



# Notice of Proposed Amendment 2020-14

in accordance with Articles 6(3), 7 and 8

(Standard procedure: public consultation) of MB Decision No 18-2015

## Simpler, lighter and better Part-FCL requirements for general aviation

RMT.0678 — Subtask 2

### EXECUTIVE SUMMARY

General aviation (GA) is a high priority for the European Union Aviation Safety Agency (EASA), which dedicates effort and resources towards creating simpler, lighter and better rules for GA. Recognising the importance of GA and its contribution to a safe European aviation system, EASA, in partnership with the European Commission and other stakeholders, has created the GA Road Map. In this context, the EASA Rulemaking Task RMT.0678 addresses several topics related to flight crew licensing in the GA domain.

With RMT.0678 Subtask 2, the objective of this Notice of Proposed Amendment (NPA) is to address miscellaneous efficiency and proportionality issues in Annex I (Part-FCL) to Commission Regulation (EU) No 1178/2011 with regard to GA. The existing Part-FCL requirements and the related acceptable means of compliance (AMC) and guidance material (GM) have been revised, and new requirements as well as new AMC and GM have been introduced in order to address several topics and issues, such as:

- new flight crew licensing requirements for small single-pilot single-engine aeroplanes with electric propulsion;
- the possibility for student pilots to change from LAPL training to PPL training during the training course with credits;
- the optional integration of the night rating training in aeroplanes into the PPL(A) training course;
- the revision of the mountain rating revalidation requirements;
- clarifications in the training syllabi for the LAPL(A) and the PPL(A) related to spin avoidance training;
- the revision of the requirements for revalidation training flights for the LAPL(A) and for single-pilot single-engine class ratings;
- the revision of the revalidation requirements for helicopter type ratings;
- the deletion of text from the AMC and GM to Part-FCL related to flight crew licensing for balloons and sailplanes;
- text clarifications, improvements, and corrections.

The proposed amendments are expected to increase the efficiency and proportionality of numerous Part-FCL requirements and to update Part-FCL in the context of electric-propulsion aeroplanes used in GA.

|                               |   |                              |          |
|-------------------------------|---|------------------------------|----------|
| <b>Action area:</b>           | General aviation (GA)   |                              |          |
| <b>Affected rules:</b>        | Commission Regulation (EU) No 1178/2011   |                              |          |
| <b>Affected stakeholders:</b> | Pilots; instructors; examiners; training organisations; competent authorities (CAs) |                              |          |
| <b>Driver:</b>                | Efficiency/proportionality  | <b>Rulemaking group:</b>     | No       |
| <b>Impact assessment:</b>     | Light   | <b>Rulemaking Procedure:</b> | Standard |

• EASA rulemaking process milestones



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## 1. About this NPA

### 1.1. How this NPA was developed

EASA developed this NPA in line with Regulation (EU) 2018/1139<sup>1</sup> (the ‘Basic Regulation’) and the Rulemaking Procedure<sup>2</sup>. This rulemaking activity is included in the European Plan for Aviation Safety (EPAS) for 2020–2024<sup>3</sup> under RMT.0678.

The text of this NPA has been developed by EASA based on the outcomes of the discussions during meetings with its Advisory Bodies, on the conclusions from the EASA Rotorcraft Safety Roadmap<sup>4</sup>, on the inputs from other EASA rulemaking tasks, on a safety recommendation received, as well as on the inputs from Member States and stakeholders.

It is hereby submitted to all interested parties<sup>5</sup> for consultation.

### 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/><sup>6</sup>.

The deadline for the submission of comments is **31 March 2021**.

### 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 to amend Commission Regulation (EU) No 1178/2011<sup>7</sup> and, if necessary, issue an opinion. A summary of the comments received will be provided in the opinion.

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

If the European Commission decides that the Regulation should be amended, EASA will issue a decision that amends the AMC and GM to comply with the amendments introduced into the Regulation.

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

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

<sup>3</sup> [https://www.easa.europa.eu/sites/default/files/dfu/EPAS\\_2020-2024.pdf](https://www.easa.europa.eu/sites/default/files/dfu/EPAS_2020-2024.pdf)

<sup>4</sup> <https://www.easa.europa.eu/community/content/easa-rotorcraft-roadmap>

<sup>5</sup> In accordance with Article 115 of Regulation (EU) 2018/1139, and Articles 6(3) and 7 of the Rulemaking Procedure.

<sup>6</sup> In case of technical problems, please contact the CRT webmaster ([crt@easa.europa.eu](mailto:crt@easa.europa.eu)).

<sup>7</sup> 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/?uri=CELEX%3A32011R1178&qid=1604403049341>).

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 published on the EASA website<sup>8</sup>.

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<sup>8</sup> <https://www.easa.europa.eu/document-library/comment-response-documents>



## 2. In summary — why and what

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

As explained in the Terms of Reference (ToR) for RMT.0678<sup>9</sup>, the objective of this rulemaking task is to revise Commission Regulation (EU) No 1178/2011 in order to address various GA issues, as identified in the EASA GA Roadmap and reflected in the ToR. Additionally, RMT.0678 considers further input related to GA issues received from the EASA Advisory Bodies, other EASA rulemaking tasks, a safety recommendation, the EASA Rotorcraft Safety Roadmap, as well as from Member States and stakeholders.

In order to achieve the rulemaking objectives established by RMT.0678 with regard to their different urgencies and priorities, this rulemaking task was divided into three subtasks:

- (past) **Subtask 1** concerned the optional modular route for the LAPL training, which resulted in EASA Opinion No 08/2017 ‘Modular light aircraft pilot licences’<sup>10</sup> and, subsequently, in amending Commission Regulation (EU) No 1178/2011 by Commission Implementing Regulation (EU) 2019/430<sup>11</sup>.
- (present) **Subtask 2** proposes multiple amendments to Commission Regulation (EU) No 1178/2011 and the related AMC and GM in order to introduce flight crew licensing requirements for single-pilot single-engine electric aeroplanes and to improve and clarify different Part-FCL requirements with regard to GA (see Section 2.3 for a more detailed overview).
- (future) **Subtask 3** will address other topics, as listed in the related ToR, which are not covered by Subtasks 1 or 2.

### 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 specific objective of this proposal is to update and improve the Part-FCL flight crew licensing requirements related to GA in the context of both electric propulsion aeroplanes and miscellaneous efficiency and proportionality issues (see Section 2.3 for a detailed overview of the proposals).

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

Amendments to Part-FCL as well as to the related AMC and GM are proposed in order to clarify and improve the GA-related flight crew licensing regulatory framework, mainly by:

- allowing Part-FCL licence holders to obtain privileges for single-pilot single-engine electric aeroplanes;
- allowing LAPL student pilots to change to a PPL course during the training course with credits;

<sup>9</sup> ToR RMT.0678 ‘Simpler, lighter and better Part-FCL requirements for general aviation’ Issue 1 (<https://www.easa.europa.eu/sites/default/files/dfu/ToR%20RMT.0678%20Issue%201.pdf>).

<sup>10</sup> <https://www.easa.europa.eu/sites/default/files/dfu/Opinion%20No%2008-2017.pdf>

<sup>11</sup> Commission Implementing Regulation (EU) 2019/430 of 18 March 2019 amending Regulation (EU) No 1178/2011 as regards the exercise of limited privileges without supervision before the issuance of a light aircraft pilot licence (OJ L 75, 19.3.2019, p. 66) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R0430>).

- allowing the night rating training course in aeroplanes to be integrated into the PPL(A) training course;
- clarifying and revising the requirements for revalidation training flights for the LAPL(A) and for single-pilot single-engine class ratings;
- revising the revalidation requirements for helicopter type ratings;
- revising the revalidation requirements for the mountain rating;
- clarifying the LAPL(A) and PPL(A) training syllabi in the context of the spin avoidance training;
- deleting text related to balloon and sailplane flight crew licensing from the AMC and GM to Part-FCL;
- further clarifying, improving and correcting text.

Please refer to Chapter 3 for a detailed illustration of the proposed amendments as well as the related rationales.

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

The draft amendments proposed in this NPA are expected to enable pilots to obtain privileges for single-pilot single-engine electric aeroplanes under Part-FCL and to provide substantial clarifications and improvements with regard to particular Part-FCL requirements related to GA. For a more detailed analysis of the expected benefits and drawbacks in the context of electric propulsion, please refer to Chapter 4.



### 3. Proposed amendments and rationales in detail

The text of the amendment is arranged to show deleted, new or amended, as well as unchanged text as follows:

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

#### 3.1. Draft regulation (draft EASA opinion)

Commission Regulation (EU) No 1178/2011 is amended as follows:

## COVER REGULATION

### Article 2 Definitions

For the purpose of this Regulation, the following definitions apply:

[...]

(8a) 'SEP aeroplane' means a single-engine, single-pilot aeroplane for which no type rating is required and that is powered by either of the following:

(a) a piston engine;

(b) an electric engine;

(8b) 'SEP helicopter' means a single-engine, single-pilot helicopter that is powered by a piston engine;

[...]

### Article 4 Existing national pilot's licences

[...]

7. A Member State may authorise student pilots who follow a LAPL training course to exercise limited privileges without supervision before they meet all the requirements necessary for the issuance of a LAPL, subject to the following conditions:

[...]

(b) the privileges shall be limited to the following:

[...]

(iii) SEP aeroplanes and SEP helicopters, both ~~as single-engine piston aircraft~~ with a maximum take-off mass not exceeding 2 000 kg, ~~sailplanes and balloons~~;

[...]



## ANNEX I (PART-FCL)

### FCL.020 Student pilot

- (a) A student pilot shall not fly solo unless **he or she:**
- (1) **is** authorised to do so and supervised by a flight instructor; **and**
  - (2) **prior to receiving the authorisation specified in paragraph (1), has acquired the competence to safely operate the relevant aircraft during the intended solo flight.**

[...]

### FCL.025 Theoretical knowledge examinations for the issue of licences and ratings

[...]

- (b) *Pass standards*

[...]

- (5) Before retaking the ~~theoretical knowledge~~ **complete set of the** examinations **papers**, applicants shall undertake further training at a DTO or an ATO. The extent and scope of the training needed shall be determined by the DTO or the ATO, based on the needs of the applicants.

[...]

### FCL.115 LAPL — Training course

- (a) Applicants for an LAPL shall complete a training course at a DTO or an ATO. **That training course shall include:**
- ~~(b) The course shall include~~
- (1) theoretical knowledge and flight instruction appropriate to the privileges of the LAPL applied for; **and**
  - (2) **for the LAPL(H), the mandatory training elements for the relevant helicopter type as defined in the operational suitability data established in accordance with Annex I (Part 21) to Commission Regulation (EU) No 748/2012.**
- ~~(b)~~ Theoretical knowledge instruction and flight instruction may be completed at a DTO or at an ATO different from the one where applicants have commenced their training.
- ~~(c)~~ For the training for the ~~single-engine piston~~ **SEP** aeroplanes-sea class privilege, the elements of Appendix 9 to this Annex, point 7 (Class ratings — sea) of Section B (Specific requirements for the aeroplane category) shall be considered.



## FCL.105.A LAPL(A) — Privileges and conditions

### (a) Privileges

The privileges of the holder of an LAPL for aeroplanes are to act as PIC on ~~single-engine piston SEP~~ aeroplanes-land (SEP(land)), ~~single-engine piston SEP~~ aeroplanes-sea (SEP(sea)) or TMG with a maximum ~~certified~~ ~~certificated~~ take-off mass of 2 000 kg or less, carrying a maximum of 3 passengers, such that there ~~is~~ ~~are~~ always a maximum of 4 persons on board ~~of~~ the aircraft.

[...]

## FCL.110.A LAPL(A) — Experience requirements and crediting

[...]

### (c) Crediting. Applicants with prior experience as PIC may be credited towards the requirements of point (a) ~~under the following conditions:~~

(1) ~~The~~ amount of credit shall be decided by the DTO or the ATO where the pilot undergoes the training course, on the basis of a pre-entry flight ~~test~~ ~~assessment~~, but shall in any case:

- (1i) not exceed the total flight time as PIC;
- (2ii) not exceed 50 % of the hours required in point (a);
- (3iii) not include the requirements of point (a)(2);

(2) previous experience as PIC in aircraft that are subject to a decision of a Member State taken in accordance with points (a) or (c) of Article 2(8) of Regulation (EU) 2018/1139 or that fall within the scope of Annex I to that Regulation may be considered, provided the aircraft match the definition and criteria of the respective Part-FCL aircraft category.

[...]

## FCL.135.A LAPL(A) — Extension of privileges to another class or variant of aeroplane

### (a) The privileges of ~~the holder of~~ an LAPL(A) shall be limited to the class ~~and variant~~ of aeroplanes or TMGs in which the skill test was taken. This limitation ~~may~~ ~~shall~~ be removed ~~upon application~~ when the pilot has completed in ~~another~~ class ~~the requirements below~~ all of the following:

[...]

### (b) In order to extend the privileges to another variant within a class, the pilot shall either ~~undergo~~ ~~undertake~~ a differences training or do a familiarisation. The differences training shall be entered in the pilot's logbook or ~~in~~ ~~to~~ an equivalent record and ~~shall~~ be signed by the



instructor. When extending the privileges of an SEP aeroplane class rating to a variant with another type of engine, as specified in Article 2(8a) of this Regulation, the differences training shall consist of dual flight instruction and theoretical knowledge instruction which shall include, with regard to that other type of engine and related aircraft systems, at least all of the following:

- (1) aircraft general knowledge;
- (2) operational procedures;
- (3) flight performance and planning.

[...]

### FCL.140.A LAPL(A) — Recency requirements

(a) Holders of a LAPL(A) shall exercise the privileges of their licence only if in the last 2 years they have met any of the following conditions as pilots of aeroplanes or TMGs:

- (1) they have completed at least 12 hours of flight time as PIC or flying dual or solo under the supervision of an instructor, including:
  - ~~(i)~~ 12 take-offs and landings;
  - ~~(ii)~~ refresher training of at least 1 hour of total flight time with an instructor who shall select those flight exercises that allow the applicant to refresh their competence in safely operating the aircraft and applying normal, abnormal and emergency procedures;

[...]

(c) Holders of a LAPL(A) with privileges for SEP aeroplanes who, in accordance with point FCL.135.A(b), have obtained privileges for variants with different types of engines specified in Article 2(8a) of this Regulation shall exercise their privileges in variants with a particular type of engine only if, in the preceding 24 months, they have completed one of the following in SEP aeroplanes with that type of engine:

- (1) a proficiency check;
- (2) at least 3 hours of flight time as PIC and refresher training in accordance with point (a)(1)(ii).

[...]

### FCL.110.H LAPL(H) — Experience requirements and crediting

[...]

(b) Crediting. Applicants with prior experience as PIC may be credited towards the requirements of point (a) under the following conditions:

- (1) The amount of credit shall be decided by the DTO or the ATO where the pilot undergoes the training course, on the basis of a pre-entry flight test assessment, but shall in any case:
  - ~~(1)~~ to exceed the total flight time as PIC;
  - ~~(2)~~ not exceed 50 % of the hours required in point (a);
  - ~~(3)~~ not include the requirements of point (a)(2).

- (2) previous experience as PIC in aircraft that are subject to a decision of a Member State taken in accordance with point (b) of Article 2(8) of Regulation (EU) 2018/1139 or that fall within the scope of Annex I to that Regulation may be considered, provided the aircraft match the definition and criteria of the Part-FCL helicopter category of aircraft.

[...]

## FCL.135.H LAPL(H) — Extension of privileges to another type or variant of helicopter

- (a) The privileges of the holder of an LAPL(H) shall be limited to the specific type ~~and variant~~ of helicopter in which the skill test was taken. This limitation ~~may~~ shall be removed upon application when the pilot has completed:
- (1) unless specified otherwise in the operational suitability data established in accordance with Annex I (Part 21) to Commission Regulation (EU) No 748/2012, at least 5 hours of flight instruction, including:
- (i) 15 dual take-offs, approaches and landings;
  - (ii) 15 supervised solo take-offs, approaches and landings;
- (2) a skill test to demonstrate an adequate level of practical skill in the new type. During this skill test, the applicant shall also demonstrate to the examiner an adequate level of theoretical knowledge for the other type in the following subjects:
- Operational procedures,
  - Flight performance and planning,
  - Aircraft general knowledge.
- (b) Before the holder of an LAPL(H) can exercise the privileges of the licence in another variant of helicopter than the one used for the skill test, the pilot shall ~~undergo~~ undertake a differences training or do a familiarisation ~~training~~, as determined in the operational suitability data established in accordance with ~~Part 21~~ Annex I (Part 21) to Commission Regulation (EU) No 748/2012. The differences training shall be entered in the pilot's logbook or equivalent record and shall be signed by the instructor.

