European Union Aviation Safety Agency

# Notice of Proposed Amendment 2023-101(#1)

**in accordance with Article 6 of MB Decision No 01-2022**

# Acceptable means of compliance and guidance material to Subparts A, B, C and P of Annex Ib (Part 21 Light)

*Package #1*

RMT.0727


**EXECUTIVE SUMMARY**

The objective of the proposed acceptable means of compliance (AMC) and guidance material (GM) to Subparts A, B, C and P of Annex Ib (Part 21 Light) is to provide affected stakeholders with cost-efficient and proportionate means to comply with the regulatory requirements in the field of the initial airworthiness of aircraft intended primarily for sport and recreational use.

Compared to Part 21, Part 21 Light provides a lighter approach to the certification of those general aviation aircraft, and introduces the possibility for a declaration of design compliance to be submitted as an alternative to certification. Part 21 Light also provides for the possibility to demonstrate design and production capabilities through a declaration, instead of an approval, and for certain production activities the demonstration of production capabilities is not required at all.

These AMC and GM are expected to support the application of the new requirements and contribute towards reducing the regulatory burden for the designers and manufacturers of aircraft intended primarily for sports and recreational use while continuing to ensure a high level of safety as intended by Part 21 Light.


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|---|---|---|---|
| **Domain:** | Design and production | | |
| **Related rules:** | Commission Regulation (EU) No 748/2012 | | |
| **Affected stakeholders:** | Aircraft manufacturers and designers; DOA and POA holders; GA operators; national competent authorities, including EASA | | |
| **Driver:** | Efficiency and proportionality | **Rulemaking group:** | No |
| **Impact assessment:** | Light | | |

**EASA rulemaking procedure milestones**

| **Start** Terms of Reference | **Advisory Body consultation** *Package #1* | **Decision** Certification Specifications, Detailed Specifications, Acceptable Means of Compliance, Guidance Material |
|---|---|---|
| 28.8.2019 | 22.3.2023 | 2023/Q2 |

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# 1. About this NPA

## 1.1. How this NPA was developed

The European Union Aviation Safety Agency (EASA) developed this Notice of Proposed Amendment (NPA) in line with Regulation (EU) 2018/1139[1] (the Basic Regulation) and the Rulemaking Procedure[2]. Rulemaking task (RMT) 0727 is included in Volume II of the European Plan for Aviation Safety (EPAS) for 2023–2025[3]. The scope and timescales of the task were defined in the related Terms of Reference (ToR)[4].

The NPA shall be consulted with the EASA Advisory Bodies (ABs) in accordance with Article 6(3) of MB Decision No 01-2022.

The AMC and GM to Part 21 Light will be consulted in thematic packages based upon Part 21 Light subparts in order to allow stakeholders to focus their review based upon their interest in the topics.

| Package number | Generic title | AMC and GM to Part 21 Light subparts |
|---|---|---|
| #1 | Initial Airworthiness | A, B, C and P |
| #2 | Design and Production Organisations | G, J and R |
| #3 | Design changes and repair designs | D, E, F, M and N |
| #4 | Airworthiness and Noise Certificates and Parts and Markings | H, I, K and Q |

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

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

2 EASA is bound to follow a structured rulemaking process as required by Article 115(1) of Regulation (EU) 2018/1139. Such a process has been adopted by the EASA Management Board (MB) and is referred to as the 'Rulemaking Procedure'. See MB Decision No 01-2022 of 2 May 2022 on the procedure to be applied by EASA for the issuing of opinions, certification specifications and other detailed specifications, acceptable means of compliance and guidance material ('Rulemaking Procedure'), and repealing Management Board Decision No 18-2015 (https://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-01-2022-rulemaking-procedure-repealing-mb).

3 https://www.easa.europa.eu/en/document-library/general-publications/european-plan-aviation-safety-2023-2025

4 ToR RMT.0727 'Alignment of Part 21 of Regulation (EU) No 748/2012 with Regulation (EU) 2018/1139 (including simple and proportionate rules for GA)' (https://www.easa.europa.eu/en/document-library/terms-of-reference-and-group-compositions/tor-rmt0727).

## 1.2. How to comment on this NPA

Please submit your comments via email to **IAConsultation@easa.europa.eu**.

The deadline for the submission of comments is **5 May 2023**.

## 1.3. The next steps

Following the consultation of the draft AMC and GM (Package #1), EASA will review all the comments received and will duly consider them in the further progress of this RMT.

When issuing the decision to amend the AMC and GM to Regulation (EU) No 748/2012, EASA will also provide feedback to the commentators that were engaged and/or provided comments during the consultation of the draft regulatory material, which comments were received, how such engagement and/or consultation was used in rulemaking, and how their contributions were considered.

