The proposal reflects the current practice for the extension of the validity of this qualification.

AMC1 ORO.FC.240 Operation on more than one type or variant**GENERAL**

(a) Aeroplanes

(...)

(b) Helicopters

- (1) If a flight crew member operates more than one type or variant, the following provisions should be met:
 - (i) The recency requirements and the requirements for recurrent training and checking should be met and confirmed prior to CAT operations on any type, and the minimum number of flights on each type within a ~~3-month~~ 3 calendar months' period specified in the operations manual.
 - (ii) ORO.FC.230 requirements with regard to recurrent training.
 - (iii) When credits related to the training, checking and recent experience requirements are defined in operational suitability data established in accordance with Commission Regulation (EU) No 748/2012 for the relevant types or variants, the requirements of ORO.FC.230 with regard to proficiency checks may be met by a 6 monthly check on any one type or variant operated. However, a proficiency check on each type or variant operated should be completed every 12 months.



- (iv) ~~If a For~~ helicopters ~~with has~~ a maximum certified take-off mass (MCTOM) of more than 5 700 kg, ~~or with~~ a maximum operational passenger seating configuration (MOPSC) of more than 19:
- (A) the flight crew member should not fly more than two helicopter types, unless credits related to the training, checking and recent experience requirements are defined in operational suitability data established in accordance with Commission Regulation (EU) No 748/2012 for the relevant types or variants;
 - (B) a minimum of 3 months and 150 hours experience on the type ~~or variant~~ should be achieved before the flight crew member should commence the conversion course onto the new type or variant, unless credits related to the training, checking and recent experience requirements are defined in operational suitability data established in accordance with Commission Regulation (EU) No 748/2012 for the relevant types or variants;
 - (C) 28 flying days ~~and/or~~ 50 hours flying experience should then be achieved exclusively on the new type or variant, unless credits related to the training, checking and recent experience requirements are defined in operational suitability data established in accordance with Commission Regulation (EU) No 748/2012 for the relevant types or variants; and
 - (D) a flight crew member should not be rostered to fly more than one type ~~or significantly different variant of a type~~ during a single duty period.
- (v) In the case of all other helicopters, the flight crew member should not operate more than three helicopter types in CAT, NCC and SPO ~~or significantly different variants~~, unless credits related to the training, checking and recent experience requirements are defined in operational suitability data established in accordance with Commission Regulation (EU) No 748/2012 for the relevant types or variants.
- (vi) The flight crew member may operate up to five helicopter types in CAT, NCC and SPO if the following conditions are met:
- (A) The flight crew member operates in day VFR only;
 - (B) The flight crew member operates no more than one twin-engine helicopter type; and
 - (C) The flight crew member does not operate variants within a helicopter type, or each variant should be counted as a type for the purpose of this point.
- (vii) Points (v) and (vi) above apply whenever a flight crew member operates more than one type or variant in CAT.
- (c) Combination of helicopter and aeroplane
- (1) ~~The flight crew member may fly one helicopter type or variant and one aeroplane type irrespective of their MCTOM or MOPSC.~~ If a flight crew member operates both helicopters and aeroplanes, the flight crew member should be limited to:



- (i) operations on only one type or class of aeroplane and one type of helicopter; or
 - (ii) operations on only performance class B aeroplanes from the single-pilot classes of reciprocating engine aeroplanes and one type of helicopter.
- (2) If the a helicopter type is covered by point paragraph (b)(1)(iv), then (b)(1)(iv)(B), (C) and (D) should also apply in this case.

Explanatory note to AMC1 ORO.FC.240

Domains affected: CAT A, CAT H (* NCC and SPO are only affected if pilots also fly CAT. CAT A is only affected if pilots also fly helicopters)*

AMC1 ORO.FC.240 is proposed to be amended in order to achieve the changes regarding operations on more than one helicopter type or variant, as described in Section 2.3.7 above.

AMC2 ORO.FC.240 – Operation on more than one type or variant

Explanatory note to the deletion of AMC2 ORO.FC.240

Domains affected: CAT A, CAT H

AMC2 ORO.FC.240 is deleted. Its content is moved to AMC1 ORO.FC.125 & 126 & 140(a) and GM1 ORO.FC.140, and is amended. See the explanatory note to AMC1 ORO.FC.125&126&140(a) and to GM1 ORO.FC.140.