## FCL.140.H LAPL(H) — Recency requirements

Holders of an LAPL(H) shall exercise the privileges of their licence on a specific type only if in the last 12 months they have either:

- (a) completed:
- (1) at least ~~six~~ hours of flight time on helicopters of that type as PIC, or flying dual or solo under the supervision of an instructor, including ~~six~~ take-offs, approaches and landings; and ~~completed~~
- (2) a refresher training ~~of at least 1 hour of total flight time~~ with an instructor who shall select those flight exercises that allow the applicant to refresh their



competence in safely operating the aircraft and applying normal, abnormal and emergency procedures; or

- (b) passed a proficiency check with an examiner on the specific type before resuming the exercise of the privileges of their licence. That proficiency check programme shall be based on the skill test for the LAPL(H).

## FCL.210 Training course

[...]

- (d) Applicants for a PPL may receive credits for previous LAPL training they have undergone in the same aircraft category, based on an assessment of the applicant by the ATO or the DTO that is responsible for the PPL training course. In any case, applicants shall:

- (1) comply with the experience requirements set out in points FCL.210.A(a) or FCL.210.H(a), as applicable; and
- (2) during the PPL training course, complete the flight instruction set out in points FCL.210.A(b) or FCL.210.H(b), as applicable.

[...]

## FCL.210.A PPL(A) — Experience requirements and crediting

- (a) Applicants for a PPL(A) shall have completed at least 45 hours of flight instruction time in aeroplanes or TMGs, ~~5~~ of which 5 hours may have been completed in an FSTD, including at least:

- (1) 25 hours of dual flight instruction; and
- (2) 10 hours of supervised solo flight time, including at least 5 hours of solo cross-country flight time with at least 1 cross-country flight of at least 270 km (150 NM), during which full-stop landings at 2 aerodromes different from the aerodrome of departure shall be made.

- (b) Specific requirements for applicants that holding an LAPL(A). Applicants for a PPL(A) that holding an LAPL(A) shall have completed all of the following:

- (1) at least ~~15~~45 hours of total flight time on aeroplanes or TMGs, or a combination of both, as applicable;
- (2) after the issue of the LAPL(A), ~~of which~~ at least 10 hours shall be of flight instruction completed in a training course at a DTO or at an ATO. That training course shall include at least ~~4~~four hours of supervised solo flight time, including at least ~~2~~two hours of solo cross-country flight time with at least ~~1~~one cross-country flight of at least 270 km (150 NM), during which full-stop landings at ~~2~~two aerodromes different from the aerodrome of departure shall be made.

[...]



## FCL.210.H PPL(H) — Experience requirements and crediting

- (a) Applicants for a PPL(H) shall have completed at least 45 hours of flight ~~instruction~~ ~~time~~ in helicopters, ~~5~~ of which ~~5~~ hours may have been completed in an ~~FNPT or FFS~~ ~~FSTD~~, including at least:

[...]

- (b) Specific requirements for an applicant ~~that holds~~ ~~ing~~ an LAPL(H). Applicants for a PPL(H) ~~that holding~~ an LAPL(H) shall ~~have~~ completed all of the following:

- (1) at least 45 hours of total flight time in helicopters;
- (2) after the issue of the LAPL(H), a training course at a DTO or at an ATO. That training course shall include at least ~~5~~ ~~five~~ hours of dual flight instruction time and at least ~~1~~ ~~one~~ supervised solo cross-country flight of at least 185 km (100 NM), with full ~~stop~~ landings at ~~2~~ ~~two~~ aerodromes different from the aerodrome of departure.

[...]

## FCL.710 Class and type ratings — variants

- (a) Pilots shall complete ~~a~~ differences training or familiarisation in order to extend their privileges to another variant of aircraft within ~~a~~ ~~one~~ class or type rating. In the case of variants within a class or type rating, the differences training or familiarisation shall include the relevant elements defined in the OSD, where applicable. ~~When extending the privileges of an SEP aeroplane class rating to a variant with another type of engine as specified in Article 2(8a) of this Regulation, the differences training shall consist of dual flight instruction and theoretical knowledge instruction which shall include, with regard to that other type of engine and related aircraft systems, at least all of the following:~~

- (1) aircraft general knowledge;
- (2) operational procedures;
- (3) flight performance and planning.

[...]

- (c) Notwithstanding the requirement in point (b), differences training for TMGs, ~~single-engine piston~~ (SEP), single-engine turbine (SET) and multi-engine piston (MEP) aeroplanes may be conducted by an appropriately qualified instructor unless otherwise provided in the OSD.

- (d) If pilots have not flown ~~the~~ ~~a~~ ~~particular~~ variant within 2 years following the training listed in points (b) or (c), as applicable, a further differences training or a proficiency check in that variant shall be completed, except for types or variants within the SEP ~~aeroplane~~ and TMG class ratings.

[...]



## FCL.725 Requirements for the issue of class and type ratings

- (a) Training course. An applicant for a class or type rating shall complete a training course at an ATO. An applicant for a non-high-performance ~~single-engine piston~~ SEP aeroplane class rating, a TMG class rating or a single-engine type rating for helicopters referred to in point DTO.GEN.110(a)(2)(c) of Annex VIII (Part-DTO) may complete the training course at a DTO. The type rating training course shall include the mandatory training elements for the relevant type as defined in the operational suitability data established in accordance with Annex I (~~Part 21~~ ~~Part-21~~) to Commission Regulation (EU) No 748/2012.

[...]

## FCL.740 Validity and renewal of class and type ratings<sup>12</sup>

[...]

- (b) Renewal

For the renewal of a class or type rating, the applicant shall comply with all of the following:

[...]

- (2) prior to the proficiency check referred to in point (1), complete a refresher training at an ATO if deemed necessary by the ATO to reach the level of proficiency to safely operate the relevant class or type of aircraft, except if ~~it~~ the applicant holds a valid rating for the same class or type of aircraft on a pilot licence issued by a third country in accordance with Annex 1 to the Chicago Convention and if ~~it~~ the applicant is entitled to exercise the privileges of that rating. The applicant may ~~take~~ receive the training:
- (i) at a DTO or at an ATO, if the expired rating concerned a non-high-performance ~~single-engine piston~~ SEP aeroplane class rating, a TMG class rating or a single-engine type rating for helicopters referred to in point DTO.GEN.110(a)(2)(c) of Annex VIII;
- (ii) at a DTO, at an ATO or with an instructor, if the rating expired no more than ~~three~~ 3 years before and the rating concerned a non-high-performance ~~single-engine piston~~ SEP aeroplane class rating or a TMG class rating.

[...]

### FCL.740.A Revalidation of class and type ratings — aeroplanes

[...]

- (b) Revalidation of single-pilot single-engine class ratings.

- (1) ~~Single-engine piston~~ SEP aeroplane class ratings and TMG class ratings. For the revalidation of ~~single-pilot single-engine piston~~ SEP aeroplane class ratings or TMG class ratings, the applicants shall:

[...]

<sup>12</sup> These amendments are drafted on the basis of point FCL.740 as it applies today. Considering that the adoption of the amendments to this point in the context of EASA RMT.0599 'Evidence-based and competency-based training' is pending, the further processing of the amendments proposed with this NPA will be undertaken on the basis of the updated point FCL.740.

- (ii) within the 12 months preceding the expiry date of the rating, complete 12 hours of flight time in the relevant class, including:
- (A) 6 hours as PIC,
  - (B) 12 take-offs and 12 landings, and
  - (C) refresher training ~~of at least 1 hour of total flight time~~ with a flight instructor (FI) or a class rating instructor (CRI) **who shall select those flight exercises that allow the applicant to refresh their competence in safely operating the aircraft and applying normal, abnormal and emergency procedures.** Applicants shall be exempted from this refresher training if they have passed a class or type rating proficiency check, skill test or assessment of competence in any other class or type of aeroplane.
- (2) When applicants hold both a ~~single-engine piston SEP~~ aeroplane-land class rating and a TMG **class** rating, they may complete the requirements of **paragraph (1)** in either class or a combination **of these classes** ~~thereof~~, and achieve revalidation of both ratings.
- [...]
- (4) When applicants hold both a ~~single-engine piston SEP~~ aeroplane-land class rating and a ~~single-engine piston SEP~~ aeroplane-sea class rating, they may complete the requirements of **paragraph (1)(ii)** in either class or a combination **of these classes** ~~thereof~~, and achieve the fulfilment of these requirements for both ratings. At least 1 hour of **the** required PIC time and 6 **hours** of the required 12 take-offs and landings shall be completed in each class.
- [...]

## FCL.741.A Recency requirements for variants within the SEP aeroplane class

By way of derogation from point FCL.710(d), holders of a SEP aeroplane class rating who, in accordance with point FCL.710(a), have obtained privileges for variants with different types of engines specified in Article 2(8a) of this Regulation shall exercise their privileges in variants with a particular type of engine only if, in the preceding 24 months, they have completed one of the following in SEP aeroplanes with that type of engine:

- (1) a proficiency check;
- (2) at least 3 hours of flight time as PIC and refresher training in accordance with point **FCL.740.A(b)(1)(ii)(C)**.

[...]

## FCL.740.H Revalidation of type ratings — helicopters

- (a) Revalidation. For **the** revalidation of type ratings for helicopters, ~~the~~ applicants shall **comply with one of the following, as applicable:**
- (1) **they shall:**
    - (i) **within the validity period of the type rating, complete at least 2 hours as pilot in the relevant helicopter type; and**

- (ii) within the 3 months immediately preceding the expiry date of the type rating, pass a proficiency check:
- (A) which is conducted in accordance with Appendix 9 to this Part in the relevant type of helicopter or an FSTD representing that type; and
- (B) the duration of which may be counted towards the flight time specified in point (i); ~~within the 3 months immediately preceding the expiry date of the rating; and~~
- (2) for type ratings for single-engine piston helicopters, they shall:
- (i) comply with point (a)(1); or
- (ii) complete:
- (A) within the validity period of the type rating, at least 2-6 hours as a pilot PIC ~~of~~ in the relevant helicopter type; and
- (B) within the 3 months immediately preceding the expiry date of the rating, a refresher training with an instructor who shall select those flight exercises that allow the applicant to refresh their competence in safely operating the aircraft and applying normal, abnormal and emergency procedures. ~~validity period of the rating. The duration of the proficiency check may be counted towards the 2 hours.~~
- (3b) When applicants hold more than ~~1~~ one type rating for single-engine piston helicopters, they may achieve revalidation of all the relevant type ratings by complying with all of the following:
- (1) they ~~completing~~ have passed the proficiency check in accordance with point (a)(1)(ii) or have completed the refresher training in accordance with point (a)(2)(ii)(B) in only ~~1~~ one of the relevant types held; ~~provided that~~
- (2) they have completed at least 2 hours of flight time as PIC ~~on~~ in each of the other relevant types during the validity period.
- The proficiency check shall be performed each time on a different type. ~~The new validity period of all type ratings revalidated in accordance with this point shall commence together with the validity period of the type rating for which the proficiency check or the refresher training is performed.~~
- (4c) When applicants hold more than ~~1~~ one type rating for single-engine turbine helicopters with a maximum ~~certified~~ ~~certificated~~ take-off mass up to 3 175 kg, they may achieve revalidation of all the relevant type ratings by completing the proficiency check in accordance with point (a)(1)(ii) in only ~~1~~ one of the relevant types held, provided that they have completed:
- (i1) 300 hours as PIC on helicopters;
- (ii2) 15 hours on each of the types held; and
- (iii3) at least 2 hours of PIC flight time on each of the other types during the validity period.
- The proficiency check shall be performed each time on a different type. ~~The new validity period of all type ratings revalidated in accordance with this point shall commence together with the~~

validity period of the type rating for which the proficiency check or the refresher training is performed.

- (5d) ~~A pilot~~ Applicants who successfully completes a skill test for the issue of an additional type rating shall achieve revalidation for the relevant type ratings already held in the common groups, as specified in accordance with points (3b) and (4c).

The new validity period of all type ratings revalidated in accordance with this point shall commence together with the validity period of the type rating for which the skill test is performed.

- (6e) The revalidation of an IR(H), if held, may be combined with a proficiency check for a type rating.
- (6f) ~~An applicant~~ Applicants who fails to achieve a pass in all sections of a proficiency check before the expiry date of a type rating shall not exercise the privileges of that rating until a pass in the proficiency check has been achieved. In the case of points (a)(3) and (4c), the applicants shall not exercise his/her their privileges in any of the types.

[...]

## FCL.810 Night rating

- (a) Aeroplanes, TMGs, airships.

[...]

- (3) When applicants hold both a single-engine piston SEP aeroplane (land) and a TMG class rating, they may complete meet the requirements in paragraph (1) above in either class or in both classes.

[...]

## FCL.815 Mountain rating

[...]

- (d) ~~Validity. A mountain rating shall be valid for a period of 24 months.~~ In order to exercise the privileges of the mountain rating, the holder of the rating shall, during the last 2 years:

(1) have completed at least 6 landings on a surface designated to require a mountain rating;  
or

(2) have passed a proficiency check that complies with the requirements in point (c).

- ~~(e) — Revalidation~~

~~To revalidate a mountain rating applicants shall either:~~

~~(1) — complete at least six landings, on a surface designated as requiring a mountain rating, in the preceding two 2 years;~~

~~(2) — pass a proficiency check complying with the requirements in point (c).~~

- ~~(f) — Renewal. If the rating has lapsed, the applicant shall comply with the requirement in (e)(2).~~

[...]



## FCL.835 Basic instrument rating (BIR)

### (b) Privileges and conditions

- (1) The privileges of a BIR holder are to conduct flights under IFR on single-pilot aeroplanes for which class ratings are held, with the exception of:
  - (i) high-performance aeroplanes; and
  - (ii) aeroplane variants if operational suitability data has determined that an IR is required.

[...]

## FCL.915 General prerequisites and requirements for instructors

[...]

### (b) Additional requirements for instructors that provide ~~providing~~ flight instruction in aircraft.

Applicants for the issue of or holders of an instructor certificate with privileges to conduct flight instruction in an aircraft shall:

[...]

- (3) except in the case of flight test instructors (FTIs), have:
  - (i) completed at least 15 hours of flight time as pilots of the class or type of aircraft on which flight instruction is to be given, of which a maximum of 7 hours may be in an FSTD representing the class or type of aircraft, if applicable; or
  - (ii) passed an assessment of competence for the relevant category of instructor on that class or type of aircraft; ~~and~~
- (4) be entitled to act as PIC in the aircraft during such flight instruction; ~~and~~
- (5) when providing flight instruction in a variant of the SEP aeroplane class with a particular type of engine as specified in Article 2(8a) of this Regulation, completed at least 10 hours of flight time in that variant.

[...]

## FCL.945 Obligations for instructors

Upon completion of the training flight for the revalidation of an SEP ~~aeroplane~~ or TMG class rating in accordance with ~~point~~ FCL.740.A(b)(1), and only in the event of fulfilment of all the other revalidation criteria required by ~~point~~ FCL.740.A(b)(1), the instructor shall endorse the applicant's licence with the new expiry date of the rating or certificate, if specifically authorised for that purpose by the competent authority responsible for the applicant's licence.

## FCL.915.FI FI — Prerequisites

An applicant for an FI certificate shall:

[...]

(b) additionally, for the FI(A):

[...]

(3) have completed at least 30 hours ~~on~~ ~~in~~ ~~single-engine piston-powered~~ the class or type of aeroplanes used for the FI(A) training course, of which at least 5 hours shall have been completed during the 6 months preceding the pre-entry flight ~~test~~ assessment set out in point FCL.930.FI(a);

[...]

## FCL.930.FI FI — Training course

(a) Applicants for the FI certificate shall have passed a specific pre-entry flight ~~test~~ assessment with an FI qualified in accordance with point FCL.905.FI(i) within the 6 months preceding the start of the course, to assess their ability to undertake the course. This pre-entry flight ~~test~~ assessment shall be based on the proficiency check for the class and type ratings as set out in Appendix 9 to this ~~Part~~ Annex.

[...]

## Appendix 1 — Crediting of theoretical knowledge

[...]

1.3. For the issue of a PPL, the holder of an LAPL in the same category of aircraft shall be fully credited towards the requirements of theoretical knowledge instruction and examination. ~~In the case of point FCL.210(d), this credit shall also apply to applicants for a PPL who, before completing the flight instruction set out in points FCL.210.A(b) or FCL.210.H(b), as applicable, have already successfully completed the theoretical knowledge examination for the LAPL in the same aircraft category, as long as it is within the validity period specified in point FCL.025(c).~~

1.4. By way of derogation from paragraph 1.2, for the issue of an LAPL(A), the holder of an SPL issued in accordance with Annex III (Part-SFCL) to Commission Implementing Regulation (EU) 2018/1976 with privileges to fly TMGs shall demonstrate an adequate level of theoretical knowledge for the ~~single-engine piston~~ SEP aeroplane--land class in accordance with point FCL.135.A(a)(2).

[...]



## Appendix 9 — Training, skill test and proficiency check for the MPL and the ATPL, and for type and class ratings, and proficiency check for the BIR and the IRs

[...]