# 2. In summary — why and what

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

The current Part 21 does not provide sufficient proportionality with regard to the nature of and risks associated with certain products and activities, such as aircraft primarily used for sport and recreational purposes. As a consequence, the certification costs and the associated administrative burden are high for the small-aircraft community, which is the least able to bear them.

For this reason, the European Commission adopted Commission Implementing Regulation (EU) 2022/1361[5] and Commission Delegated Regulation (EU) 2022/1358[6] for Part 21 Light based upon EASA's Opinion No 05/2021[7].

The proposed AMC and GM will provide the means of compliance with these simplified requirements for aircraft primarily used for sports and recreational purposes.

## 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 NPA will contribute to achieving the overall objectives by addressing the issues described in Section 2.1.

The specific objective of this proposal is to introduce AMC and GM to the simplified rules that will enable the application of a proportionate approach for products that are considered to pose less risk when compared to other, more complex products. This proposal intends to achieve an overall reduction in the administrative burden and its associated costs, while at the same time supporting innovation in the GA sector.

## 2.3. What are the expected benefits and drawbacks of the proposed amendments

The expected benefits and drawbacks of the proposed amendments are summarised below. For the full impact assessment of the amendments to Regulation (EU) No 748/2012 as regards the introduction of Part 21 Light, please refer to Chapter 4 of NPA 2021-102.

There are no additional benefits or drawbacks from the AMC and GM to Part 21 Light compared to the benefits and drawbacks expected in the context of the adoption of the amendments to Regulation (EU) No 748/2012 as regards Part 21 Light.

The AMC and GM contained in Chapter 3 are not expected to have any additional impact to those that were already described in NPA 2021-102, and the only purpose they serve is to provide greater clarity of what is required by the introduction of the new requirements contained in Annex Ib (Part 21 Light) to Regulation (EU) No 748/2012.

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5 Commission Implementing Regulation (EU) 2022/1361 of 28 July 2022 amending Regulation (EU) No 748/2012 as regards the certification, oversight and enforcement tasks of the competent authorities in the implementation of the rules concerning the organisations involved in the design and production of aircraft used for sport and recreational aviation (OJ L 205, 5.8.2022, p. 127) (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R1361&qid=1678272149669).

6 Commission Delegated Regulation (EU) 2022/1358 of 2 June 2022 amending Regulation (EU) No 748/2012 as regards the implementation of more proportionate requirements for aircraft used for sport and recreational aviation (OJ L 205, 5.8.2022, p. 7) (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R1358&qid=1678272247617).

7 Opinion 05/2021 'Part 21 Light — Certification and declaration of design compliance of aircraft used for sport and recreational aviation and related products and parts, and declaration of design and production capability of organisations' (https://www.easa.europa.eu/en/document-library/opinions/opinion-052021).

# 3. Proposed amendments

The amendments are arranged to show deleted, new and 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.

Where necessary, the rationale is provided in *italics.*

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

### GM1 21L.2 Competent authority

**RESPONSIBILITY FOR IMPLEMENTATION**

Each certificate or registration of a declaration of capability in accordance with Part 21 Light Section A Subparts G, H, I, P and R is normally issued and overseen by the competent authority of the Member State in which the natural or legal person is located. Therefore, to ensure consistency between the competent authorities of the Member States in issuing certificates and registering declarations of capability, the implementation of Part 21 Light should be based on the following three principles:

(a) The establishment and maintenance of an effective organisation and the corresponding processes by all competent authorities.

(b) The operation of all the competent authorities in accordance with Part 21 Light and the acceptable means of compliance (AMC) and guidance material (GM) thereto; and

(c) A standardisation process that is established and applied by EASA to assess the standard(s) achieved, and to provide timely advice and guidance to the competent authorities.

As a result, the responsibility for implementation consists of two main objectives:

(d) to ensure that certificates and registration of declarations of capability are only granted to natural or legal persons that comply with the requirements of Part 21 Light; and

(e) to ensure that there is sufficient visibility of the processes to give the Agency and the Member States the necessary confidence in the certificates granted or the capability of natural or legal persons that have a registered declaration of design or production capability or use Subpart R for production.

### GM2 21L.2 Competent authority

**PERMIT TO FLY**

An aircraft registered in a Member State is under the responsibility of that Member State regarding continuing airworthiness aspects. Consequently, permits to fly under Part 21 Light may be issued by that Member State, including any cases in which the aircraft flies in another State. The permit to fly contains all the conditions and restrictions to ensure safe flight, but other airspace and operational rules remain within the competence of the authority of the State where the flight takes place, and

may apply. Therefore, the applicant is also required to ensure compliance with the relevant applicable regulations of that State.