AMC1 ORO.FC.130 & 330 Recurrent training and checking — operator proficiency check

SPO — TRAINING

- (a) The training should include:
- (1) ground training and aircraft/FSTD training relevant to the type or variant of aircraft on which he or she operates.
 - (2) Additional training relevant to the specialised tasks should be either ground training or aircraft/FSTD training or both, in accordance with the results of the operator's risk assessment.

SPO — OPERATOR PROFICIENCY CHECKS

- (b) If the SPO operator combines the operator proficiency check with a licence proficiency check, the check should cover both the normal, abnormal and emergency procedures relevant to the type or variant and the relevant aspects associated with the specialised tasks described in the operations manual.
- (c) If the SPO operator does not combine the operator proficiency check with the licence proficiency checks, the OPC may not include the normal, abnormal and emergency procedures relevant to the type or variant that are already covered within the licence proficiency check. The OPC then covers the relevant aspects associated with the specialised task described in the operations manual.



(d) The flight crew should be assessed on their CRM skills in accordance with the methodology described in AMC1 ORO.FC.115 and as specified in the operations manual. CRM assessment should not be used as a reason for a failure of the operator proficiency check, unless the observed behaviour could lead to an unacceptable reduction in safety margin.

(e) Each flight crew member should complete the operator proficiency checks as part of the normal crew complement.

SPO — RELEVANT PROCEDURES TO BE TRAINED AND CHECKED

(f) The operator should determine, based on a risk assessment, which procedures associated with the specialised tasks are relevant to be trained and checked. The following should be taken into account:

(1) specific risks associated with the specialised operation;

(2) for abnormal and emergency procedures, the criticality of the situation or failure and the impact of training and checking on ensuring a positive outcome; and

(3) for normal procedures, the amount of experience and recent experience accumulated since the previous training or checking.

(g) For SPO operators engaged in more than one specialised operation, normal, abnormal and emergency procedures covering the relevant aspects associated with the specialised tasks should be covered by training and checking over a 3-year cycle.

(h) The procedures to be trained in the aircraft/FSTD may be different to procedures to be checked if both complement each other, considering the following:

(1) It may happen that several training elements are covered by a single check; and

(2) Certain complex procedures are best explored under recurrent training, where the trainee will derive more benefit and training to proficiency is also employed.

(i) Whenever an item requires both training and checking, the recurrent aircraft/FSTD training and operator proficiency check of an item should not take place at the same time.

(j) Specialised operations may be exposed to specific risks such as routinely flying within the height velocity envelope of a helicopter. The operator should avoid taking unnecessary risks during aircraft training and checking and should make best use of simulation devices to train for such situations.

COMBINED CAT AND SPO TRAINING AND CHECKING

(k) If the operator is involved in both CAT and SPO, the CAT training and checking programme may include elements that are relevant to the specialised tasks. If this is the case, these training and checking elements may be credited towards compliance with ORO.FC.330 as approved by the authority under ORO.FC.145(c).

Explanatory note to AMC1 ORO.FC.130 & 330

Domains affected: SPO A, SPO H

AMC1 ORO.FC.130 & 330 is introduced in order to achieve the changes regarding recurrent training and checking for SPO and 'CAT A to A', as described in Sections 2.3.12 and 2.3.13 above.



Points (a), (b) and (c) have been introduced to clarify that ORO.FC.130 (a) requires training related to the type or variant, ORO.FC.130(b) requires an OPC to be conducted periodically, and ORO.FC.330(a) requires the OPC to include aspects relevant to the specialised operations.

It was considered that the checking related to the type or variant was already covered under the licence proficiency check, while the requirements of ORO.FC.330 that are additional to the licence proficiency check should only cover the specialised operations. In other words, under SPO the requirements of ORO.FC.130 are fully covered by the licence proficiency check and the ORO.FC.330 OPC.

Point (d) has been introduced to clarify that CRM is part of SPO normal procedures and that CRM skills should be assessed during the OPC.

Point (e) has been introduced to ensure that whenever multi-pilot operations take place on a voluntary basis, the check takes place with a multi-pilot crew. Flight experience gathered in multi-pilot operations under SPO can then be credited towards the prerequisites of the ATPL, the MCCI and the MCC training privilege of the TRI.

Points (f) and (g) have been introduced to acknowledge that not all normal, abnormal and emergency situations in a defined specialised operation are useful to be trained and checked.