### B. Specific requirements for the aeroplane category

[...]

| TMGs AND SINGLE-PILOT AEROPLANES,<br>EXCEPT FOR HIGH-PERFORMANCE<br>COMPLEX AEROPLANES | PRACTICAL TRAINING |   |  | CLASS OR TYPE RATING<br>SKILL TEST/PROF. CHECK |   |
|--|--------------------|---|--|--|---|
|  | FSTD               | A | Instructor<br>initials when<br>training<br>completed | Tested or<br>checked<br>in FSTD<br>or A        | Examiner<br>initials when<br>test or check<br>completed |
| Manoeuvres/Procedures  |                    |   |  |  |   |

[...]

#### SECTION 5

[...]

|     |  |        |       |  |  |  |
|-----|--|--------|-------|--|--|--|
| 5.5 | ME aeroplanes <del>and TMG training</del><br>only: engine shutdown and restart<br>(at a safe altitude if performed in<br>the aircraft) | P----> | ----> |  |  |  |
|-----|--|--------|-------|--|--|--|

[...]

**ANNEX VI (PART-ARA)****ARA.FCL.200 Procedure for the issue, revalidation or renewal of a licence, rating or certificate**

[...]

(d) Endorsement of licence by instructors. Before specifically authorising certain instructors to revalidate a ~~single-engine piston~~ SEP aeroplane or TMG class rating, the competent authority shall develop appropriate procedures.

[...]

**Rationale****COVER REGULATION****(1) Amendments to Article 2 Definitions**

Today, in Part-FCL, the abbreviation 'SEP' is used to refer to single-engine piston aircraft, and to name the respective class rating for single-engine piston aeroplanes. At the same time, the development of new aircraft propulsion technologies does and will result in the certification of such small aeroplanes that will be powered by engines other than piston engines (electric engines, and possibly also other types of engines in the future). Apart from the differences in the detailed training arrangements (training syllabi at AMC level), the Part-FCL requirements that are currently in place for single-engine piston aeroplanes are suitable also for comparable small aeroplanes with other (innovative) engine types. In order to allow that these existing Part-FCL requirements also cover and address aeroplanes with innovative engine types, the requirements that currently refer to single-engine 'piston' aeroplanes need to be revised. To this end, Article 2 is amended to include a new definition with the 'extended meaning' of the abbreviation 'SEP', in the context of aeroplanes. At the same time, another new definition clarifies that, in the context of helicopters, the abbreviation 'SEP' continues to refer to single-engine piston helicopters. Furthermore, certain Part-FCL requirements are amended to reflect the new, extended meaning of 'SEP aeroplanes' and to include additional arrangements that are necessary in this context (as proposed with this NPA).

**(2) Amendments to Article 4 Existing national pilot licences**

In the context of the revised meaning of the abbreviation 'SEP' in the context of aeroplanes (see Rationale #1), the text of Article 4(7) of Commission Regulation (EU) No 1178/2011 is revised to refer to 'SEP aeroplanes' and 'SEP helicopters'. Additionally, the reference to balloons and sailplanes is deleted, since the flight crew licensing requirements for these aircraft categories are no longer within the scope of this Regulation.



**ANNEX I (PART-FCL)****(3) Amendments to point FCL.020 *Student pilot***

In point FCL.020, additional text is inserted to clarify that student pilots shall only be allowed to conduct solo flights if they are competent to safely operate the relevant aircraft during the intended solo flight. In this context, the associated new AMC1 FCL.020(a) (see Section 3.2 of this NPA) outlines the necessity for additional training in case a student pilot, during an LAPL training course or a PPL training course, switches between SEP aeroplane variants with different engine types.

**(4) Amendments to point FCL.025 *Theoretical knowledge examinations for the issue of licences and ratings***

In point FCL.025(b)(5), the term ‘theoretical knowledge examinations’ is replaced by ‘complete set of examination papers’, for both clarity and consistency with points FCL.025(b)(1) to (4).

**(5) Amendments to point FCL.115 *LAPL — Training course***

Already today, point FCL.135.H(b) requires LAPL holders to comply with the operational suitability data (OSD) in the context of the differences training or familiarisation. For consistency, point FCL.115 is amended to require initial LAPL(H) training to include type-related mandatory training elements as set out in the applicable OSD. In the context of this amendment, the content of the current points FCL.115(a) and (b) is summarised in new point (a), while current points ‘(c)’ and ‘(d)’ are renumbered ‘(b)’ and ‘(c)’. While no changes are applied to the text of point (b) (former point (c)), in point (c) (former point (d)) the term ‘single-engine piston’ is replaced by ‘SEP’, for consistency with the new SEP terminology.

**(6) Amendments to point FCL.105.A *LAPL(A) — Privileges and conditions***

The term ‘single-engine piston’ is replaced by the abbreviation ‘SEP’, for consistency with the new SEP terminology.

**(7) Amendments to point FCL.110.A *LAPL(A) — Experience requirements and crediting***

Point FCL.110.A(c) is restructured to include additional text to clarify the initial intention of this provision, as already explained in CRD to NPA 2008-17b<sup>13</sup> (flight time in microlight aircraft may be considered).

Additionally, based on input from the EASA Advisory Body members, the term ‘flight test’ in the introductory sentence of the second subparagraph in point FCL.110.A(c) is replaced by the term ‘flight assessment’. The term ‘test’ should be reserved for events that involve an examiner, but the evaluation of candidates as per point FCL.110.A(c) can also be conducted by an instructor.

<sup>13</sup> See EASA response to comment No 841 in CRD to NPA 2008-17b (CRD c.2 + c.3) (<https://www.easa.europa.eu/sites/default/files/dfu/CRD%20c.2%20%2B%20c.3%20-%20Subpart%20B%20%2B%20C.pdf>).

**(8) Amendments to point FCL.135.A LAPL(A) — Extension of privileges to another class or variant of aeroplane**

Currently, point FCL.135.A(a) stipulates that the privileges of an LAPL holder are limited to the class and variant of aircraft used for the skill test. At the same time, this point prescribes that ‘this’ limitation (= limitation to class and variant) can only be removed after undergoing further training and a further skill test in the new class (no further reference to any variant). Additionally, paragraph (b) of this provision sets out the conditions to be met when moving to another aeroplane variant (meaning: another variant within the same class). It is obvious that paragraph (a) and its training and testing provisions were intended to regulate the obtainment of privileges for another class, but not just for another variant within one class. Therefore, the term ‘and variant’ is deleted from point FCL.135.A(a).

The new wording refers to ‘class of aeroplanes’, as the SEP(sea) class rating is now also available for the LAPL<sup>14</sup>. The term ‘the holder of’ is inserted for consistency with the other provisions of Part-FCL (e.g. point FCL.105.A(a)). Additionally, the auxiliary ‘may’ is replaced by ‘shall’ with respect to the content of this provision: if a pilot complies with the requirements for obtaining the privileges for another class, the competent authority *shall* issue these additional class privileges upon application.

Finally, point FCL.135.A(b) is amended consistently with the amendment to point FCL.710(a). Please refer to the explanations given for these amendments in Rationale #16.

**(9) Amendments to point FCL.140.A LAPL(A) — Recency requirements**

Point FCL.140.A(a)(1) is amended for consistency with the amendments to point FCL.740.A(b)(1)(ii) (see Rationale #19). The purpose of this amendment to point FCL.140.A (together with the amendments to AMC1 FCL.140.A, FCL.140.H, FL.140.S and FCL.140.B; refer to the respective parts of this NPA) is to clarify the objectives and contents of the refresher training flight while in general promoting a more performance-based approach. The requirement for the training flight to have a duration of at least 1 hour is deleted, leaving it to the discretion of the instructor to determine the duration of the training flight the individual applicant needs in order to meet the objectives of the training flight.

Point (c) is introduced for consistency with new point FCL.741.A (see Rationale #20).

**(10) Amendments to point FCL.110.H LAPL(H) — Experience requirements and crediting**

Point FCL.110.H is amended consistently with the amendments to point FCL.110.A (see Rationale #7).

**(11) Amendments to point FCL.135.H LAPL(H) — Extension of privileges to another type or variant of helicopter**

The term ‘and variant’ is deleted from the introductory sentence in point (a), since moving to another variant within a type is regulated in point (b) (see also the explanations in Rationale #8

<sup>14</sup> See point FCL.105.A(a), as amended by Commission Implementing Regulation (EU) 2019/1747 of 15 October 2019 amending Regulation (EU) No 1178/2011 as regards requirements for certain flight crew licences and certificates, rules on training organisations and competent authorities (OJ L 268, 22.10.2019, p. 2) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R1747&qid=1604336450042>).

for the amendments to point FCL.135.A(a)), which is proposed to be corrected along these lines as well).

Additionally, the current point FCL.135.H(b) requires LAPL holders to comply with the OSD in the context of a differences training or familiarisation when changing to another variant of a specific helicopter type. For consistency, and also in the context of the comments received from the EASA Advisory Body Members, point FCL.135.H(a) is updated in order to make the OSD relevant also for LAPL(H) holders who change to another helicopter type.

#### **(12) Amendments to point FCL.140.H LAPL(H) — Recency requirements**

Point FCL.140.H is amended for consistency with the amendments to point FCL.140.A (see Rationale #9). The purpose of this amendment to point FCL.140.H (together with new AMC1 FCL.140.H(a)(2); see Section 3.2 of this NPA) is to clarify the objectives and contents of the refresher training flight while in general promoting a more performance-based approach. The requirement for the training flight to have a duration of at least 1 hour is deleted, leaving it to the discretion of the instructor to determine the duration of the training flight time the individual applicant needs in order to meet the objectives of the training flight.

#### **(13) Amendments to point FCL.210 Training course**

Today, points FCL.210.A and FCL.210.H allow LAPL holders to receive credits when undergoing training for the issue of a PPL. However, no credits are granted to student pilots who commence the LAPL training, but during the LAPL training course they decide to change to a PPL training course. Stakeholders have repeatedly highlighted this problematic situation: it should be possible for student pilots to easily change from an ongoing LAPL training course into a PPL training course, given the commonalities of the LAPL and PPL training syllabi.

In order to address this issue, it is proposed to add point (d) to point FCL.210, which would allow the ATO or the DTO to credit training that has already been completed during the LAPL training course — as long as, in total, the experience requirements for the PPL are met. This will allow student pilots to continue with the PPL training, although the training course has started as an LAPL training course. Additionally, in order to ensure consistency with the existing credits for LAPL holders in points FCL.210.A(b) and FCL.210.H(b), the flight instruction requirements contained in these points need to be completed during the continued PPL training course and after the LAPL theoretical knowledge examination (see also amendments to Appendix 1 to Part-FCL, as proposed with this NPA).

#### **(14) Amendments to point FCL.210.A PPL(A) — Experience requirements and crediting**

EASA has received requests from GA stakeholders to allow applicants for a PPL(A) to complete both the PPL(A) skill test and the night rating training within the overall 45 hours of flight time, as it had been possible under JAR-FCL. Under Part-FCL, this is currently not possible, since point FCL.210.A(a) refers to 45 hours of flight ‘instruction’ for the issue of a PPL(A). Hence, point FCL.210.A(a) is amended to no longer refer to 45 hours of flight ‘instruction’ but flight ‘time’ instead. This amendment, accompanied by the creation of GM1 FCL.210.A(a) (see the draft proposal for this new GM and the related Rationale #15 in Section 3.2), will make it again possible to include, within the 45 hours of flight time, both the PPL(A) skill test and the aeroplane night rating training as per point FCL.810.



Point FCL.210.A(b) is amended in the context of the amendment to point FCL.110.A(c), as proposed with this NPA (see Rationale #7 above). That amendment clarifies the initial intention of the crediting provision in point FCL.110.A(c), according to which flight time completed in aircraft that are outside the scope of the Basic Regulation can be considered for reducing the amount of flight training for the LAPL. In this context, the 'bridge' route from the LAPL to the PPL in point FCL.210.A(b) is revised in order to ensure that, for the issue of a PPL, a total flight time of 45 hours in 'EASA aircraft' (aircraft within the scope of the Basic Regulation and, as regards flight training time, also aircraft that are subject to an authorisation in accordance with points ORA.ATO.135 or DTO.GEN.240) is required. When redrafting point FCL.210.A(b), it is also clarified that LAPL(A) holders who apply for a PPL(A) can gain total flight time experience as per this point not only in aeroplanes but also in TMGs, since an LAPL(A) can also be obtained in TMGs.

**(15) Amendments to point FCL.210.H PPL(H) — Experience requirements and crediting**

In point (a), the term 'FNPT or FFS' is replaced by the general term 'FSTD' in order to provide more flexibility, and in particular to enable the use of FTDs. Additionally, the term 'flight instruction' is replaced by 'flight time', consistently with the identical amendment in point FCL.210.A (see Rationale #14 above). In this context, it is to be highlighted that the helicopter night rating training course cannot be integrated into the PPL(H) training course, since the applicable prerequisites of point FCL.810(b)(1) do not allow to do so.

Additionally, while point FCL.110.H(b) is amended consistently with the amendment to point FCL.110.A(c) (see Rationales #7 and #10 above), point FCL.210.H(b) is amended consistently with the amendment to point FCL.210.A(b) (see Rationale #14 above).

**(16) Amendments to point FCL.710 Class and type ratings — variants**

In point (a), the minimum content of the differences training for SEP aeroplane variants with different types of engines is added, in order to ensure that pilots will receive training in all relevant aspects in the context of operating an aircraft with a different engine type. In addition to that, AMC1 FCL.710(a) is created to provide a more detailed list of the necessary training items (see Section 3.2 of this NPA).

In point (c), the term 'single-engine piston' is replaced by 'SEP', for consistency with the new SEP terminology.

In point (d), the text is revised to include a reference also to point (c) and to refer to 'SEP aeroplanes', for consistency with the new SEP terminology.

**(17) Amendments to point FCL.725 Requirements for the issue of class and type ratings**

In point (a), the term 'single-engine piston' is replaced by 'SEP aeroplane', for consistency with the new SEP terminology.

**(18) Amendments to point FCL.740 Validity and renewal of class and type ratings**

In points (b)(2)(i) and (ii), the term 'single-engine piston' is replaced by 'SEP aeroplane', for consistency with the new SEP terminology.



**(19) Amendments to point FCL.740.A *Revalidation of class and type ratings — aeroplanes***

In point (b)(1), the introductory phrase is revised to refer to ‘SEP’ instead of ‘single-pilot’ and ‘single-engine piston’. In point (b)(1)(ii), the three indents in the list of the revalidation elements are replaced by (A), (B) and (C) respectively, in order to allow better cross referencing to these requirements.

Additionally, the requirements for the refresher training are revised to further outline the objective and minimum content of that training (emphasis on abnormal and emergency procedures) for clarity and also in order to improve the link to AMC1 FCL.740.A(b)(ii) which is also revised (see Section 3.2 of this NPA). These additional changes will, in any case, require the refresher training flight to have a certain minimum duration, leaving it to the discretion of the instructor to determine the particular flight duration that is appropriate to an individual applicant’s needs in order to meet the objectives of the training flight. In this context, the requirement for the refresher training flight to last for at least 1 hour is deleted. This will also allow instructors to consider the range and endurance of the training aircraft, and in particular the limited range and endurance of electric aircraft.

Finally, in points (2) and (4), the term ‘single-engine piston’ is replaced by ‘SEP’, for consistency with the new SEP terminology.

**(20) Addition of point FCL.741.A *Recency requirements for variants within the SEP aeroplane class***

With the proposed rearrangements of the SEP class rating, the SEP class rating privileges will cover small sport aircraft with different types of engines. While this regulatory solution has advantages (see Rationale #1 for the amendments to Article 2), it is still deemed necessary to ensure recent experience of pilots who operate aircraft with different types of engines under this new SEP ‘group’. To that end, it is proposed to introduce recency requirements for different types of engines within the SEP class rating. SEP class rating holders will be free to choose in which variant (type of engine) they will comply with the revalidation or renewal requirements. If they wish to maintain their privileges in additional variants (with different engine types), another proficiency check or, provided a certain minimum of flight experience is demonstrated, a refresher training in the other variant(s) (other engine types) in question is necessary. Reference to point FCL.710(d) is made to clarify that new point FCL.741.A constitutes a special arrangement for different SEP aeroplane variants with different engine types while the general arrangement for SEP aeroplane variants in point FCL.710(d) (neither refresher differences training nor additional proficiency check required) remains unchanged.