# SECTION A

***TECHNICAL REQUIREMENTS***

**SUBPART A — GENERAL PROVISIONS**

## GM1 21L.A.3 Reporting system

**LINK BETWEEN POINT 21L.A.3 AND REGULATION (EU) No 376/2014**

Regulation (EU) No 376/2014[8] of the European Parliament and of the Council lays down requirements on the reporting, analysis and follow-up of occurrences in civil aviation. Compliance with point 21L.A.3 of Part 21 Light does not exempt organisations from compliance with Regulation (EU) No 376/2014. For each category of reporter, Regulation (EU) 2015/1018[9] defines the nature of items to be mandatorily reported. Regulation (EU) No 376/2014 also considers voluntary reporting of other items that are perceived by the reporter as a threat to aviation safety.

Point 21L.A.3 lays down requirements for the mandatory reporting of events to the competent authority in view of performing the necessary activities linked to the continued airworthiness of products or parts.

For Part 21 Light design and production organisations and natural or legal persons that use Subpart R for production, the reportability criteria (i.e. potential unsafe condition) are the same as for Regulation (EU) No 376/2014.

Furthermore, compliance with Regulation (EU) No 376/2014 does not exempt organisations from compliance with point 21L.A.3. However, this should not give rise to two parallel reporting systems, and point 21L.A.3 and Regulation (EU) No 376/2014 should be seen as complementary in that respect.

In practice, this means that reporting obligations under point 21L.A.3 on one hand and reporting obligations under Regulation (EU) No 376/2014 on the other hand are compatible. These reporting obligations may be discharged using one reporting channel.

In addition, any natural or legal person that has more than one role subject to the obligation to report may discharge all those obligations through a single report. Natural or legal persons (organisations) are encouraged to properly describe this in their organisation manual, to address cases in which the responsibilities are discharged on behalf of the organisation.

[8] Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18) (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014R0376&qid=1678272619346).

[9] Commission Implementing Regulation (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council (OJ L 163, 30.6.2015, p. 1) (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32015R1018&qid=1669631925416).

## AMC1 21L.A.3(a) Reporting system

**COLLECTION, INVESTIGATION AND ANALYSIS OF EVENTS**

In the context of the following AMC and GM, the term 'event' refers to any failure, malfunction, defect, error, near miss, hazard identification, incident, accident or other occurrence that is subject to a reporting system.

The 'collection', 'investigation' and 'analysis' functions of the reporting system should include means to:

— analyse events and related available information;

— identify adverse trends;

— investigate the associated root cause(s); and

— determine any necessary corrective action(s).

It should also allow the determination of reportable occurrences as required under points 21L.A.3(a)(3) or 21L.A.3(b)(3), as applicable.

In addition, for parts whose failure could lead to an unsafe condition, the 'analysis' function of the reporting system should ensure that reports and information sent, or available, to the design approval holder or declarant of a declaration of design compliance are fully investigated so that the exact nature of any event and its effect on continuing airworthiness is understood. This may then result in changes to the design and/or to the instructions for continued airworthiness (ICAs), and/or in establishing a mitigation plan to prevent or minimise the possibility of such occurrences in the future, as necessary. The 'analysis' is not limited to those occurrences that require the involvement of the Agency under point 21L.A.3(e).

## GM1 21L.A.3(a);(b) Reporting system

**GENERAL — SYSTEM FOR COLLECTING OCCURRENCE REPORTS**

The term 'collecting' means the setting up of systems and procedures which should enable relevant failures, malfunctions and defects, or other occurrences, to be properly collected when they occur.

As the collection system needs to accept reports that originate outside the organisation (from operators, maintenance organisation, suppliers, etc.), it is necessary to inform possible reporters of the existence of the system and the appropriate means to introduce reports into it. This does not presume that direct access to the system is to be granted if other mechanisms are more appropriate.

The collection system should also ensure the collection, through an internal reporting scheme, of internal errors, near misses and hazards that are perceived by the reporter as an actual or potential aviation safety risk.

Considerations for the collection of information related to events should include the following:

— grouping of events;

— analysis of failure rates;

— the early rejection of parts from service; and

— comparison with the certification assumptions.