It is proposed that the operator should define which operating procedures are relevant to be trained and checked, because the variety of different specialised operations is such that the rules cannot define training and checking in a prescriptive way for all activities. Also, the operator is the one best placed to know the level of experience and currency of its pilots in a given specialised operation, and to define the training and checking needs accordingly.

The intent is also to avoid duplication in the required training and checking for operators involved in several similar kinds of specialised operations. A 3-year cycle is therefore introduced for these operators, for both the training and the checking of specialised operations.

Points (h) and (i) have been introduced because it is considered that the training and checking of SPO should complement each other and there are cases where checking is not needed in addition to training. These provisions allow the operator to increase the amount of recurrent training at the expense of recurrent checking, if this is relevant to their operations.

Point (j) has been introduced to address SPO-specific risks to be considered during training and checking.

Point (k) has been introduced for operators involved in both CAT and SPO, so that the SPO part of the operations could benefit from the approved CAT training and checking scheme. This is expected to be useful for SPO operations with low level of specialisation. As the CAT training and checking requires the approval of the competent authority, the authority can also define what is also relevant to SPO.

The NPA proposes that previous SPO checking by an operator should not be accepted or credited by another SPO operator. Commercial operators should always ensure that their flight crew are competent for the tasks they are requested to complete, and also because the specialised operations conducted, the on-board equipment, the recent experience in each, the risk assessment and the resulting 3-year checking cycle may vary significantly from one operator to the other.

Should two operators happen to:



- (a) operate the same specialised operations with the same aircraft type/variant/specialised equipment,
 - (b) have identical recurrent checking programmes, and
 - (c) have nominated the same person to conduct the OPC,
- future OPCs could be conducted jointly and be valid for both operators.

3.5. Draft regulation (Draft EASA opinion) — Part-CAT of the Air OPS Regulation

CAT.GEN.MPA.100 Crew responsibilities

- (a) The crew member shall be responsible for the proper execution of his/her his or her duties that are:
 - (1) related to the safety of the aircraft and its occupants; and
 - (2) specified in the instructions and procedures in the operations manual.
- (b) The crew member shall:
 - (1) report to the commander any fault, failure, malfunction or defect which the crew member believes may affect the airworthiness or safe operation of the aircraft including emergency systems, if not already reported by another crew member;
 - (2) report to the commander any incident that endangered, or could have endangered, the safety of the operation, if not already reported by another crew member;
 - (3) comply with the relevant requirements of the operator's occurrence reporting schemes;
 - (4) comply with all flight and duty time limitations (FTL) and rest requirements applicable to their activities;
 - (5) when undertaking duties for more than one operator:
 - (i) maintain his/her his or her individual records regarding flight and duty times and rest periods as referred to in applicable FTL requirements; and
 - (ii) provide each operator with the data needed to schedule activities in accordance with the applicable FTL requirements; and
 - (iii) provide each operator with the data needed regarding operations on more than one type or variant.

Explanatory note to CAT.GEN.MPA.100

Domains affected: CAT A, CAT H

CAT.GEN.MPA.100 is proposed to be amended in order to achieve the changes regarding operations on more than one helicopter type or variant, as described in Section 2.3.7 above. If pilots fly for more than one operator, all operators should know on which aircraft types they fly. The same conclusions apply to aeroplanes, so the proposed amendment was not restricted to helicopters.



4. Impact assessment (IA)

4.1. What is the issue

A detailed analysis of the issues has been included in Chapter 2.

4.1.1. Who is affected

Pilots, personnel providing training and conducting checking (instructors and examiners), operators, ATOs, and competent authorities are affected.

4.1.2. How could the issue/problem evolve

With an ageing population of pilots and increased emphasis on flight safety, there is increased demand for multi-pilot operations of single-pilot helicopters that the current rules cannot accommodate. Experienced pilots can only pass on their multi-crew experience to younger pilots if they have passed the ATPL(H) theoretical knowledge examinations— few of them do.

Also, with advanced training qualification programmes (ATQP) not accessible to helicopter pilots, and EBT being developed for helicopters, it is becoming more obvious that the current flight crew training regulations need to be improved.

The table below describes how the issues described in Section 2.1 could evolve if the rules were not changed:

Issue	How it could evolve
multi-pilot operations of single-pilot certified helicopters	Reduced safety due to lack of proper transfer of experience. See Section 4.4.1. below
Operator proficiency checks under CAT CAT operations on several aircraft types and variants Crew training and checking under NCC Crew training and checking under SPO Other crew training and checking issues	No change, but the issues described in Section 2.1. above will also remain unchanged.