**(21) Amendments to point FCL.740.H *Revalidation of type ratings — helicopters***

Conclusions drawn from the EASA Rotorcraft Safety Roadmap as well as inputs from subsequent discussions with the EASA Advisory Bodies showed that the existing helicopter type rating revalidation requirements should be revised to encourage private helicopter pilots to fly more regularly, since the experience acquired through regular flying is a safety benefit. Hence, a second option is introduced for the revalidation of a single-engine piston helicopter type rating, inspired by point FCL.140.H (*LAPL(H) — Recency requirements*) and point FCL.740.A (*Revalidation of class and type ratings — aeroplanes (particularly in relation to the SEP(A) class rating)*). According to revised **point (a)(2)**, a single-engine piston helicopter type rating can also

be revalidated by both demonstrating PIC experience and completing a training flight with an instructor. The refresher training flight requirement is aligned with the requirements in points FCL.140.A, FCL.140.H and FCL.740.A, as revised with this NPA. Point FCL.740.H(a)(2)(ii)(B) establishes the high-level objective and content of the training flight while new AMC further illustrates the particular arrangements (see new AMC1 FCL.740.H(a)(2)(ii)(B), as proposed with this NPA).

**Subsequent points (a)(3) to (a)(6)** are renamed **(b) to (e)**, since the text in these points does not connect with the introductory phrase of point (a).

**In point (b) (former point (a)(3))**, a reference to the new training flight requirement of point (a)(2) is inserted, in order to allow the combined revalidation of single-engine piston helicopter type ratings also through this new revalidation option.

**In points (b) and (c) (former points (a)(3) and (a)(4))**, additional text is inserted to ensure that the validity periods of the different type ratings, which are revalidated in accordance with this point, shall be aligned. This is done in order to avoid that these crediting provisions will lead to *pro futuro* revalidations of type ratings (e.g. a proficiency check is completed in March and credits would be given for the revalidation of another type rating which would expiry only in October of the same year).

**Point (d) (former point (a)(5))** is aligned with the previous points (b) and (c) as regards the alignment of the validity periods.

**Point (f) (former point (b))** is updated with regard to cross references to other points within point FCL.740.H following the renumbering of the points, as described above.

## **(22) Amendments to point FCL.810 *Night rating***

In point (a)(3), the term 'single-engine piston' is replaced by 'SEP', for consistency with the new SEP terminology.

## **(23) Amendments to point FCL.815 *Mountain rating***

In current point FCL.815, the mountain rating has a validity period of 24 months and needs to be revalidated in accordance with the revalidation requirements of point FCL.815(e). These requirements contain two options for revalidation: either the demonstration of experience (point (e)(1)) or the completion of a proficiency check with an examiner (point (e)(2)). Stakeholder feedback revealed an issue with these revalidation arrangements: only in the case of revalidation via a proficiency check it is possible for an examiner to endorse the new expiry date of the mountain rating in the licence of the candidate. If revalidating based on experience, no examiner is involved, and only the competent authority can endorse the new expiry date in the licence — a handwritten endorsement by an examiner is not possible. After reviewing point FCL.815 in order to solve this issue of diversity of revalidation options, it is proposed to make the mountain rating a non-expiring rating with recency requirements, similar to the towing rating. With this solution, the aforementioned issue does no longer exist.

**(24) Amendments to point FCL.835 *Basic instrument rating (BIR)***

In point FCL.835(a)(1), the text is revised to show a list in order to improve the clarity of the text.

**(25) Amendments to point FCL.915 *General prerequisites and requirements for instructors***

In the context of making point FCL.915.FI(b)(3) more flexible, as proposed with this NPA (see Rationale #27), point (5) is added to point FCL.915(b) to ensure minimum flight experience with a particular type of a SEP aeroplane engine variant before providing instruction in that variant.

**(26) Amendments to point FCL.945 *Obligations for instructors***

After the term 'SEP', the term 'aeroplane' is inserted, for consistency with the new SEP terminology and the related amendments to other Part-FCL provisions (as proposed with this NPA).

**(27) Amendments to point FCL.915.FI *FI — Prerequisites***

In point FCL.915.FI(b)(3), the term 'single-engine piston powered aeroplanes' is replaced by 'the class or type of aeroplane used for the FI(A) training course' in order to consider cases where an FI(A) training course is delivered on aeroplanes other than the SEP class. Additionally, this new and more neutral wording (where reference to 'piston' engines is no longer made) includes SEP variants with different types of engines.

Additionally, as regards the text referring to point FCL.930.FI, the term 'flight test' is replaced by 'flight assessment', for consistency with the amendments to point FCL.930.FI (as proposed with this NPA).

**(28) Amendments to point FCL.930.FI *FI — Training course***

The term 'flight test' is replaced by 'flight assessment', for consistency with the text change in points FCL.110.A and FCL.110.H (see Rationales #7 and #10). The term 'assessment' better describes the nature of such an event.

**(29) Amendments to Appendix 1 *Crediting of theoretical knowledge to Annex I (Part-FCL)***

In its current version, point 1.3 of Appendix 1 to Annex I (Part-FCL) establishes full credit for the PPL theoretical knowledge examinations to LAPL holders but not to applicants who have completed the LAPL theoretical knowledge examinations, without yet holding an LAPL. In the context of new point FCL.210(d), such a credit has to be put in place in order to allow student pilots to easily step up, during the training course, from the LAPL(A) training to the PPL(A) training. Point 1.3 of Appendix 1 to Annex I (Part-FCL) is, therefore, proposed to be amended accordingly. If applicants complete the LAPL(A) theoretical knowledge examination (instead of the PPL(A) theoretical knowledge examination), that examination will need to take place before the additional 'PPL training' (in accordance with points FCL.210.A(b) or FCL.210.H(b)) in order to allow applicants to strengthen their LAPL(A) theoretical knowledge during the remaining training and to ensure consistency with the existing credits for LAPL holders in points FCL.210.A(b) and FCL.210.H(b).

Additionally, in point 1.4, the term 'single-engine piston' is replaced by 'SEP', for consistency with the new SEP terminology.

**(30) Amendments to Appendix 9 *Training, skill test and proficiency check for the MPL and the ATPL, and for type and class ratings, and proficiency check for the BIR and the IR to Annex I (Part-FCL)***

In the training and testing programme for TMGs and single-pilot aeroplanes (table in Section B, point (5) of Appendix 9 to Annex I (Part-FCL)), Exercise 5.5 is amended to no longer require to train engine shutdown in TMGs, since holders of an aeroplane licence with a TMG class rating are not entitled to intentionally switch off the engine in flight. In this context, reference is made to the amendments to AMC1 FCL.115 and AMC1 FCL.210, as proposed with this NPA.

Additionally, the opportunity is taken to amend the title of Appendix 9 to better reflect its content; furthermore, it now contains a reference to the basic instrument rating (BIR) since the revalidation of this rating will also follow Appendix 9.

**ANNEX VI (PART-ARA)**

**(31) Amendments to point ARA.FCL.200 *Procedure for the issue, revalidation or renewal of a licence, rating or certificate***

In point ARA.FCL.200(d), the term 'single-engine piston' is replaced by 'SEP aeroplane', for consistency with the new SEP term.



### 3.2. Draft acceptable means of compliance and guidance material (draft EASA decision)

## AMC AND GM TO ANNEX I (PART-FCL)

### GM1 FCL.010 Definitions

[...]

SEP in the context of aeroplanes: Single-Engine Single-Pilot

SEP in the context of helicopters: Single-Engine Piston

[...]

### AMC1 FCL.015 Application for and issue of licences, ratings and certificates

#### APPLICATION AND REPORT FORMS

[...]

(a) For skill tests, proficiency checks for the issue, revalidation or renewal of LAPL, ~~BPL, SPL~~, PPL, CPL and IR in AMC1 to Appendix 7.

[...]

### GM1 FCL.020(a) Student pilot

#### USE OF SEP AEROPLANES WITH DIFFERENT ENGINE TYPES DURING A TRAINING COURSE

A student pilot who undergoes an LAPL(A) or a PPL(A) training in an SEP aeroplane with a particular engine type (as specified in Article 2(8a) of Commission Regulation (EU) No 1178/2011) should be authorised in accordance with point FCL.020(a) to undertake the necessary solo flights in an SEP variant with another engine type only after he or she has acquired the competence to safely operate such SEP variants.

### AMC1 FCL.050 Recording of flight time

#### GENERAL

[...]

(b) Logging of flight time:

(1) PIC flight time

[...]

(ii) the applicant for or the holder of a pilot licence may log as PIC time all solo flight time, flight time as SPIC ~~and~~ flight time under supervision as well as flight time of



successfully completed skill tests and proficiency checks, provided that such SPIC time and flight time under supervision are countersigned by the instructor;

[...]

(c) Format of the record

[...]

- (3) For ~~sailplanes, balloons and~~ airships, a suitable format, which may be electronic, should be used. That format should contain the relevant items mentioned in (a) and additional information specific to the type of operation.

[...]

### INSTRUCTIONS FOR USE

[...]

(i) Notes on recording of flight time:

[...]

- (10) column 12: the 'remarks' column may be used to record details of the flight at the holder's discretion. The following entries, however, should always be made:

[...]

- (iv) signature of the instructor if the flight is part of an SEP aeroplane or TMG class rating or SEP helicopter type rating revalidation.

[...]

## GM1 FCL.060(b)(1) Recent experience

### AEROPLANES, HELICOPTERS, POWERED-LIFT, AND AIRSHIPS AND SAILPLANES

If a pilot or a PIC is operating under the supervision of an instructor to comply with the required three take-offs, approaches and landings, no passengers may be on board.

[...]

## AMC1 FCL.060(b)(5) Recent experience

### NON-COMPLEX HELICOPTERS

Grouping of non-complex helicopters with similar handling and operational characteristics:

[...]

- (e) Group 5: all types listed in AMC1 FCL.740.H(a)(3)(b) and R 22 and R 44.

[...]



**AMC1 FCL.115 LAPL(A) – Training course****FLIGHT INSTRUCTION FOR THE LAPL(A)**

[...]

## (c) Syllabus of flight instruction

[...]

## (xiv) Exercise 11: Spin avoidance:

Note 1: The limitations of the training aircraft as set out in the AFM (manoeuvre limitations, mass and balance calculations) need to be carefully considered.

Note 2: If there is no suitable training aircraft (aeroplane certified for initial spin manoeuvres) available, Exercise 11 should be replaced by repeated discussions between the student pilot and the instructor where the scenario and the recovery strategies related to Exercise 11 are adequately addressed.

- (A) safety checks;
- (B) stalling and recovery at the incipient spin stage (stall with excessive significant wing drop whose magnitude allows the student pilot to experience the incipient spin stage and to learn how to recover from such a flight condition, about 45°);
- (C) instructor-induced distractions during the stall.

[...]

## (xvii) Exercise 12/13: Emergencies:

- (A) abandoned take-off;
- (B) engine failure after take-off;
- (C) mislanding and go-around;
- (D) missed approach;
- (E) engine restart procedures (after simulated engine failure).

Note: In the interests of safety, it will be necessary for pilots trained on nose wheel aeroplanes or TMGs to undergo dual conversion training before flying tail wheel aeroplanes or TMGs, and vice versa.

## (xviii) Exercise 14: First solo:

- (A) instructor's briefing including limitations;
- (B) use of required equipment;
- (C) observation of flight and de-briefing/debriefing by instructor.

Note: During flights immediately following the solo circuit, the consolidation of the following should be revised:

- (A1) procedures for leaving and rejoining the circuit;
- (B2) the local area, restrictions, map reading;



- (E3) use of radio aids for homing;
- (D4) turns using magnetic compass, compass errors.

[...]

~~(xxv) Exercise 19: Stopping and restarting the engine (in the case of TMGs only):~~

- ~~(A) engine cooling;~~
- ~~(B) switching-off procedure;~~
- ~~(C) restarting of the engine.~~

[...]

## AMC1 FCL.115; FCL.120 LAPL training course and theoretical knowledge examination

### SYLLABUS OF THEORETICAL KNOWLEDGE FOR THE LAPL

[...]

- (b) ~~The following tables contain the syllabi for the courses of theoretical knowledge, as well as for the theoretical knowledge examinations for the LAPL(B) and LAPL(S).~~ The syllabi for the theoretical knowledge instruction and examination for the PPL(A) and **the** PPL(H) in AMC1 FCL.210; **and in** FCL.215 should be used for the LAPL(A) and the LAPL(H), respectively.

*All subsequent text of this AMC, starting at '1. COMMON SUBJECTS', is deleted.*

[...]

## AMC1 FCL.125; FCL.235

*The entire AMC is deleted.*

## AMC2 FCL.125; FCL.235

*The entire AMC is deleted.*

[...]

## AMC1 FCL.115 110.A(c) LAPL(A) — ~~Training course~~ Experience requirements and crediting

### CREDITING: ~~PRE-ENTRY FLIGHT TEST~~ FOR PRIOR EXPERIENCE AS PIC

The pre-entry flight ~~test~~ **assessment** referred to in **point** FCL.110.A(c) should cover the total content of the syllabus of flight instruction for the issuance of the LAPL(A), in accordance with AMC1 FCL.115.

[...]



## AMC1 FCL.135.A(b) LAPL(A) — Extension of privileges to another class or variant of aeroplane

### DIFFERENCES TRAINING FOR VARIANTS WITHIN THE SEP AEROPLANE CLASS WITH ELECTRIC ENGINE

As regards variants within the SEP aeroplane class with electric engine, the differences training should follow the content of AMC1 FCL.710(a).

[...]

## AMC1 FCL.140.A; FCL.140.S; FCL.740.A(b)(1)(ii) — Recency and revalidation requirements

*The entire AMC is deleted.*

## AMC1 FCL.140.A(a)(1)(ii); FCL.140.H; FCL.140.S; FCL.140.B LAPL(A) — Recency requirements

- (a) ~~Training flight items should be based on the exercise items of the proficiency check, as deemed relevant by the instructor, and depending on the experience of the candidate. For aeroplanes and helicopters, the~~ Before the training flight takes place, the instructor should hold a briefing with the candidate. That briefing should include a discussion on all of the following:
- (1) TEM with special emphasis on decision-making when encountering adverse meteorological conditions or unintentional IMC;
  - (2) ~~as well as on~~ navigation flight capabilities;
  - (3) exercises as specified in point (b), as applicable.
- (b) The training flight items should be based on the exercise items of the proficiency check, as deemed relevant by the instructor, and depending on the experience of the candidate. In any case, the training flight items should include exercises related to recovery from the following stall scenarios:
- (1) clean stall;
  - (2) approach to stall in descending turn with bank with approach configuration and power;
  - (3) approach to stall in landing configuration and power; and
  - (4) approach to stall, climbing turn with take-off flap and climb power.

~~For sailplanes and balloons, the discussion should place special emphasis on principal occurrence categories of the activity that is covered by the licence.~~

[...]



## AMC1 FCL.110.H(c) LAPL(H) — Experience requirements and crediting

### ~~CREDITING: PRE-ENTRY FLIGHT TEST~~ FOR PRIOR EXPERIENCE AS PIC

The pre-entry flight ~~test~~ assessment referred to in ~~point~~ FCL.110.H(b) should cover the total content of the syllabus of flight instruction for the issuance of the LAPL(H), in accordance with AMC2 FCL.115.

[...]

## AMC1 FCL.140.H(a)(2) LAPL(H) — Recency requirements

(a) Before the training flight takes place, the instructor should hold a briefing with the candidate. That briefing should include a discussion on all of the following:

- (1) TEM with special emphasis on decision-making when encountering adverse meteorological conditions or unintentional IMC;
- (2) navigation flight capabilities;
- (3) exercises as specified in point (b), as applicable.

(b) The training flight items should be based on the exercise items of the proficiency check, as deemed relevant by the instructor, and depending on the experience of the candidate. In any case, the training flight items should include the following exercises from the PPL(H) flight training syllabus (AMC2 FCL.210):

- (1) Exercise 10: Basic autorotation;
- (2) Exercise 18: Hovering OGE and vortex ring;
- (3) Exercise 29: Confined areas.

[...]

## ~~AMC1 FCL.110.S LAPL(S) — Experience requirements and crediting~~

*The entire AMC is deleted.*

## ~~AMC1 FCL.110.S; FCL.210.S~~

*The entire AMC is deleted.*

## ~~AMC1 FCL.135.S; FCL.205.S(a)~~

*The entire AMC is deleted.*

## ~~AMC1 FCL.140.S(c)(1) LAPL(S) — Recency requirements~~

*The entire AMC is deleted.*

## ~~AMC1 FCL.110.B LAPL(B) — Experience requirements and crediting~~

*The entire AMC is deleted.*



**AMC1 FCL.110.B; FCL.210.B**

*The entire AMC is deleted.*

**AMC1 FCL.130.B; FCL.220.B**

*The entire AMC is deleted.*

**AMC1 FCL.135.B; FCL.225.B**

*The entire AMC is deleted.*

**AMC2 FCL.135.B; FCL.225.B**

*The entire AMC is deleted.*

**AMC3 FCL.135.B; FCL.225.B**

*The entire AMC is deleted.*

**AMC1 FCL.140.B(b)(1) – LAPL(B) – Recency requirements**

*The entire AMC is deleted.*

[...]

**AMC1 FCL.210 PPL(A) Training course****FLIGHT INSTRUCTION FOR THE PPL(A)**

[...]