## GM1 21L.A.3(a);(e);(f) Reporting system

**GENERAL**

Approval holders of minor changes and minor repairs or declarants of a design compliance for a minor change or minor repair other than the natural or legal person that submitted the declaration under Part 21 Light Subpart C do not have to comply with the requirements in point 21L.A.3(a), since according to the classification criteria for design changes and repairs (see points 21L.A.63 and 21L.A.203), minor changes and minor repairs have no appreciable effect on the characteristics affecting the airworthiness of a product. However, it should be noted that the obligations under Regulation (EU) No 376/2014 and its implementing acts still apply.

## GM2 21L.A.3(a);(e);(f) Reporting system

**GENERAL**

A certificate is 'deemed to have been issued under this Annex' if a certificate holder has elected to use Article 2a of Regulation (EU) No 748/2012 and that certificate is now governed by the provisions of Annex Ib (Part 21 Light) to Regulation (EU) No 748/2012 as detailed in the type-certificate data sheet or supplemental type-certificate data sheet.

## GM1 21L.A.3(a)(1);(b)(1) Reporting system

**EVENTS REPORTED VOLUNTARILY TO THE ORGANISATION**

Any natural person or legal person may voluntarily report to an organisation any event that is perceived by that person as posing an actual or potential hazard to aviation safety.

Voluntary reports may be originated by:

(a) persons that are not listed in Article 4(6) of Regulation (EU) No 376/2014; or

(b) persons that are listed in Article 4(6) of Regulation (EU) No 376/2014, even though such events are not included in Regulation (EU) 2015/2018;

(c) an organisation, if such organisation cannot determine whether the event should be mandatorily reported.

*Example:*

A maintenance staff member in a maintenance organisation reports to their maintenance organisation a perceived aircraft design issue that is not covered by Regulation (EU) 2015/2018. The maintenance organisation should make a final assessment on the voluntary report and if it assesses that the reported event 'may involve an actual or potential aviation safety risk', then it should mandatorily report it to the type-certificate holder or declarant, the competent authority, etc., as per point 145.A.60 'Occurrence reporting' of Annex II (Part-145) to Regulation (EU) No 1321/2014[10]. If the

[10] Commission Regulation (EU) No 1321/2014 of 26 November 2014 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 362, 17.12.2014, p. 1) (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014R1321&qid=1669641196734).

maintenance organisation cannot determine whether a safety risk exists (due to a lack of competence, lack of data, etc.), it could voluntarily report it to the type-certificate holder or declarant for further assessment.

## GM2 21L.A.3(a)(1);(b)(1) Reporting system

**INTERNAL SAFETY REPORTING SCHEME**

The internal safety reporting scheme is part of the overall collection system. The objective of this GM is to provide specific guidance on the internal safety reporting scheme only.

(a) The overall objectives of the internal safety reporting scheme are to:

— collect information that is reported by the organisation's staff; and

— use that reported information to improve the safety of operations.

Each internal safety reporting scheme should include provisions for confidentiality and enable and encourage free and frank reporting of events as those listed in point 21L.A.3(a)(1)(i) and (ii). This is facilitated by the establishment of a just culture.

(b) The specific objectives of the internal safety reporting scheme are to:

(1) enable an assessment of the safety implications of each relevant event that is reported, including previous similar events, so that any necessary action can be initiated; and

(2) ensure that lessons from relevant events are shared so that other persons and other entities within the organisation may learn from them.

(c) The internal safety reporting scheme is an essential part of the overall management system and should be complementary to the routine procedures and control systems; it is not intended to duplicate or supersede any of them. The internal safety reporting scheme is a tool to identify those instances in which routine procedures have failed or may fail.

(d) All safety-related reports should be retained, as the significance of such reports may only become obvious later.

(e) The collection and analysis of timely, appropriate and accurate data will allow the organisation to react to the information that it receives, and to take the necessary action.

## AMC1 21L.A.3(a)(3);(b)(3);(d) Reporting system

**REPORTING TO THE COMPETENT AUTHORITY**

Within the overall limit of 72 hours, the degree of urgency for the submission of a report should be determined by the level of risk that is judged to have resulted from the occurrence.

If an occurrence is judged by the person identifying the possible unsafe condition to have resulted in an immediate and particularly significant hazard, the Agency (or the competent authority of the Member State as required) should be advised immediately and by the fastest possible means (telephone, fax, email, telex, etc.) of whatever details are available at the time. The initial report must be followed up by a full written report within 72 hours. An example would be an uncontained engine failure resulting in damage to the aircraft's primary structure.

In all other cases, the submission of the report may be delayed up to a maximum of 72 hours after determination of the possible unsafe condition, in order to provide more details.