4.2. Objectives

Refer to Section 2.2.



4.3. Policy options

Table 1: Selected policy options

Option No	Short title	Description
0		No policy change (no change to the rules; risks remain as outlined in the issue analysis).
1A		Introduce changes related to multi-pilot operations of single-pilot helicopters
1B		Introduce changes related to recurrent training and checking
1C		Introduce changes to the training and checking of pilots flying different types or variants of aircraft
1D		Introduce changes to the training and checking of pilots flying SPO, NCC and 'CAT A to A' operations

Policy option 1 consists in changing the rule as proposed in this NPA. It is subdivided in components 1A, 1B, 1C, and 1D.

4.4. What are the impacts

4.4.1. Methodology applied

The methodology applied for this RIA is the multi-criteria analysis (MCA) which allows comparing all options by scoring them against a set of criteria.

MCA covers a wide range of techniques that aim to combine a range of positive and negative impacts into a single framework to allow easier comparison of scenarios. The MCA key steps generally include the following:

- (a) establishing the criteria to be used to compare the options (these criteria must be measurable, at least in qualitative terms); and
- (b) scoring how well each option meets the criteria; the scoring needs to be relative to the baseline scenario.

The criteria used to compare the options were derived from the Basic Regulation, and the guidelines for the RIA were developed by the European Commission.

As shown in detail in the following table, the scoring of the impacts uses a scale of – 5 to + 5 to indicate the negative and positive impacts of each option (i.e. from 'very low' to 'very high' negative/positive impacts). Intermediate levels of benefits are termed 'low', 'medium' and 'high' to provide for a total of five levels in each one of the negative and positive directions, with also a 'no impact' score possible.



Negative impact	Score	Positive impact	Score
-5	Very high negative impact	+5	Very high positive impact
-4	High negative impact	+4	High positive impact
-3	Medium negative impact	+3	Medium positive impact
-2	Low negative impact	+2	Low positive impact
-1	Very low negative impact	+1	Very low positive impact
0	Neutral/insignificant		

4.4.2. Safety impact

Option 0: With NCC and SPO not requiring the ATPL or the MCC for either pilot or co-pilot, there is a risk that more and more pilots will gather the wrong kind of multi-pilot experience. If this happens, a growing number of pilots will hold the ATPL and the MCC training privilege under a MCCI or TRI rating, without having proper MCC training and experience themselves. Safety will be gradually reduced.

Option 1:

Component 1A — multi-pilot operations of single-pilot helicopters: Safety will be improved by requiring MCC training for all multi-crew operations, and by making the safety features of multi-crew operations more accessible.

Component 1B — recurrent training and checking: A number of safety features are proposed to be introduced. The proposal will ensure that training and checking time is better used. The training and checking time is only reduced when there were duplications in the previous training and checking scheme. The impact on safety is therefore positive.

Component 1C — operations on several types or variants: The proposal introduces a number of alleviations to the rules when not detrimental to safety.

Component 1D introduces in-depth initial training for specialised operations. It also allows SPO operators to increase flight training at the expense of checking. It also requires pilots to undergo initial OPC when joining an operator under SPO and when being trained for a new specialised operation. This has the additional benefit of preventing pilots from avoiding recurrent OPCs by switching operators each time they are due. The reduction in the number of OPCs is mitigated by the introduction of 3-year cycles and of training to proficiency. Regarding NCC operations, the proposal gives a framework to an existing practice of acceptance of previous trainings conducted within other organisations, with improved safety in mind. This has safety benefits.

Overall, medium positive safety impacts are expected with option 1.



4.4.3. Social impact

Option 0 — no impacts expected.

Option 1

Component 1A — multi-pilot operations of single-pilot helicopters: Easier access to multi-crew operations will potentially increase helicopter pilot employment. It will also allow young pilots to be employed as co-pilots early in their career. Indeed, it is getting harder for a commercial pilot with little helicopter flight experience to find work, because specialised operations with helicopters that used to be accessible without it tend to suffer from the competition of drones and microlights, and a number of other helicopter operations require the commander/pilot-in-command to be already experienced. There will also be social benefits for pilots close to the age limit for single-pilot CAT operations who want to keep flying. They will be able to share their experience with a co-pilot.

Components 1B, 1C and 1D have no significant social impact.