(c) Syllabus of flight instruction

[...]

(xiv) Exercise 11: Spin avoidance:

**Note 1:** The limitations of the training aircraft as set out in the AFM (manoeuvre limitations, mass and balance calculations) need to be carefully considered.

**Note 2:** At least 2 hours of stall awareness and spin avoidance flight training should be completed during the course. If there is no suitable training aircraft (aeroplane certified for initial spin manoeuvres) available, Exercise 11 should be replaced by repeated discussions between the student pilot and the instructor where the scenario and the recovery strategies related to Exercise 11 are adequately addressed.

(A) safety checks;



- (B) stalling and recovery at the incipient spin stage (stall with excessive significant wing drop whose magnitude allows the student pilot to experience the incipient spin stage and to learn how to recover from such a flight condition, about 45°);
- (C) instructor-induced distractions during the stall.

~~Note 1: at least two hours of stall awareness and spin avoidance flight training should be completed during the course.~~

~~Note 2: consideration of manoeuvre limitations and the need to refer to the aeroplane manual and mass and balance calculations.~~

[...]

(xvii) Exercise 12/13: Emergencies:

- (A) abandoned take-off;
- (B) engine failure after take-off;
- (C) mislanding and go-around;
- (D) missed approach;
- (E) engine restart procedures (after simulated engine failure).

Note: In the interests of safety, it will be necessary for pilots that are trained on nose-wheel aeroplanes or TMGs to undergo dual conversion training before flying tail-wheel aeroplanes or TMGs, and vice versa.

(xviii) Exercise 14: First solo:

- (A) instructor's briefing;
- (B) use of required equipment;
- (C) observation of flight and de-briefing debriefing by instructor;

Note: During flights immediately following the solo circuit consolidation, the following should be revised:

- (B1) procedures for leaving and rejoining the circuit;
- (C2) the local area, restrictions, map reading;
- (D3) use of radio aids for homing;
- (E4) turns using magnetic compass, compass errors.

[...]



## **GM1 FCL.210.A(a) PPL(A) — Experience requirements and crediting**

### **FLIGHT-TIME PREREQUISITE FOR THE ISSUE OF A PPL(A)**

The introductory sentence of point FCL.210.A(a) requires applicants for a PPL(A) to have completed in total 45 hours of flight time in aeroplanes. This means that, in addition to the PPL(A) training as specified in point FCL.210.A(a)(1) and (2), these 45 hours of flight time in aeroplanes may include the flight time of the night rating training course specified in point FCL.810(a)(1)(ii) as well as the flight time of the skill test for the PPL(A).

[...]

### **~~AMC3 FCL.210; FCL.215 Training course and theoretical knowledge examination~~**

*The entire AMC is deleted.*

### **~~AMC1 FCL.205.S(b) SPL — Privileges and conditions~~**

*The entire AMC is deleted.*

### **~~AMC1 FCL.205.B(b) BPL — Privileges and conditions~~**

*The entire AMC is deleted.*

### **~~AMC1 FCL.225.B BPL — Extension of privileges to another balloon class or group~~**

*The entire AMC is deleted.*

### **~~AMC1 FCL.230.B(c)(1) — BPL — Recency Requirements~~**

*The entire AMC is deleted.*

## GM1 FCL.700 Circumstances in which class or type ratings are required

[...]

(a) Class ratings (aeroplane): SP and SEP or MEP aeroplane (land or sea):

| Manufacturer  | Aeroplanes   |     | Licence Endorsement |
|---|--|-----|---------------------|
| All manufacturers   | SEP (land)   | (D) | SEP (land)          |
|   | SEP (land) with variable pitch propellers                          |     |                     |
|   | SEP (land) with retractable undercarriage                          |     |                     |
|   | SEP (land) with turbocharged or super-charged supercharged engines |     |                     |
|   | SEP (land) with cabin pressurisation                               |     |                     |
|   | SEP (land) with tail wheels  |     |                     |
|   | SEP (land) with EFIS   |     |                     |
|   | SEP (land) with SLPC   |     |                     |
|   | SEP (land) with electric engine                                    |     |                     |
|   | All manufacturers  |     |                     |
| SEP (sea) with variable pitch propellers                          |  |     |                     |
| SEP (sea) with turbocharged or super-charged supercharged engines |  |     |                     |
| SEP (sea) with cabin pressurisation                               |  |     |                     |
| SEP (sea) with EFIS   |  |     |                     |
| SEP (sea) with SLPC   |  |     |                     |
| SEP (sea) with electric engine                                    |  |     |                     |
| All manufacturers   | MEP (land)   | (D) | MEP (land)          |
|   | MEP (sea)  | (D) | MEP (sea)           |

[...]

## AMC1 FCL.710(a) Class and type ratings — variants

### DIFFERENCES TRAINING FOR VARIANTS WITHIN THE SEP AEROPLANE CLASS WITH AN ELECTRIC ENGINE

As regards electric engines, the differences training should include at least all of the following:

(Note: The following list solely addresses the training needs with regard to electric engines and must not be understood as an exhaustive differences training syllabus.)

(a) Theoretical knowledge

(1) Aircraft general knowledge:

(i) electric engine;

(ii) high-voltage batteries, including their storage;

(iii) electric engine and battery indication and monitoring instruments;

(iv) electric engine and battery limitations.

(2) Operational procedures:



- (i) electric engine and battery pre-flight inspection;
- (ii) charging of the battery;
- (iii) charging errors;
- (iv) long-term battery storage procedures and limitations;
- (v) in-flight engine/energy monitoring and management;
- (vi) go-around with minimum energy;
- (vii) emergency procedures:
  - (A) engine/battery fire on the ground and in the air;
  - (B) engine/battery overheat;
  - (C) complete loss of engine power (CLOP);
  - (D) loss of cooling function;
  - (E) failure/loss of engine/battery instruments;
  - (F) in-flight engine restart procedure.

(3) Flight planning:

- (i) energy consumption for all phases of the flight;
- (ii) mission and contingency planning;
- (iii) minimum reserve energy planning.

(b) Flight instruction:

The dual flight instruction should include the practical exercise or, in the case of emergency procedures, a simulation of all the elements listed in point (a).

[...]

## AMC1 FCL.725(a) Requirements for the issue of class and type ratings

### SYLLABUS OF THE THEORETICAL KNOWLEDGE FOR CLASS ~~OR~~ AND TYPE RATINGS

#### I. TMGs, SE AND ME AEROPLANES

- (a) Detailed listing for ~~aeroplane~~ aircraft structure and equipment (as applicable), normal operation of systems and malfunctions:
  - (1) dimensions: minimum required runway width for 180 ° turn.
  - (2) engine, including auxiliary power unit:
    - (i) type of engine or engines;
    - (ii) in general, function of the following systems or components:
      - (A) engine;



- (B) auxiliary power unit;
  - (C) oil system;
  - (D) storage and distribution system for fuel/energy system;
  - (E) ignition system;
  - (F) starting system;
  - (G) engine/battery cooling system;
  - (G) fire warning and fire-extinguishing system;
  - (H) generators and generator drives;
  - (I) power indication;
  - (J) reverse thrust;
  - (K) water injection.
- (iii) for ~~on piston or turbine~~ propeller engines, the functioning of the following systems additionally:
- (A) propeller system;
  - (B) feathering system.
- (iv) engine/battery controls (including starter), engine instruments and indications in the cockpit, their function, interrelation and interpretation;
- (v) engine operation, including APU, during engine start, start and engine malfunctions, procedures for normal operation in the correct sequence.
- (3) fuel/energy system (as applicable):
- (i) location of the fuel tanks, fuel pumps, fuel lines to the engines, tank capacities, valves and measuring;
  - (ia) location of the batteries and integration into the aircraft systems;
  - (ii) location of the following systems:
    - (A) filtering;
    - (B) heating;
    - (C) fuelling and defueling/charging;
    - (D) dumping;
    - (E) venting-;
    - (F) cooling.
  - (iii) in the cockpit:
    - (A) ~~the~~ monitors and indicators of the fuel/energy system;
    - (B) quantity and flow indication, and interpretation.

- (iv) procedures:
  - (A) fuelling/charging procedures, including distribution of fuel/energy into the various tanks/batteries;
  - (B) fuel supply, fuel temperature control, and fuel dumping.
- (4) pressurisation and air conditioning:
  - (i) components of the system and protection devices;
  - (ii) cockpit monitors and indicators;
  - (iii) interpretation about the operational condition;
  - (iv) normal operation of the system during start, cruise, approach and landing, air-conditioning airflow and temperature control.
- (5) ice and rain protection, windshield wipers and rain-repellent system:
  - (i) ice-protected components of the aeroplane aircraft including engines, heat sources, controls and indications;
  - (ii) operation of the anti-icing or de-icing system during take-off, climb, cruise and descent, conditions that requiring require the use of the protection systems;
  - (iii) controls and indications of the windshield wipers and rain-repellent systems operation.
- (6) hydraulic system:
  - (i) components of the hydraulic system(s), quantities and system pressure, hydraulically actuated components associated to the respective hydraulic system;
  - (ii) controls, monitors and indicators in the cockpit, function and interrelation and interpretation of indications.
- (7) landing gear:
  - (i) main components of the:
    - (A) main landing gear;
    - (B) nose landing gear;
    - (C) gear steering;
    - (D) wheel brake system, including anti-skid.
  - (ii) gear retraction and extension (including changes in trim and drag caused by gear operation);
  - (iii) required tyre pressure, or location of the relevant placard;
  - (iv) controls and indicators including warning indicators in the cockpit in relation to the retraction or extension condition of the landing gear and brakes;

- (v) components of the emergency extension system.
- (8) flight controls and high lift devices:
- (i) (A) aileron system;
  - (B) elevator system;
  - (C) rudder system;
  - (D) trim system;
  - (E) spoiler system;
  - (F) lift devices;
  - (G) stall warning system;
  - (H) take-off configuration warning system;
  - (I) energy recuperation function.
- (ii) components of the flight control system, including their functioning (from the cockpit controls to the flight control or surfaces);
- (iii) controls, monitors and indicators, including warning indicators of the systems mentioned under (8)(i), interrelation and dependencies.
- (9) electrical power supply:
- (i) number, power, voltage, frequency and location of the main power system (AC or DC), auxiliary power system location and external power system;
  - (ii) location of the controls, monitors and indicators in the cockpit;
  - (iii) flight instruments, communication and navigation systems, main and ~~back-~~ backup power sources;
  - (iv) location of vital circuit breakers;
  - (v) generator / voltage level convertor operation and monitoring procedures of the electrical power supply.
- (10) flight instruments, communication, radar and navigation equipment, autoflight and flight data recorders:
- (i) visible antennae;
  - (ii) controls and instruments of the following equipment in the cockpit during normal operation:
    - (A) flight instruments;
    - (B) flight management systems;
    - (C) radar equipment, including radio altimeter;
    - (D) communication and navigation systems;
    - (E) autopilot;

- (F) flight data recorder, cockpit voice recorder and ~~data-link~~ data link communication recording function;
  - (G) TAWS;
  - (H) collision avoidance system;
  - (I) warning systems; and
  - (J) weather radar system, best practices for its optimum use, interpretation of displayed information.
- (11) cockpit, cabin and cargo compartment:
- (i) operation of the exterior, cockpit, cabin and cargo compartment lighting and the emergency lighting;
  - (ii) operation of the cabin and cargo doors, stairs, windows and emergency exits;
  - (iii) main components of the oxygen system and their location, oxygen masks and operation of the oxygen systems for the crew and passengers, required amount of oxygen by means of a table or diagram.
- (12) emergency equipment operation and correct application of the following emergency equipment in the ~~aeroplane~~ aircraft:
- (i) ~~portable~~ handheld fire extinguisher;
  - (ii) first-aid kits;
  - (iii) portable oxygen equipment;
  - (iv) emergency ropes;
  - (v) ~~life-jacket~~ life jackets;
  - (vi) life rafts;
  - (vii) emergency transmitters;
  - (viii) crash axes;
  - (ix) megaphones;
  - (x) emergency signals.
- (13) pneumatic system:
- (i) components of the pneumatic system, pressure source and actuated components;
  - (ii) controls, monitors and indicators in the cockpit and function of the pneumatic system;
  - (iii) vacuum system.
- (b) Limitations:
- (1) general limitations:



- (i) certification of the ~~aeroplane~~ aircraft, category of operation, noise certification and maximum and minimum performance data for all flight profiles, conditions and aircraft systems:
    - (A) maximum tail and crosswind- components at take-off and landing;
    - (B) maximum speeds for flap extension  $v_{fo}$ ;
    - (C) at various flap settings  $v_{fe}$ ;
    - (D) for landing gear operation  $v_{lo}$ ,  $M_{lo}$ ;
    - (E) for extended landing gear  $v_{le}$ ,  $M_{le}$ ;
    - (F) for maximum rudder deflection  $v_a$ ,  $M_a$ ;
    - (G) for tyres;
    - (H) one propeller feathered.
  - (ii) (A) minimum control ~~air~~ speed-~~air~~  $v_{mca}$ ;
  - (B) minimum control ~~ground~~ speed-~~ground~~  $v_{mcg}$ ;
  - (C) stall speed under various conditions  $v_{so}$ ,  $v_{s1}$ ;
  - (D) maximum speed  $v_{ne}$ ,  $M_{ne}$ ;
  - (E) maximum speed for normal operation  $v_{mo}$ ,  $M_{mo}$ ;
  - (F) altitude and temperature limitations;
  - (G) stick shaker activation.
  - (iii) (A) maximum airport pressure altitude, runway slope;
  - (B) maximum taxi mass;
  - (C) maximum take-off mass;
  - (D) maximum lift-off mass;
  - (E) maximum landing mass;
  - (F) zero fuel mass;
  - (G) maximum dumping speed  $v_{dco}$ ,  $M_{dco}$ ,  $v_{dce}$ ,  $M_{dce}$ ;
  - (H) maximum load factor during operation;
  - (I) ~~certificated~~ certified range of centre of gravity.
- (2) engine limitations (as applicable):
- (i) operating data of the engines:
    - (A) time limits and maximum temperatures;
    - (B) minimum RPMs and temperatures;
    - (C) time limits and maximum values for take-off and go-around on pressure altitude or flight altitude and temperature for:



- (1) maximum torque and/or;
  - ~~(D2)~~ maximum power ~~for take-off and go-around on pressure altitude or flight altitude and temperature;~~
  - ~~(ED)~~ piston engines: certified range of mixture;
  - ~~(FE)~~ minimum and maximum oil temperature and pressure;
  - ~~(GF)~~ maximum starter time and required cooling;
  - ~~(HG)~~ time between two start attempts for engines and auxiliary power unit;
  - ~~(H)~~ for propeller: maximum RPMs of the propeller for triggering of the automatic feathering device.
- (ii) certified oil grades.
- (3) systems limitations (as applicable):
- (i) operating data of the following systems:
    - (A) pressurisation, air conditioning maximum pressures;
    - (B) electrical power supply, maximum load of main power system (AC or DC);
    - (C) maximum time of battery power supply ~~by battery~~ in case of emergency;
    - (D) ~~M~~Mach trim system and yaw damper speed limits;
    - (E) autopilot limitations of various modes;
    - (F) ice protection;
    - (G) speed and temperature limits of window heat;
    - (H) temperature limits of engine and wing anti-ice;
    - (I) maximum value of power recuperation.
  - (ii) fuel system: certified fuel specifications, minimum and maximum fuel pressures and fuel temperature ~~of the fuel;~~
  - (iii) energy system:
    - (A) minimum and maximum state of charge of the battery;
    - (B) effects of temperature on the battery and battery operating temperatures;
    - (C) minimum and maximum battery pack voltage;
    - (D) minimum state of battery health;
    - (E) maximum system power output with one or more batteries inoperative;
    - (F) maximum charging power.