## GM1 21L.A.3(a)(3);(b)(3) Reporting system

**REPORTING TO THE COMPETENT AUTHORITY — GENERAL**

(a) The reference to 'aware of' an occurrence implies that the organisation identifies the event as one that falls into the category of occurrences to be reported — usually when the organisation determines that the event is reportable. The 72-hour period starts when the possible unsafe condition is identified.

(b) Regulation (EU) 2015/1018 lays down a generic 'list classifying occurrence in civil aviation to be mandatorily reported'. This list should not be understood as being an exhaustive collection of all issues that may pose a significant risk to aviation safety and, therefore, reporting should not be limited to the items listed in that Regulation.

(c) AMC-20 'General Acceptable Means of Compliance for Airworthiness of Products, Parts and Appliances' provides further details on occurrence reporting (AMC 20-8).

(d) Point 21L.A.3(a)(3) requires the reporting of occurrences that may result in an unsafe condition. AMC1 21L.B.23(b) may be used to assist in the determination of an unsafe condition.

## AMC1 21L.A.3(e) Reporting system

**FOLLOW-UP AND CLOSURE OF REPORTED OCCURRENCES**

(a) The organisation should transmit the following information to the competent authority within 30 days from the date of notification of the occurrence to the competent authority:

(1) the latest position of the organisation responsible for design as to whether an unsafe condition is confirmed;

(2) the results of the analysis and of the first investigation — including the cause(s) of the occurrence, if known; and

(3) the measures it has taken, intends to take or proposes to be taken, including:

(i) containment measures that have already been defined by the reporting organisation and put in place (if any); and

(ii) in the case of reports made by the organisation responsible for design, for unsafe conditions, a risk assessment supporting that the product can be operated safely until the corrective action is defined and implemented, or that immediate mitigation measures need to be implemented until a more refined risk assessment can be provided.

Organisations are encouraged to provide a complete analysis and follow-up as soon as available and, in principle, no later than 3 months after the occurrence notification. It is recognised that analysing an occurrence may take longer than 3 months, especially if the investigation is complex or where the services of a specialist investigator are required.

The requirements for follow-up are not intended to jeopardise the quality and thoroughness of an occurrence analysis. It may be detrimental to safety if the analysis is completed in a rush within the encouraged 3-month period without properly establishing the root cause(s), making a risk assessment and determining whether remedial action is required.

The designer (any natural or legal person that holds a type certificate, supplemental type certificate, major repair design approval, or that has declared the compliance of an aircraft design, or a design change or repair design to it under this Annex) and the production organisation (any natural or legal person that has declared their production capability under Subpart G of this Annex, or that produces a product or part under Subpart R) should cooperate, as necessary, to ensure that any corrective action can be implemented. In addition, affected organisations are expected to cooperate under their respective regulatory framework from the reporting of an occurrence until its closure, to ensure complete results.

The final (close-out) report should include:

— the final designer position as to whether an unsafe condition exists;

— the results of the occurrence analysis and of the final investigation, including the cause(s) of the occurrence;

— any corrective and preventive action by the reporting organisation; and

— in the case of reports made by the organisation responsible for the design, a risk assessment supporting that those corrective and preventive measures allow the product to be operated safely.

(b) Notwithstanding point (a), when the organisation identifies that no unsafe condition exists as a result of its analysis of a voluntarily reported occurrence, it can delay further communication to the competent authority up to the issue of the final report and report the occurrence as closed upon issue (data exchange). In such cases, no follow-up report should be submitted. The final report to EASA should include confirmation and justification that no unsafe condition exists. The organisation is requested to provide information on the cause(s) of the occurrence and on the corrective or preventive action that was taken by the organisation.

This way of reporting should not be understood as an accepted deviation from the requirements of Part 21 Light. If at any stage during the investigation, the organisation identifies that a possible unsafe condition exists, it should communicate it to EASA by means of a mandatory report within 72 hours.

## AMC1 21L.A.5 Collaboration between design and production

**TRANSFER OF INFORMATION ON ELIGIBILITY AND STATUS FROM THE DESIGNER TO A PRODUCTION ORGANISATION**

Where there is a need to provide (normally outside the organisation or entity responsible for design) a visible statement of approved or declared design data or airworthiness, or environmental-protection data associated with the approved or declared design data, the following minimum information should be provided. The need for a visible statement may be in relation to an organisation that holds a production organisation approval (POA) in relation to point 21.A.163(c) or a registered declaration

of production capability (declared production organisation or a natural or legal person using Subpart R).

Information to be provided:

**Company name:** the name of the responsible organisation (or natural or legal person) for design (type certificate, supplemental type certificate, approval of repair or minor change design, declarant of a declaration of design compliance) that issues the information.