Overall, option 1 is expected to bring low positive social impacts.

4.4.4. Economic impact

Option 0, no impacts expected

Option 1

For all elements of option 1, there will be a one-off cost for operators and NAAs to adapt to the new regulation. This cost is deemed negligible.

Component 1A — multi-pilot operations of single-pilot helicopters: The main cost of this proposal is the cost of initial MCC training for a negligible number of inexperienced pilots who do not already hold 500 hours of multi-crew experience and are to be involved in multi-crew operations. For these pilots, the costs are assumed to be low compared to other training costs.

Component 1B — recurrent training and checking: There will be slight additional yearly costs for both operators and NAAs regarding the design and approval of training and checking programmes.

Component 1C — operations on several types or variants: Operators involved in day-VFR only operations with non-complex twin-engined helicopters and in single-engined helicopter operations will need one more OPC per year per pilot. Such operators are likely to be very rare. All other measures tend to reduce the amount of training and checking when operating several types or variants. Also, the increased maximum number of helicopter types to be flown in CAT will allow helicopter operators to increase their number of helicopter types. This will increase their versatility and will have economic benefits.

Component 1D significantly reduces the amount of recurrent OPCs and therefore will have a very positive economic impact on operators. Regarding NCC operations, the proposal gives a framework to an existing practice of acceptance of previous trainings conducted within other organisations that brings economic improvements. This brings economic benefits to all NCC operators.

Components 1A and 1B have low negative economic impacts, whereas components 1C and 1D have high positive economic impacts. Overall, the economic impact of option 1 is expected to be low positive.



4.4.5. General Aviation and proportionality issues

Option 0: no impact expected.

Option 1

Component 1A, 1B and 1C: Most proposals impact only CAT operations. NCO operations are not impacted. NCC and SPO operations are impacted only in the following way:

Restrictions on the number of helicopter types flown impact NCC and SPO only for pilots heavily involved in CAT operations.

New MCC training requirements apply only when operating in a multi-crew environment.

Therefore, the impact of components 1A, 1B, and 1C on General Aviation is considered to be negligible and there are no associated proportionality issues.

Component 1D tailors the requirements to the needs of the smaller operators, and introduces alleviations previously accessible only to the larger operators. This will have a medium high positive effect on proportionality.

Overall, option 1 would bring low positive impacts in terms of proportionality.

4.5. Conclusion

4.5.1. Comparison of options

Impact is rated on a -5/+5 scale

<i>Type of impacts</i>	<i>Option 0 No change</i>	<i>Option 1 Amend the rules NPA proposal</i>
Safety impact	-1	+4
Social impact	0	+2
Economic impact	0	+1
Proportionality	0	+2
Total	-1	+9

The preferred option according to the analysis previously indicated is option 1 including all the elements described.

Request to stakeholders

Stakeholders are invited to provide:

- quantified justification elements on the possible impacts (e.g. economic, social, safety) of the options proposed, or alternatively to propose a justified solution to the issue;
- any other information they may find necessary to bring to the attention of EASA; as a result, the relevant parts of the RIA might be modified on a case-by-case basis.



4.6. Monitoring and evaluation

Monitoring is a continuous and systematic process of data collection and analysis about the implementation/application of a rule/activity. It generates factual information for future possible evaluations and impact assessments; it also helps to identify actual implementation problems. A proposal on indicators to check is presented below:

What to monitor	How to monitor	Who should monitor	How often to monitor
Number of LOC, CTOL, CFIT, LALT and UIMC occurrences related to inadequate crew performance	ECR	EASA/NAA	On a recurrent basis e.g. once a year



5. Proposed actions to support implementation

Amendment to the helicopter type rating list



6. References

6.1. Affected 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 (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1)
- Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EU) No 216/2008 of the European Parliament and of the Council (OJ L 311, 25.11.2011, p. 1)

6.2. Affected decisions

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

6.3. Other reference documents

- JAR-OPS1
- EU-OPS Regulation (EC) No 1899/2006
- RMT OPS 001 – Comment and respond document (CRD) 2009 02.c Organisation Requirements
- ICAO Annex 1 to the Convention on International Civil Aviation ‘Personnel Licensing’, 11th Edition, July 2011
- ICAO Annex 6 to the Convention on International Civil Aviation ‘Operation of Aircraft’, 10th Edition, July 2016
- ICAO Doc 9868 ‘Procedures for air navigation services Training’ Second Edition, 2016