- (4) minimum equipment list.
- (c) Performance, flight planning and monitoring (as applicable):
- (1) performance calculation about speeds, gradients, masses in all conditions for take-off, en-route, approach and landing according to the documentation available (for example for take-off  $v_1$ ,  $v_{mbe}$ ,  $v_r$ ,  $v_{lof}$ ,  $v_2$ , take-off distance, maximum take-off mass and the required stop distance) on the following factors:
- (i) accelerate or stop distance;
  - (ii) take-off run and distance available (TORA, TODA);
  - (iii) ground temperature, pressure altitude, slope, wind;
  - (iv) maximum load and maximum mass (for example ZFM);
  - (v) minimum climb gradient after engine failure or battery malfunction;
  - (vi) influence of snow, slush, moisture and standing water on the runway;
  - (vii) possible single or dual engine failure during cruise flight;
  - (viii) use of anti-icing systems;
  - (ix) failure of the water injection system or the anti-skid system;
  - (x) speeds at reduced thrust,  $v_1$ ,  $v_{1red}$ ,  $v_{mbe}$ ,  $v_{mu}$ ,  $v_r$ ,  $v_{lof}$ ,  $v_2$ ;
  - (xi) safe approach speed  $v_{ref}$ , on  $v_{mca}$  and turbulent conditions;
  - (xii) effects of excessive approach speed and abnormal glideslope on the landing distance;
  - (xiii) minimum climb gradient during approach and landing;
  - (xiv) limiting values for a go-around with minimum fuel/energy;
  - (xv) maximum allowable landing mass and the landing distance for the destination and alternate aerodrome on the following factors:
    - (A) ~~available~~ landing distance available;
    - (B) ground temperature, pressure altitude, runway slope and wind;
    - (C) fuel/energy consumption to destination or alternate aerodrome;
    - (D) influence of moisture ~~on the runway~~, snow, slush and standing water on the runway;
    - (E) failure of the water injection system or the anti-skid system;
    - (F) influence of thrust reverser and spoilers.
- (2) flight planning for normal and abnormal conditions:
- (i) optimum or maximum flight level;
  - (ii) minimum required flight altitude;
  - (iii) drift-down procedure after an engine failure during cruise flight;



- (iv) power setting of the engines during climb, cruise and holding under various circumstances, as well as the most economic cruising flight level;
  - (v) calculation of a short-range or long-range flight plan;
  - (vi) optimum and maximum flight level and power setting of the engines after engine failure;
  - (vii) effects of battery ageing on available power.
- (3) flight monitoring.
- (d) Load and balance and servicing (as applicable):
- (1) load and balance:
    - (i) load and trim sheet on the maximum masses for take-off and landing;
    - (ii) centre-of-gravity limits;
    - (iii) influence of fuel consumption on the centre of gravity;
    - (iv) lashing points, load clamping, maximum ground load.
  - (2) servicing on ground, servicing connections for:
    - (i) fuel/energy;
    - (ii) oil;
    - (iii) water;
    - (iv) hydraulic;
    - (v) oxygen;
    - (vi) nitrogen;
    - (vii) conditioned air;
    - (viii) electric power;
    - (ix) start air;
    - (x) ~~toilet~~lavatory and safety regulations.
- (e) Emergency procedures (as applicable):
- (1) recognition of the situation as well as immediate memory actions in the correct sequence, and for those conditions that are recognised as emergencies by the manufacturer and the competent authority for certification:
    - (i) engine failure / battery malfunction during take-off before and after  $v_1$ , as well as in flight;
    - (ii) malfunctions of the propeller system;
    - (iii) engine/battery overheating, engine/battery fire on ground and ~~in-flight~~ in flight;
    - (iv) wheel/well fire;

- (v) electrical smoke or fire;
  - (vi) rapid decompression and emergency descent;
  - (vii) air-conditioning overheat, anti-ice system overheat;
  - (viii) fuel pump / battery cooling system failure;
  - (ix) fuel freezing overheat;
  - (x) electric power failure;
  - (xi) equipment cooling failure;
  - (xii) flight instrument failure;
  - (xiii) partial or total hydraulic failure;
  - (xiv) failures at the lift devices and flight controls including boosters;
  - (xv) cargo compartment smoke or fire.
- (2) actions according to the approved checklist for abnormal and emergency procedures checklist:
- (i) engine restart ~~in-flight~~ in flight;
  - (ii) landing gear emergency extension;
  - (iii) application of the emergency brake system;
  - (iv) emergency extension of lift devices;
  - (v) fuel dumping;
  - (vi) emergency descent.
- (f) Special requirements for the extension of a type rating for instrument approaches down to decision heights of less than 200 ft (60 m):
- (1) airborne and ground equipment:
    - (i) technical requirements;
    - (ii) operational requirements;
    - (iii) operational reliability;
    - (iv) fail operational;
    - (v) fail passive;
    - (vi) equipment reliability;
    - (vii) operating procedures;
    - (viii) preparatory measures;
    - (ix) operational downgrading;
    - (x) communications.



- (2) procedures and limitations:
    - (i) operational procedures;
    - (ii) flight crew coordination.
  - (g) Special requirements for 'glass cockpit' aeroplanes aircraft with EFIS A additional learning objectives:
    - (1) general rules for of aeroplanes aircraft computer hardware and software design;
    - (2) logic of all flight crew information and alerting systems and their limitations;
    - (3) interaction of the different aeroplane aircraft computer systems, their limitations, the possibilities of computer fault recognition, and the actions to be performed on computer failures;
    - (4) normal procedures including all flight crew coordination duties;
    - (5) aeroplane aircraft operation with different computer degradations (basic flying).
  - (h) Flight management systems.
- [...]

## AMC2 FCL.725(a) Requirements for the issue of class and type ratings

### TRAINING COURSE

#### FLIGHT INSTRUCTION FOR TYPE RATINGS: HELICOPTERS

[...]

- (d) Additional types

The flight instruction (excluding the skill test) should comprise:

| Helicopter types   | In helicopter | In helicopter and FSTD associated training Credits  |
|--|---------------|---|
| SEP(H) to SEP(H) within AMC1 FCL.740.H(a)(3)(b)          | 2 hrs         | Using FFS C/D: At least 1 hr helicopter and at least 3 hrs total<br>Using FTD 2/3: At least 1 hr helicopter and at least 4 hrs total  |
| SEP(H) to SEP(H) not included in AMC1 FCL.740.H(a)(3)(b) | 5 hrs         | Using FFS C/D: At least 1 hr helicopter and at least 6 hrs total<br>Using FTD 2/3: At least 2 hrs helicopter and at least 7 hrs total |

[...]



**AMC1 FCL.740.A(b)(1)(ii)(C) Revalidation of class and type ratings****CONTENT OF THE REFRESHER TRAINING**

- (a) ~~Training flight items should be based on the exercise items of the proficiency check, as deemed relevant by the instructor, and depending on the experience of the candidate.~~ Before the training flight takes place, ~~The briefing the instructor~~ should hold a briefing with the candidate. That briefing should include a discussion on all of the following:
- (1) TEM with special emphasis on decision-making when encountering adverse meteorological conditions or unintentional IMC;
  - (2) ~~as well as on~~ navigation flight capabilities;
  - (3) recovery strategies for different stall scenarios.
- (b) The training flight items should be based on the exercise items of the proficiency check, as deemed relevant by the instructor, and depending on the experience of the candidate. In any case, stall exercises that cover different stall scenarios (as specified in Exercise 2.3 of the table in point (5) of Section B of Appendix 9) should be completed.

[...]

**AMC1 FCL.740.H(a)(2)(ii)(B) Revalidation of type ratings — helicopters****CONTENT OF THE REFRESHER TRAINING — SINGLE-ENGINE PISTON (SEP) HELICOPTERS**

- (a) Before the training flight takes place, the instructor should hold a briefing with the candidate. That briefing should include a discussion on all of the following:
- (1) TEM with special emphasis on decision-making when encountering adverse meteorological conditions or unintentional IMC;
  - (2) navigation flight capabilities;
  - (3) exercises as specified in point (b), as applicable.
- (b) The training flight items should be based on the exercise items of the proficiency check, as deemed relevant by the instructor, and depending on the experience of the candidate. In any case, the training flight items should include the following exercises from the PPL(H) flight training syllabus (AMC2 FCL.210):
- (1) Exercise 10: Basic autorotation;
  - (2) Exercise 18 Hovering OGE and vortex ring;
  - (3) Exercise 29: Confined areas.

[...]

**AMC1 FCL.740.H ~~(a)(3)~~ (b) Revalidation of type ratings — helicopters**

[...]

## AMC1 FCL.800 Aerobatic rating

### THEORETICAL KNOWLEDGE AND FLYING TRAINING

[...]

(c) Theoretical knowledge

The theoretical knowledge syllabus should cover the revision or explanation of:

[...]

(3) limitations applicable to the specific aircraft category (and type):

(i) air speed limitations (aeroplane, ~~or TMG and sailplane~~, as applicable);

[...]

(d) Flying training

[...]

(1) confidence manoeuvres and recoveries

[...]

(iv) engine restart in-flight (in case of unintentional engine stop during an aerobatic manoeuvre ~~if applicable~~);

[...]

## AMC1 FCL.810(a) Night rating

[...]

(d) Flying training

The exercises of the night rating flight ~~training~~ syllabus should be repeated as necessary until the student pilot ~~achieves a safe and competent standard~~ has developed the necessary competence to safely operate the aircraft under visual flight rules at night.

(1) ~~The flight training required by point FCL.810(a)(1)(ii) should follow the syllabus set out in point (4) below. In all cases, exercises 4 to 7 of the night rating flight syllabus should be completed in an aeroplane or TMG.~~

(2) ~~Additional training may be completed in an FSTD(A), in order to allow for more efficient training in the aircraft. For exercises 1 to 3, up to 50% of the required flight training may be completed in an FSTD(A). However, each item of exercises 1 to 3 should be completed in an aeroplane or TMG in flight.~~

[...]

(4) ~~Night rating flight training syllabus~~ The flying exercises should comprise:

[...]



## GM1 FCL.810 Night rating

### SOLO FLIGHTS DURING NIGHT RATING TRAINING COURSES

Solo flights, as required by point FCL.810, should take place only under the conditions established by the ATO or the DTO to ensure the safe conduct of these flights, considering, for example:

- (a) the rapid change of weather;
- (b) the reduced usability of the aerodrome;
- (c) the need for diversion to an alternate aerodrome;
- (d) other exceptional conditions.

[...]

### ~~AMC1 FCL.830 Sailplane Cloud Flying Rating~~

*The entire AMC is deleted.*

### ~~AMC2 FCL.830 Sailplane Cloud Flying Rating~~

*The entire AMC is deleted.*

[...]

## GM1 FCL.900 Instructor certificates

### GENERAL

- (a) Nine instructor categories are recognised:
  - (1) FI certificate: aeroplane (FI(A)), helicopter (FI(H)), and airship (FI(As)), ~~sailplane (FI(S)) and balloon (FI(B))~~;

[...]

### AMC1 FCL.935 Assessment of competence

### GENERAL

[...]

- (d) During the assessment of competence, the applicant occupies the seat that is normally occupied by the instructor (instructor's seat if in an FSTD, or pilot seat if in an aircraft), ~~except in the case of balloons~~. The examiner, another instructor or, for MPA in an FFS, a real crew member under instruction, functions as the 'student'. The applicant is required to explain the relevant exercises and to demonstrate their conduct to the 'student', where appropriate. ~~Thereafter~~ Following that, the 'student' executes the same manoeuvres (if the 'student' is the examiner or another instructor, this can include typical mistakes of inexperienced students make). The applicant is expected to correct the mistakes orally or, if necessary, by intervening physically.

[...]



## AMC5 FCL.935 Assessment of competence

### REPORT FORMS FOR THE INSTRUCTOR CERTIFICATES

(a) Assessment of competence form for the FI, IRI and CRI certificates:

[...]

|   |                                   |
|---|-----------------------------------|
| 1 | Applicant's personal particulars: |
|---|-----------------------------------|

[...]

|                    |  |  |                                  |                        |
|--------------------|--|--|----------------------------------|------------------------|
| 3                  | Pre-course flight experience   |  |                                  |                        |
| Total flying hours | PIC<br><del>SEP or TMG hours</del><br>hours in instructor<br>training course<br>aircraft | SEP Hours in<br>instructor training<br>course aircraft in<br>the preceding 6<br>months | Instrument flight<br>instruction | Cross-country<br>hours |
|                    |  |  |                                  |                        |
|                    |  |  |                                  |                        |

[...]

*Points (b) and (c) of this AMC are deleted.*

[...]

## ~~AMC2 FCL.930.FI FI Training course~~

*The entire AMC is deleted.*

[...]

## AMC1 FCL.940.FI; FCL.940.IRI Revalidation and renewal

*After the heading 'FI CERTIFICATE: REVALIDATION AND RENEWAL FORM', the following points are deleted:*

*(D) SAILPLANE INSTRUCTIONAL FLYING EXPERIENCE*

*(E) BALLOONS*

[...]



## AMC1 FCL.930.CRI CRI ~~T~~ training course

[...]

### Part 3

[...]

### Exercise ~~5~~6: UPRT

[...]

## AMC1 FCL.1015 Examiner standardisation

### GENERAL

- (a) The competent authority ~~may~~ **should** provide the course itself or through an arrangement with an ATO ~~or, in the case of examiners for sailplanes and balloons, with a DTO.~~

This arrangement should clearly state that the ATO ~~or the DTO is acting~~ **acts** under the management system of the competent authority.

[...]

- (c) The competent authority, ~~or~~ **or** the ATO ~~or the DTO~~ should determine any further training required before presenting the candidate for the examiner assessment of competence.

[...]

## GM1 FCL.1015 Examiner standardisation

- (a) An examiner should plan per day not more than:

[...]

- (2) four tests or checks relating to **the** LAPL, ~~SPL or BPL~~;

[...]

- (b) An examiner should plan at least 2 hours for a LAPL, ~~SPL or BPL~~, 3 hours for a PPL, CPL, IR or class rating test or checks, and at least 4 hours for instructor certificates, MPL, ATPL or MP type rating tests or checks, including preflight briefing and preparation, conduct of the test, check or assessment of competence, debriefing, evaluation of the applicant and documentation.

- (c) For the conduct of the test, check or assessment of competence, without additional activities specified in point (b), the following values may be used as guidance:

- (1) ~~45 minutes for a LAPL(B) or BPL and SP class ratings VFR only;~~

~~(2) 60 minutes for an extension of commercial privileges for the BPL ;~~

- ~~(3)~~ 90 minutes for LAPL(A) or **LAPL**(H), PPL(A) or **PPL**(H) and CPL(A) or **CPL**(H), including navigation section;

- ~~(3)~~ 60 minutes for a PPL(As) and CPL(As);

- ~~(4)~~ 60 minutes for IR, ~~EIR BIR~~, instructor certificates, and SP type or class ratings; and

- ~~(5)~~ 120 minutes **for** MPL, ATPL and MP type ratings.



- ~~(d) For the LAPL(S) and SPL test or check flight the flight time must be sufficient to allow that all the items in each test or check section can be fully completed. If not all the items can be completed in one flight, additional flights have to be done.~~

[...]

### GM1 FCL.1015(a); FCL.1025(b)(2)

*The entire GM is deleted.*

[...]

## AMC1 FCL.1030(b)(3) Conduct of skill tests, proficiency checks and assessments of competence

### OBLIGATIONS FOR EXAMINERS' APPLICATION AND REPORT FORMS

Common application and report forms for examiners can be found:

- (a) For skill tests or proficiency checks for the issue, revalidation or renewal of LAPL, ~~BPL, SPL~~, PPL, CPL and IR, in AMC1 to Appendix 7;

[...]

## AMC1 to Appendix 7 IR skill test

### LAPL, ~~BPL, SPL~~, PPL, CPL, IR SKILL TEST AND PROFICIENCY CHECK APPLICATION AND REPORT FORM

| APPLICATION AND REPORT FORM   |                              |  |                    |
|---|------------------------------|--|--------------------|
| LAPL, <del>BPL, SPL</del> , PPL, CPL, IR SKILL TEST AND PROFICIENCY CHECK |                              |  |                    |
| Applicant's last name(s):   |                              |  |                    |
| Applicant's first name(s):  |                              | LAPL: A <input type="checkbox"/> H <input type="checkbox"/> <del>B <input type="checkbox"/> S <input type="checkbox"/></del> |                    |
| Signature of applicant:   |                              | <del>BPL: <input type="checkbox"/></del> <del>SPL: <input type="checkbox"/></del>  |                    |
| Type of licence*:   |                              | PPL: A <input type="checkbox"/> H <input type="checkbox"/> As <input type="checkbox"/>                                       |                    |
| Licence number*:  |                              | CPL: A <input type="checkbox"/> H <input type="checkbox"/> As <input type="checkbox"/>                                       |                    |
| State:  |                              | IR: A <input type="checkbox"/> H <input type="checkbox"/> As <input type="checkbox"/>  |                    |
| <b>1</b>  | <b>Details of the flight</b> |  |                    |
| <del>Group</del> , eClass, type of aircraft:                              |                              | Registration:  |                    |
| Aerodrome or site:  | Take-off time:               | Landing time:  | Flight time:       |
|   |                              |  |                    |
|   |                              |  |                    |
|   |                              |  |                    |
|   |                              |  | Total flight time: |
| <b>2</b>  | <b>Result of the test</b>    |  |                    |



|                                  |                               |                                       |
|----------------------------------|-------------------------------|---------------------------------------|
| Skill test details:              |                               |                                       |
| Pass <input type="checkbox"/>    | Fail <input type="checkbox"/> | Partial pass <input type="checkbox"/> |
| <b>3</b>                         | <b>Remarks</b>                |                                       |
|                                  |                               |                                       |
|                                  |                               |                                       |
|                                  |                               |                                       |
|                                  |                               |                                       |
|                                  |                               |                                       |
|                                  |                               |                                       |
| Location and date:               |                               |                                       |
| Examiner's certificate number *: |                               | Type and number of licence:           |
| Signature of examiner:           |                               | Name(s) in capital letters:           |

*\* if applicable*

[...]