**Date:** the date at which the information is released.

**Eligibility:** indicate the specific products for which data has been approved or declared.

**Identification:** the part number of the part. Preference should be given to the use of the Illustrated Parts Catalogue (IPC) designation. Alternatively, the reference to the instructions for continued airworthiness (e.g. service bulletins (SBs), aircraft maintenance manual (AMM), etc.) could be stated. Marking requirements of Part 21 Light Section A Subpart Q should be taken into account.

**Description:** the name or description of the part or document should be given. In the case of a part, preference should be given to the use of the IPC designation. The description should include reference to any applicable European Parts Approval (EPA) marking, or previous national approvals still valid.

**Purpose of data:** the reason for the provision of the information should be stated by the organisation responsible for design.

*Examples:*

(a) Provision of approved or declared design data to a production organisation to permit manufacture (AMC1 21L.A.122(a) and (b), AMC1 21L.A.272 or AMC No 1 to 21.A.133(b) and (c)).

(b) Information regarding eligibility for installation (replacement parts, repair, modification, etc.).

(c) Direct Delivery Authorisation (AMC1 21L.A.122(a) and (b), AMC1 21L.A.272 or AMC No 1 to 21.A.133(b) and (c)).

If the data is in support of a change or repair, then reference to the aircraft level approval or declarations should be given (make reference to the approved supplemental type certificate, declaration, change or repair).

**Limitations/remarks:** state any information, either directly or by reference to supporting documentation, which identifies any particular data or limitations (including specific importing requirements) needed by a production organisation to complete Block 12 of the EASA Form 1.

**Approval/declaration:** provide reference information related to the approval or declaration of the data (EASA document / DOA privilege / registered declaration).

**Authorised signature:** name and handwritten or electronic signature of the person who has written authority from the organisation responsible for design, as indicated in the procedures overseen by EASA.

## AMC1 21L.A.7 Record-keeping

(a) The record-keeping system should ensure that all the records required by point 21L.A.7 are accessible within a reasonable time. Those records should be organised in a manner that ensures their traceability and retrievability throughout the required retention period.

(b) The records should remain legible throughout the required retention period and be protected against damage, alteration and tampering.

(c) The format of the records should be specified in the organisation's procedures.

(d) The organisation should ensure that copies of all the documents and supporting information that are developed:

(1) under the privileges that are defined under points 21.A.163 and 21.A.263 of Annex I (Part 21); or

(2) under the design and production activities conducted under points 21L.A.126, 21L.A.176 or 21L.A.274;

(3) for type certificates, supplemental type certificates, major changes and major repairs that are not issued under the privileges defined under point 21.A.263 of Annex I (Part 21),

or

(4) for declarations of design compliance in accordance with Subpart C, F or N,

are retained throughout the operational life of the product or part.

(e) The retention period starts when the record is created or when it was last amended.

If the organisation transfers a certificate to another natural or legal person, the records related to the certificate should be transferred to the new holder.

## GM1 21L.A.7 Record-keeping

For organisations that hold or have applied for a type certificate, supplemental type certificate, change to the type-certificate approval, repair design approval, permit to fly or have submitted a declaration of design compliance or a declaration of design or production capability under Part 21 Light, the relevant design information/data should include at least, as applicable:

— design data such as type design data as defined in points 21L.A.26 and 21L.A.46 and changes to that data, and repair design data;

— drawings and test reports, including inspection records for the product tested;

— the certification demonstration plan, including related certification basis data (certification review items (CRIs), special conditions (SCs), equivalent safety findings (ESFs)); and

— compliance-demonstration data.

For production organisations, the relevant records should include at least:

— conformity justification data; and

— conformity attestation data (e.g. EASA Form 1, EASA Form 52B).

## AMC1 21L.A.7(a) Record-keeping

**REPAIR DESIGN AND RECORD-KEEPING**

(a) The relevant substantiation data associated with a new major repair design and record-keeping should include:

(1) identification of the damage and the source of the report;

(2) the major repair design approval/declaration sheet, identifying the applicable specifications and the references of the justifications;

(3) the repair drawing and/or instructions, and the scheme identifier;

(4) any correspondence with the type-certificate holder, supplemental type-certificate holder or declarant, if their advice on the design was sought;

(5) the structural justification (static strength, fatigue, damage tolerance, flutter, etc.) or references to that data;

(6) the effect on the aircraft, engines and/or systems (performance, flight handling, etc., as appropriate);

(7) the effect on the maintenance programme;

(8) the effect on the airworthiness limitations, the flight manual and the operating manual;

(9) any change in the weight and moment;

(10) any special test requirements; and

(11) the justification that the certified or declared noise or emissions level remain unchanged after the repair.

(b) The relevant minor repair documentation includes points (a)(1) and (a)(3). Other elements of point (a) may be included where necessary. If the repair is outside the approved or declared data, a justification for the classification is required.

(c) Special consideration should be given to repairs that impose subsequent limitations on the part or product (e.g. oversizing of fastener holes, etc.).

(d) Special consideration should also be given to life-limited parts and critical parts, notably with the involvement of the type-certificate or supplemental type-certificate holder, when deemed necessary under point 21.A.208(c).

(e) Repairs to engines and/or propeller critical parts would normally only be accepted with the involvement of the type-certificate holder or the declarant if compliance of the engine has been included within the aircraft declaration of compliance.

# GM1 21L.A.7(a);(b) Record-keeping

**RECORD-KEEPING AND ARCHIVING SYSTEM**

The main purpose of record-keeping for organisations responsible for design and production is to ensure the retrievability of data required for the continued airworthiness of in-service products.

In addition, the records within a design environment are essential to ensure a proper control of the configuration of type design and its compliance with the certification basis or applicable technical specifications.

In the production environment, the records are required to ensure that products or parts are in conformity with the applicable data throughout the manufacturing cycle. In addition, certain records of milestones are needed to subsequently provide objective evidence that all the prescribed stages of the production process have been satisfactorily completed.

Therefore, organisations responsible for design or production are required to implement a system for the compilation and retention of records during all stages of design or production, which covers short-term and long-term records as appropriate to the nature of the product and its processes.

The management of such information is subject to the appropriately documented procedures in the management system required by points 21L.A.124, 21L.A.174 or in the manual/procedures required by point 21L.A.273 as appropriate.

All forms of recording media (paper, film, magnetic, etc.) are acceptable, including the use of electronic records*, provided they can meet the required duration for archiving under the conditions provided and that the continued readability of the records is ensured.

The related procedures are required to:

— identify the records to be kept;

— describe the organisation of, and responsibility for, the archiving system (its location, compilation, format) and the conditions for access to the information (e.g. by product, subject, etc.);

— control access to the data and provide effective protection against deterioration or accidental damage;

— ensure the continued readability of the records;

— demonstrate to the competent authority the proper functioning of the records system;

— define an archiving period for each type of data subject as follows:

  — production data that supports the conformity of a product or part, is kept for not less than 3 years from the issue date of the related statement of conformity or authorised release certificate; and

  — design data, including data which supports the compliance of a product or part with the certification basis or applicable technical specifications, as well as data that is considered essential for continuing airworthiness is kept throughout the operational life of the product or part; such continued airworthiness data may include but are not limited to in-service occurrence reports and mandatory continuing airworthiness information;

— organisations responsible for design or production should ensure that the recording and record-keeping system used by the partners, suppliers and subcontractors meet the record-keeping objectives with the same level of confidence as for their own system; in each case, it should be defined who should retain the data record (organisation, partner, supplier or subcontractor) as well as the method of surveillance of the recording / record-keeping system of the partners, suppliers or subcontractors.

* In relation to electronic records, the following definitions apply:

— 'electronic record': electronic or digital data that is created, generated, sent, communicated, received, or stored by electronic means;

— 'electronic data': it is typically in the form of documentation that is statically stored in a computer file that is not modifiable (e.g. pdf of a scanned document with wet ink signatures);

— 'digital data': it is typically in the form of computer-generated bytes of information that is stored in a computer-workable file (e.g. MS Word file, MS Excel file, 3D CAD file).

## AMC1 21L.A.7(d) Record-keeping

**RECORDS OF PERSONNEL INVOLVED IN DESIGN OR PRODUCTION**

(a) The following should be the minimum information to be recorded for personnel that are involved in design or production and in the independent function to monitor the compliance, if required by points 21L.A.125(c), 21L.A.175(b) or 21L.A.175(e):

(b)

(1) first name and surname;

(2) date of birth;

(3) basic training received and standards attained;

(4) specific training received and standards attained;

(5) continuation training (if appropriate);

(6) experience gained;

(7) scope of the authorisation;

(8) date of first issue of the authorisation;

(9) expiry date of the authorisation (if appropriate);

(10) identification number of the authorisation (or equivalent means to identify the link between the authorisation and the individual that holds the authorisation);

(11) changes to the data.

(c) The record may be kept in any format and should be controlled by an internal procedure of the organisation. That procedure is part of the management system of the organisation.

(d) Staff members should be given reasonable access, on request, to their own records as per Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free

movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (OJ L 119, 4.5.2016, p. 1).