## AMC AND GM TO ANNEX VII (PART-ORA)

### GM1 ORA.ATO.110(d) Personnel requirements

- (a) Before allowing an FI that is experienced as specified in point FCL.905.FI(h)(3) to supervise SPIC flights during an IR training course, the ATO should consider at least the following factors:
- (1) the experience of the FI;
  - (2) the experience of the student pilot;
  - (3) the nature and complexity of the SPIC flight to be performed;
  - (4) the complexity and characteristics of the training aircraft or FSTD; and
  - (5) the prevailing weather conditions.
- (b) The ATO should identify the hazards related to the SPIC supervision and apply appropriate mitigation measures to reduce the associated risks.

[...]

#### Rationale

### AMC & GM TO ANNEX I (PART-FCL)

#### (1) Deletion of the AMC and GM related to balloon and sailplane flight crew licensing

With the amendments introduced by Commission Implementing Regulation (EU) 2020/359<sup>15</sup>, the flight crew licensing requirements for balloon and sailplane pilots have been removed from Annex I (Part-FCL). Consequently, the AMC and GM to Annex I (Part-FCL) need to be updated respectively. Hence, unless otherwise specified in the subsequent points, the following AMC and GM are **amended** or **deleted** (in whole or parts of them), with the sole purpose of removing text that refers to balloon and sailplane flight crew licensing:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>— AMC1 FCL.015</li> <li>— AMC1 FCL.050</li> <li>— GM1 FCL.060(b)(1)</li> <li>— AMC1 FCL.115; FCL.120</li> <li>— AMC1 FCL.125; FCL.235</li> <li>— AMC2 FCL.125, FCL.235</li> <li>— AMC1 FCL.140.A; FCL.140.S;<br/>FCL.740.A(b)(1)(ii)</li> <li>— AMC1 FCL.110.S</li> <li>— AMC1 FCL.110.S; FCL.210.S</li> <li>— AMC1 FCL.135.S; FCL.205.S(a)</li> <li>— AMC1 FCL.140.S(c)(1)</li> <li>— AMC1 FCL.110.B</li> <li>— AMC1 FCL.110.B; FCL.210.B</li> <li>— AMC1 FCL.130.B; FCL.220.B</li> <li>— AMC1 FCL.135.B; FCL.225.B</li> <li>— AMC2 FCL.135.B; FCL.225.B</li> <li>— AMC3 FCL.135.B; FCL.225.B</li> </ul> | <ul style="list-style-type: none"> <li>— AMC3 FCL.210; FCL.215</li> <li>— AMC1 FCL.140.B(b)(1)</li> <li>— AMC1 FCL.205.S(b)</li> <li>— AMC1 FCL.205.B(b)</li> <li>— AMC1 FCL.225.B(B)</li> <li>— AMC1 FCL.230.B(c)(1)</li> <li>— AMC1 FCL.800</li> <li>— AMC2 FCL.830</li> <li>— GM1 FCL.900</li> <li>— AMC1 FCL.935</li> <li>— AMC5 FCL.935</li> <li>— AMC2 FCL.930.FI</li> <li>— AMC1 FCL.940.FI; FCL.940.IRI</li> <li>— AMC1 FCL.1015</li> <li>— GM1 FCL.1015</li> <li>— AMC1 FCL.1030(b)(3)</li> <li>— AMC1 Appendix 7</li> </ul> |
|--|---|

<sup>15</sup> Commission Implementing Regulation (EU) 2020/359 of 4 March 2020 amending Regulation (EU) No 1178/2011 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 67, 5.3.2020, p. 82) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020R0359&qid=1604658615933>).

**(2) Amendments to GM1 FCL.010 Definitions**

In the context of the revised scope of the SEP aeroplane class rating, as proposed with this NPA (see amendments to Article 2 and related rationale as well as related further amendments to Part-FCL), as regards aeroplanes, the term 'SEP' is redefined to mean 'single-engine single-pilot'. In this regard, 'SEP' does no longer refer to 'piston', to be in line with the new definition of the term 'SEP aeroplane' in Article 2.

As regards helicopters, the term 'SEP' continues to mean 'single-engine piston'.

**(3) Addition of AMC1 FCL.020 Student pilot**

In the context of the amendments to point FCL.020 (see Section 3.1 of this NPA), this new AMC illustrates the need for additional training in cases where SEP aeroplane variants with different engine types are used for dual instruction and solo flights during an LAPL training course or a PPL training course.

**(4) Amendments to AMC1 FCL.050 Recording of flight time**

Point (b)(1)(ii) of this AMC is amended to clarify that (student) pilots can log their flight time of successful skill tests and proficiency checks as PIC time.

Point (i)(10) is amended to reflect both the new 'SEP aeroplane' terminology and the newly introduced option for revalidation training flights for SEP helicopter type ratings with an instructor (see amendments to point FCL.740.H, as proposed in Chapter 3.1 of this NPA).

**(5) Amendments to AMC1 FCL.060(b)(5) Recent experience**

This AMC is amended only to update references in the context of restructuring point FCL.740.H (see Chapter 3.1 of this NPA).

**(6) Amendments to AMC1 FCL.115 LAPL(A) — Training course**

Based on a safety recommendation addressed to EASA and on subsequent input from the EASA GA Roadmap, Exercise 11 of the LAPL(A) flight training syllabus is revised to better clarify that training manoeuvres at the incipient spin stage should only be conducted in training aircraft that are certified for such manoeuvres (initial spinning). The revised text (new 'Note 2') also foresees that in case of unavailability of such training aircraft, Exercise 11 should be conducted in the form of repeated discussions between instructor and student, addressing this scenario and the related recovery strategies. In the context of this revision, the 'excessive 45 °' wing drop is replaced by a 'significant' wing drop that should allow the student to get hands-on experience in such a flight condition.

Exercise 14 is revised by adding an additional note to outline the necessity for dual conversion training in case preceding dual flight instruction flights and subsequent solo flights are carried out in aeroplanes with different engine types (electric and piston engines). The opportunity is also taken to fully align the wording of Exercise 14 of the LAPL(A) syllabus with that of Exercise 14 of the PPL(A) syllabus.

As the LAPL(A) is a licence for motor-powered aircraft, TMG privileges associated with an LAPL(A) do not include gliding privileges. Hence, Exercise 19 of this AMC, related to stopping and restarting the engine of a TMG in flight intentionally, was identified to be not appropriate



for the LAPL(A) training syllabus and is therefore deleted. Instead, in-flight engine restarting procedures (after an engine failure) are added to the list of emergency scenarios in Exercise 12/13.

**(7) Amendments to AMC1 FCL.115.A LAPL(A) — Training course**

With ED Decision 2020/005/R of 18 March 2020, the so far existing AMC2 FCL.110.A was inadvertently renamed 'AMC1 FCL.115.A', although point FCL.115.A does not exist. Hence, this AMC reference is corrected and also further detailed, by referring to point (c) of point FCL.110 (new reference: 'AMC1 FCL.110.A(c)'). The term 'flight test' is replaced by 'flight assessment', consistently with the amendment to point FCL.110.A (see Chapter 3.1 of this NPA).

**(8) Addition of AMC1 FCL.135.A(b) LAPL(A) — Extension of privileges to another class or variant of aeroplane**

When extending their privileges to a SEP variant with an electric engine, both LAPL(A) and PPL(A) holders should undergo the same differences training. Hence, point FCL.135.A(b) and point FCL.710(a) are complemented with new identical text (see Chapter 3.1 of this NPA). Consequently, this new AMC solely refers to the differences training items related to electric engines, as set out in newly added AMC1 FCL.710(a) (see Rationale #16).

**(9) Amendments to AMC1 FCL.140.A; FCL.140.S; FCL.740.A(b)(1)(ii) Recency and revalidation requirements**

The content of this AMC is transferred at implementing rule level (new point FCL.035(a)(4)<sup>16</sup>). Hence, this AMC is no longer necessary and can be deleted.

**(10) Amendments to AMC1 FCL.140.A; FCL.140.H; FCL.140.S; FCL.140.B Recency requirements**

Since point FCL.140.A is revised in line with point FCL.740.A(b)(1)(ii) (as regards the LAPL(A) refresher training flight), this AMC is revised in line with the amendments made to AMC1 FCL.740.A(b)(1)(ii). Please refer to Rationale #19 as regards these amendments.

In its revised form, this AMC now contains aeroplane-specific text. Hence, the reference to point FCL.140.H in the title is deleted, and a new separate AMC on this subject with helicopter-specific context is introduced for point FCL.140.H (see newly added AMC1 FCL.140.H(a)(2), as proposed with this NPA). Additionally, in the context of deleting the balloon and sailplane flight crew licensing requirements and the related AMC and GM from the Part-FCL regulatory framework, also the references to points FCL.140.S and FCL.140.B are deleted from the title.

**(11) Amendments to AMC1 FCL.110.H LAPL(H) — Experience requirements and crediting**

The term 'flight test' is replaced by 'flight assessment', consistently with the amendment to point FCL.110.H (see Chapter 3.1 of this NPA).

<sup>16</sup> The draft amendments to Part-FCL were positively voted at the EASA Committee in October 2020.

**(12) Addition of AMC1 FCL.140.H(a)(2) LAPL(H) — Recency requirements**

In the context of the amendments to point FCL.140.H (see Chapter 3.1 of this NPA) and the amendments specified in Rationale #10, this new AMC illustrates the LAPL(H) refresher training flight elements, based on recommendations and input from the EASA Rotorcraft Safety Roadmap.

**(13) Amendments to AMC1 FCL.210 PPL(A) training course**

Exercises 11, 12/13 and 14 of the PPL(A) flight training syllabus are amended consistently with the amendments to Exercises 11, 12/13 and 14 of the LAPL(A) flight training syllabus in AMC1 FCL.115 (see Rationale #6). The opportunity is also taken to fully align the wording of Exercise 14 of the PPL(A) syllabus with that of Exercise 14 of the LAPL(A) syllabus.

**(14) Addition of GM1 FCL.210.A(a) PPL(A) — Experience requirements and crediting**

This GM is introduced to explain the possibilities that result from the amendment to the introductory sentence of point FCL.210.A(a) (replacing 'flight instruction' by 'flight time', see Chapter 3.1 of this NPA). The aeroplane night rating training and the PPL(A) skill test may be completed within the total 45-hour flight time.

**(15) Amendments to GM1 FCL.700 Circumstances in which class or type ratings are required**

In the context of the revised scope of the SEP aeroplane class rating, as proposed with this NPA, the tables in this GM are amended to cover new aeroplane variants with electric engines.

**(16) Addition of AMC1 FCL.710(a) Class and type ratings — variants**

This newly added AMC illustrates the necessary training items for the differences training in a SEP aeroplane variant with an electric engine. As indicated in the introductory sentence of this new AMC as well as in a note, this list solely addresses the training needs related to electric engines and must not be understood as an exhaustive differences training syllabus.

**(17) Amendments to AMC1 FCL.725(a) Requirements for the issue of class and type ratings**

In the heading of point 'I. SE AND ME AEROPLANES', the term 'TMGs' is added, since this syllabus for the theoretical knowledge instruction for class and type ratings (SE and ME aeroplanes) is also relevant for the TMG class rating. Subsequently, the term 'aeroplane' in the syllabus is replaced by the general term 'aircraft'. The context of aeroplanes and TMGs will still be clear from the heading. Additionally, numerous text improvements and clarifications are made to the training syllabus.

Apart from these editorial changes, the syllabus is revised to also reflect the training needs as regards aeroplanes with electric engines.

**(18) Amendments to AMC2 FCL.725(a) Requirements for the issue of class and type ratings**

This AMC is amended only to update the references in the context of restructuring point FCL.740.H (see Chapter 3.1 of this NPA).



**(19) Amendments to AMC1 FCL.740.A(b)(1)(ii) *Revalidation of class and type ratings***

Commission Implementing Regulation (EU) 2018/1974 of 14 December 2018 introduced, as an amendment to Annex I (Part-FCL), a regulatory framework for upset prevention and recovery training (UPRT) that is integrated in the various stages of the professional career of an aeroplane pilot. When developing these UPRT requirements in the context of RMT.0581 and RMT.0582 ‘Loss of Control Prevention and Recovery Training’ in order to establish compliance with the ICAO Standards, EASA considered to additionally address UPRT for GA at a later stage<sup>17</sup>. Subsequently, based on an internal review and discussions within the EASA GA Roadmap Task Force, it was decided that for the initial LAPL(A) and PPL(A) training it is not necessary to introduce additional requirements or training exercises, since slow flight and stall exercises are already sufficiently included in the existing training syllabi as well as skill test and proficiency check programmes. However, following these reviews and discussions, it was also concluded that when revalidating a class rating with experience and a training flight instead of a proficiency check, such a dual training flight should focus on particular scenarios that are the main cause of accidents in GA, i.e. loss of control after a stall (e.g. during final turns onto final approach). This way, a pilot will be able to maintain and refresh the competence they gained during the initial licence training related to stall recovery scenarios. Hence, apart from the amendments to point FCL.740.A(b)(1)(ii) (see Chapter 3.1 of this NPA), the structure of this related AMC is revised and additional text is introduced to include different stall exercises in the context of the refresher training flight.

**(20) Addition of AMC1 FCL.740.H(a)(2)(ii)(B) *Revalidation of type ratings — helicopters***

In the context of introducing the possibility to revalidate a single-engine piston helicopter type rating with experience and a refresher training flight in point FCL.740.H (see Chapter 3.1 of this NPA), this newly added AMC illustrates the training elements for the refresher training flight, consistently with the content of the newly added AMC1 FCL.140.H(a)(2) (see Rationale #12).

**(21) Amendments to AMC1 FCL.740.H(a)(3) *Revalidation of type ratings — helicopters***

The title of this AMC is updated in the context of restructuring point FCL.740.H (see Chapter 3.1 of this NPA).

**(22) Amendments to AMC1 FCL.800 *Aerobatic training***

Following the deletion of the sailplane flight crew licensing requirements from Annex I (Part-FCL), point FCL.800 still applies to motor-powered aerobatic training only. Hence, the phrase ‘if applicable’ in point (d)(1)(iv) (exercise on engine restart in flight) is deleted. Instead, new wording clarifies that even in motor-powered aerobatic flight training, engine restart procedures need to be trained in the context of possible unintentional engine stops during aerobatic manoeuvres.

<sup>17</sup> Refer to EASA Opinion No 06/2017 ‘Loss of control prevention and recovery training’ (<https://www.easa.europa.eu/sites/default/files/dfu/Opinion%20No%2006-2017.pdf>).

**(23) Amendments to AMC1 FCL.810(a) Night rating**

Based on input received from a Member State and subsequent discussions with the EASA Advisory Bodies<sup>18</sup>, point (d) of AMC1 FCL.810(a) is aligned with the content of point FCL.810(a) and clarifies now that the full 5 hours of flight instruction, as required by point FCL.810(a)(1)(ii), need to be completed in the aircraft. Apart from that, 'additional' training (not counting towards those 5 hours of flight instruction) may be completed in an FSTD(A) in order to ensure more efficient training in the aircraft.

**(24) Addition of GM1 FCL.810 Night rating**

This newly added GM contains elements that should be considered in the context of student pilot solo flights during night rating training courses and is introduced based on Member State input received during the development of EASA Opinion No 05/2017 'Amendments to Commission Regulation (EU) No 1178/2011'<sup>19</sup>.

**(25) Amendments to AMC5 FCL.935 Assessment of competence**

The content of the report form is updated consistently with the revision of the prerequisites for the FI(A) training course in point FCL.915.FI(b)(3) (see Chapter 3.1 of this NPA).

**(26) Amendments to AMC1 FCL.930.CRI CRI training course**

In Part 3 of this AMC, a new exercise on upset prevention and recovery training (UPRT) was introduced with ED Decision 2020/005/R of 18 March 2020 as 'Exercise 5', although an 'Exercise 5' exists already (flight on asymmetric power). This editorial error is now corrected by renaming the new UPRT exercise 'Exercise 6'.

**ANNEX VII (PART-ORA)****(27) Addition of GM1 ORA.ATO.110(d) Personnel requirements**

In the context of the introduction of the basic instrument rating (BIR) with amending Commission Implementing Regulation (EU) 2020/359, the conditions for an FI(A) certificate to include instructional privileges for an instrument rating (IR) or a BIR in point FCL.905.FI(h) have been revised. FI(A) certificate holders that do not have completed yet 200 hours of flight time under instrument flight rules (IFR) are now allowed to already provide training in FSTDs and to supervise SPIC flights, only during both approved IR or BIR training courses at an ATO. In this context, and based on input received from the EASA Advisory Bodies, this newly added GM illustrates the criteria for ATOs to consider when involving such FI(A) certificate holders for the supervision of SPIC training flights.

<sup>18</sup> Aircrew TeB meeting, September 2020.

<sup>19</sup> <https://www.easa.europa.eu/document-library/opinions/opinion-052017>

## 4. Impact assessment (IA)

The present IA has been prepared mainly for one element which is an integral part of the scope of RMT.0678, i.e. aircraft propulsion systems.

### 4.1. What is the issue

As regards aircraft propulsion systems, Commission Regulation (EU) No 1178/2011 currently addresses conventional propulsion systems, thus hindering or excluding the use of electric propulsion. However, there is a certain number of new small aircraft with electric propulsion (e.g. single-engine aeroplanes so far equipped with piston engines and mainly to be used in GA)<sup>20</sup>. However, since currently Annex I (Part-FCL) does not address aeroplanes with electric engines, the flexibility provisions of the Basic Regulation are applied by several Member States (MSs) (for instance, Slovenia, Italy, France, Switzerland) in order to allow the operation and maintenance of as well as the flight crew licensing for these new electric-propulsion aeroplanes. These exemptions are also triggered by the strong prospects as well as the demand (from industry and national governments) to have hybrid propulsion and eventually fully electric aircraft included in the regulatory framework of Annex I (Part-FCL).

Looking at the issue from the perspective of the total system approach, EASA has already established a strategy for amending the current regulatory framework in the aviation domains to incorporate new technologies related to electric and hybrid propulsion. In October 2019, a Best Intervention Strategy for Electric Propulsion was drafted and shared with the EASA Advisory Bodies, mapping out the approach to address the issue systematically across all the affected aviation domains.

The current RMT and the related IA analyse the need to address the issue of adapting the existing flight crew licencing rules to the new technologies, mainly from the perspective of small GA aircraft:

- The abbreviation for ‘single-engine piston (SEP) aeroplane’ is redefined to include single-engine aeroplanes (class ratings) with different types of engines.
- The training, testing and checking requirements for SEP aeroplane class ratings need to be amended to consider the use of such aeroplanes with different types of power plants by competent pilots/instructors/examiners.

The need to act on this issue has another important driver, namely the EASA Roadmap for General Aviation Issue 2<sup>21</sup>, which highlighted the high priority GA has within the scope of the EASA activities in the coming years.

In the EPAS for 2020–2024, the integration of new technologies and concepts is a strategic priority, while citing electric and hybrid propulsion for aircraft as example of such new emerging technologies. There is a considerable market potential with subsequent positive effects on societal and employment aspects. The environmental benefits for Europe are also potentially significant in terms of reduction of both engine exhaust gas and noise emissions.

<sup>20</sup> The first single-pilot single-engine electric aircraft was certified by EASA on 10 June 2020.

<sup>21</sup> <https://www.easa.europa.eu/domains/general-aviation/general-aviation-road-map>



#### 4.1.1. Who is affected

The following stakeholders are affected by the amendments proposed with this RMT:

- (a) EASA and the competent authorities of those Member States where new electric aircraft will be operated;
- (b) training organisations: declared training organisations (DTOs) and approved training organisations (ATOs) — approximately 1 115 training organisations in the EASA MSs<sup>22</sup>;
- (c) non-commercial operators in the EASA MSs;
- (d) pilots that hold privileges to fly single-engine piston aeroplanes (in the EASA MSs, approximately 80 000 are non-professional pilots).

#### 4.1.2. How could the issue/problem evolve

The lack of adaptation to new technologies would have a considerably negative impact on the competitiveness of the EU industry from a worldwide perspective.

Furthermore, Article 87 ‘Environmental protection’ of the Basic Regulation defines clear objectives for EASA, i.e. ‘to prevent significant harmful effects on climate, environment and human health’. European citizens are expressing a growing concern about climate change — and electric and hybrid propulsion is supposed to be a promising element that would significantly reduce aviation environmental footprint by reducing CO<sub>2</sub> emissions, local air pollutants and noise. As a reminder, 95 % of aviation external costs<sup>23</sup> are due to its carbon footprint and well-to-tank emissions<sup>24</sup>.

#### 4.1.3. Interfaces with other EASA rulemaking tasks/activities

Following an analysis of the ongoing EASA RMTs, RMT.0678 ‘Simpler, lighter and better Part-FCL requirements for general aviation’ interfaces with the following RMTs:

- RMT.0731 ‘New air mobility’<sup>25</sup> for electric and hybrid propulsion which is limited to continuing airworthiness requirements for all types of aircraft;
- RMT.0230 ‘Regulatory framework to accommodate unmanned aircraft systems in the European aviation system’<sup>26</sup>, which now also addresses manned e-VTOL electric propulsion aspects related to the ADR, ATM/ANS, FCL and AIR OPS domains;
- RMT.0573 ‘Fuel procedures and planning’<sup>27</sup>, which addresses a first set of AIR OPS electric propulsion-related requirements that are not covered by RMT.0230;
- RMT.0727 ‘Alignment of Part 21 of Regulation (EU) No 748/2012 with Regulation (EU) 2018/1139 (including simple and proportionate rules for GA)’<sup>28</sup> on environmental protection requirements regarding electric and hybrid propulsion emissions and noise, and

<sup>22</sup> EASA standardisation data for 2019.

<sup>23</sup> Transport activities give rise to environmental impacts and accidents. In contrast to the benefits, the costs of these effects are generally not borne by the transport users. The internalisation of external costs means making such effects part of the decision-making process of transport users.

<sup>24</sup> [https://ec.europa.eu/transport/themes/sustainable-transport/internalisation-transport-external-costs\\_en](https://ec.europa.eu/transport/themes/sustainable-transport/internalisation-transport-external-costs_en)

<sup>25</sup> <https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0731>

<sup>26</sup> <https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0230>

<sup>27</sup> <https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0573>

<sup>28</sup> <https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0727>

RMT.0514 ‘Implementation of the latest CAEP amendments to ICAO Annex 16 Volumes I, II, and III’<sup>29</sup> (CAEP/10 ‘Climate change, emissions and noise’); and

- RMT.0581 and RMT.0582 ‘Loss of Control Prevention and Recovery Training’<sup>30</sup> (with regard to the impact assessment performed for the GA domain).

#### 4.2. What we want to achieve — objectives

The general objective of this proposal supports the objectives established by the Basic Regulation: ‘improve the competitiveness of the Union’s aviation industry and contribute to a high, uniform level of environmental protection’.

The operational objective is to facilitate the use of small GA electric-propulsion aeroplanes (single-engine) as regards their safe and environmentally friendly operation while introducing training requirements and the recognition of class rating qualifications for pilots that are involved in the operation of such aeroplanes.

#### 4.3. How it could be achieved — options

**Table 1: Selected policy options**

| No       | Title  | Description  |
|----------|--|--|
| Option 0 | No policy change   | Baseline scenario. GA operations with electric-propulsion aeroplanes are not possible due to the lack of regulatory requirements for pilot training.   |
| Option 1 | Enable flying of electric-propulsion single-piston aeroplanes for GA | <p>This option proposes amending Commission Regulation (EU) No 1178/2011 and the related AMC and GM to enable the operation of small, electric-propulsion aeroplanes for GA, meaning:</p> <ul style="list-style-type: none"> <li>— the abbreviation for ‘single-engine piston’ (SEP) aeroplanes to be redefined to constitute an umbrella term for small single-engine aeroplanes with different types of power plants;</li> <li>— the current training requirements for a single-engine piston class rating need to be complemented to offer competent pilots/instructors/examiners the possibility to use aeroplanes with different types of power plants.</li> </ul> <p>The proposed amendments take into consideration the mitigating measures from the exemption notifications filed so far by some Member States for electric-propulsion aeroplanes.</p> |

<sup>29</sup> <https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0514>

<sup>30</sup> <https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0581-and-rmt0582>



#### 4.4. Methodology and data

This IA has been performed using the following data sources:

- EASA BIS for Electric Propulsion,
- EASA standardisation data for 2019,
- EASA data regarding the certification of single-engine piston aeroplanes.

The IA has been developed as a qualitative analysis, mainly due to the issue being non-controversial and the proposed way forward.

#### 4.5. What are the impacts

##### 4.5.1. Safety impact

###### **Option 0 — No policy change**

No impact.

###### **Option 1 — Enable flying of electric-propulsion single-piston aeroplanes for GA**

By largely using the existing regulatory framework for comparable single-pilot single-engine aeroplanes with conventional piston engines (with the necessary adaptations with regard to electric engines), an equivalent level of safety as is in place today for such conventional single-engine piston aeroplanes is provided for.

**Table 2: Safety impacts per option**

| <b>Criterion</b> | <b>Option 0</b><br><i>Do nothing</i> | <b>Option 1</b><br><i>Enable flying of electric-propulsion single-piston aeroplanes for GA</i>         |
|------------------|--------------------------------------|--|
| <b>Safety</b>    | No change                            | Equivalent level of safety in respect of existing FCL requirements for single-engine piston aeroplanes |

##### 4.5.2. Environmental impact

###### **Option 0 — No policy change**

No impact.

###### **Option 1 — Enable flying of electric-propulsion single-piston aeroplanes for GA**

Allowing the operation of aircraft with electric propulsion will support in establishing aviation activities with less air pollution and aircraft noise (an electric engine produces less noise compared to a conventional piston engine). In this context, the use of electric and hybrid propulsion systems has the potential to reduce the aviation environmental footprint. Nevertheless, there is not yet a conclusive study taking into consideration the entire life cycle of electric aircraft.

**Table 2: Environmental impacts per option**

| <b>Criterion</b>   | <b>Option 0</b><br><i>Do nothing</i> | <b>Option 1</b><br><i>Enable flying of electric-propulsion single-piston aeroplanes for GA</i>   |
|--------------------|--------------------------------------|--|
| <b>Environment</b> | No change                            | Less air pollution and aircraft noise during GA flight operations<br>The entire aircraft life-cycle environmental impact not yet established |

**4.5.3. Social impact****Option 0 — No policy change**

No impact.

**Option 1 — Enable flying of electric-propulsion single-piston aeroplanes for GA**

Pilots with SEP class ratings would benefit from the possibility to obtain additional privileges for operating electric GA aeroplanes and to extend the privileges of their class rating already held to aeroplanes with electric propulsion, by completing the respective differences training. It would also be possible to initially obtain a pilot licence (LAPL or PPL) in an electric aircraft.

Instructors with privileges to instruct in SEP aeroplanes would benefit from the possibility to extend their instructional privileges to include training in electric aeroplanes.

Competent authorities would need to ensure that their staff are qualified to verify the compliance of the training programmes with the new dedicated training requirements of Annex I (Part-FCL) for electric aeroplanes.

**Table 3: Social impacts per option**

| <b>Criterion</b> | <b>Option 0</b><br><i>Do nothing</i> | <b>Option 1</b><br><i>Enable flying of electric-propulsion single-piston aeroplanes for GA</i>   |
|------------------|--------------------------------------|--|
| <b>Social</b>    | No change                            | Positive impact on existing and new pilots who want to operate electric GA aeroplanes<br>Obtaining additional privileges / a pilot licence in an electric GA aeroplane |

**4.5.4. Economic impact****Option 0 — No policy change**

No impact.

**Option 1 — Enable flying of electric-propulsion single-piston aeroplanes for GA**

According to an expert judgement, pilots would benefit from obtaining class rating privileges for electric aeroplanes at costs which are expected to be lower in the long term compared to class rating privileges for conventional piston aircraft, as regards the direct operational costs that need to be borne by them:

- lower maintenance costs for the aeroplane (less time needed for an inspection with no material costs (no change of oil filters, plugs, etc.);
- less costs for the propulsion of the aeroplane (kWh price and consumption result in lower costs per flight hour, compared to the average combustible fuel consumption of conventional SEP aeroplanes and related costs).

Nevertheless, other costs related to the infrastructure needed for the operation of electric aeroplanes (e.g. setting up and operating the facilities for charging the batteries) have not been considered.

#### Question to stakeholders

**Do you confirm the assumptions above on the lower cost for obtaining class rating privileges for electric aeroplanes?**

*Note: Training organisations are invited to answer this question.*

Overall, within the EU, a training market will develop for pilot training, checking and testing as regards electric aeroplanes based on new privileges for pilots/instructors/examiners to fly this new aeroplane type or train other pilots to fly it.

#### **Training organisations**

- To change and complement their training programmes with the additional bridge-training requirements for single-piston electric-propulsion aeroplanes.
- To train instructors who need to obtain the privileges in the electric variant of the SEP class rating and are entitled to instruct on this type of aircraft.

As a result of the above considerations, the introduction of electric propulsion for aircraft will change the cost to be borne by pilots for obtaining a SEP class rating.

#### **Competent authorities**

One-off costs for competent authorities to train the relevant staff that will need to verify the compliance of the training programmes for electric aeroplanes with the new dedicated training requirements of Annex I (Part-FCL) for electric aeroplanes. Such costs are expected to incur, at the beginning, only in those countries where electric aeroplanes are already operated and, subsequently, in all EASA MSs.

#### **Pilots**

It is expected that the costs that pilots have to bear for obtaining class rating privileges for electric aeroplanes would be less in the long term than the current costs for obtaining class rating privileges for conventional piston aeroplanes (see arguments above). Therefore, Option 1 is considered economically beneficial.



Table 3: Economic impacts per option

| <b>Criterion</b> | <b>Option 0</b><br><i>Do nothing</i> | <b>Option 1</b><br><i>Enable flying of electric-propulsion single-piston aeroplanes for GA</i>  |
|------------------|--------------------------------------|---|
| <b>Economic</b>  | No change                            | For the aviation industry: a training market in Europe will develop for pilot training, checking and testing as regards electric aeroplanes<br><br>For pilots: potentially a cost reduction for pilots to obtain class rating privileges for electric aeroplanes compared to current costs for conventional piston aeroplanes |

#### 4.6. Comparison of options and conclusion

Based on the analysis above, it is concluded that the proposed Option 1 is beneficial as it would facilitate the use of small GA electric-propulsion aeroplanes (single-engine) as regards their safe and environmentally friendly operation while introducing training requirements and the recognition of class rating qualifications for pilots that are involved in the operation of such aeroplanes. The table below summarises the impacts of the analysed options.

Table 5: Summary of the benefits and costs of proposed Option 1

| <b>Criterion</b>   | <b>Option 0</b><br><i>Do nothing</i> | <b>Option 1</b><br><i>Enable flying of electric-propulsion single-piston aeroplanes for GA</i>  |
|--------------------|--------------------------------------|---|
| <b>Safety</b>      | No change                            | Equivalent level of safety in respect of existing FCL requirements for single-engine piston aeroplanes  |
| <b>Environment</b> | No change                            | Less air pollution and aircraft noise during GA flight operations<br><br>The entire life cycle environmental impact not yet established   |
| <b>Social</b>      | No change                            | Positive impact on existing and new pilots who want to operate electric aeroplanes<br><br>Obtaining additional privileges / a pilot licence in an electric aeroplane  |
| <b>Economic</b>    | No change                            | For the aviation industry: a training market in Europe will develop for pilot training, checking and testing as regards electric aeroplanes<br><br>For pilots: potentially a cost reduction for pilots to obtain class rating privileges for electric aeroplanes compared to current costs for conventional piston aeroplanes |

#### 4.7. Monitoring and evaluation

It is suggested that the number of electric-propulsion aircraft and the number of PPL(A) pilots who obtain class rating privileges for electric aeroplanes be monitored. This information is currently not collected by the EASA standardisation information system and, therefore, it should be collected by other means, e.g. through a survey that may be organised 2 years after the rules are in place. Nevertheless, this data might also be subject to regular data collection through standardisation inspections after some years of implementation of the rules and maturity of the market for small GA electric-propulsion aeroplanes.



## 5. Proposed actions to support implementation

- Focused communication for Advisory Body meeting(s) (MAB/SAB/TeB/TEC/COM)  
*(Advisory Body members)*



## 6. References

### 6.1. Affected regulations

- 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)

### 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 No 2012/007/R of the Executive Director of the Agency of 19th April 2012 on Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council ('Acceptable Means of Compliance and Guidance Material to Part-ORA')



## 7. Quality of the document

If you are not satisfied with the quality of this document, please indicate the areas which you believe could be improved and provide a short justification/explanation:

- **technical quality** of the draft proposed rules and/or regulations and/or the draft proposed amendments to them
- text clarity and readability
- quality of the impact assessment (IA)
- application of the ‘better regulation’ principles<sup>31</sup>
- others (please specify)

*Note:* Your replies and/or comments to this section shall be considered for internal quality assurance and management purposes only and will not be published in the related CRD.

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<sup>31</sup> For information and guidance, see:

- [https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how/better-regulation-guidelines-and-toolbox\\_en](https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how/better-regulation-guidelines-and-toolbox_en)
- [https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how\\_en](https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how_en)
- [https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how/better-regulation-guidelines-and-toolbox/better-regulation-toolbox\\_en](https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how/better-regulation-guidelines-and-toolbox/better-regulation-toolbox_en)