(e) A design or production organisation should keep the record of a particular staff member for at least 3 years after the staff member is no longer employed by the organisation or has changed their position in the organisation, or after the withdrawal of the authorisation, whichever occurs first.

## AMC1 21L.A.9(a) Instructions for continued airworthiness

**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICAs) — CONTENTS**

(a) The ICAs should identify the following, in accordance with the applicable certification specifications or applicable technical specifications:

(1) any limitations that are necessary for the continued airworthiness of the product or article;

(2) the means to determine when the product or article has deteriorated to the extent that it is no longer airworthy;

(3) the minimum actions required to restore the airworthiness of the product or article before the limitations (as per point (1)) have been exceeded or before their deterioration (as per point (2)), as an alternative to the withdrawal of the product or article from service.

(b) The ICAs should, therefore, include, in accordance with the applicable certification specifications or applicable technical specifications:

(1) any limitations determined through the certification or demonstration of compliance resulting in a declaration of compliance of the product or article, and instructions on how to determine that the limitations have been exceeded;

(2) any inspection, servicing or maintenance actions determined to be necessary by the certification process or demonstration of compliance resulting in a declaration of compliance;

(3) any inspection or troubleshooting actions determined to be necessary to establish the nature of faults and the necessary remedial actions;

(4) sufficient general information on the operation of the product or article to enable the understanding of the instructions in points (a)(1) to (a)(3) above.

## AMC2 21L.A.9(a) Instructions for continued airworthiness

**IDENTIFICATION OF THE INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICAs)**

The ICAs may be provided together with other, additional or optional, maintenance information, or in another acceptable format as per GM1 21L.A.9(a), with the following conditions:

(a) The information that is necessary for the continued airworthiness is clearly identified (refer to AMC1 21L.A.9(b)).

(b) The ICAs may reference additional instructions for continued airworthiness in separate publications, where necessary (for example, those produced by suppliers).

If the product's ICAs reference the use of supplier data (e.g. component maintenance manual (CMM) or section of it) as the appropriate location for the ICAs, those applicable instructions are incorporated by reference and become part of the complete set of the ICAs for the particular product.

(c) Additional or optional maintenance information that is not considered ICAs but referenced by the design approval holder (DAH) or declarant together with the ICAs should be evaluated appropriately by the DAH or declarant in order to ensure that its use will not compromise the continued airworthiness of the product or article.

(d) If the maintenance data made available by a DAH or declarant includes data from an operator (i.e. in order to customise the data for the operator, and created under the authority of the operator), the operator data should be identified as such, and the DAH or declarant is not required to additionally evaluate it.

## AMC3 21L.A.9(a) Instructions for continued airworthiness

**DESIGN APPROVAL HOLDER (DAH) OR DECLARANT RESPONSIBILITY TO CHECK THE SUPPLIER DATA WHICH IS PART OF THE ICAs OR REFERENCED TOGETHER WITH THE ICAs**

The DAH or declarant may carry out a complete check of the supplier data, or may choose to rely, in whole or in part, on the supplier's process for ensuring the accuracy and completeness of the data. In the latter case, the DAH or declarant will propose a means to validate the supplier's process. Supplier data may also be issued by the supplier to the DAH or declarant under a contract or an arrangement, addressing the following:

(a) the accuracy and the adequacy of the technical documentation, which should be checked through a verification process (e.g. component workshop verification);

(b) evidence showing that workshop verification has been performed should be kept by the supplier and a clear statement should be given in the introduction to the supplier data as a confirmation that component verification is complete;

(c) evidence that the supplier has taken into account all justified feedback and changes to data requested by any person required to use the ICAs; typical examples would be the correction of reported errors, or mistakes.

In addition, some validation activities may be decided by the DAH or declarant, depending on the articles and the capability level of the supplier.

For articles subject to an ETSO authorisation, the validation of the supplier's process for ensuring the accuracy and completeness of the data is not needed. This is also valid for other national TSO authorisations (e.g. FAA TSOs) accepted by EASA as stipulated in related bilateral agreements.

## GM1 21L.A.9(a) Instructions for continued airworthiness

**SCOPE OF THE INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICAs), THEIR PUBLICATION FORMAT AND TYPICAL ICA DATA**

(a) The ICAs may be published in documents or in a manner other than the traditional understanding of a document — for example, as a series of web pages, or Information Technology (IT) tools, or in a publishing format linked to tasks or data modules rather than pages.

(b) The design approval holder (DAH) or declarant may decide, within the framework provided by point 21L.A.9 and its acceptable means of compliance and guidance material, to publish the

ICAs in the most suitable location as part of all the information published to support the airworthiness of a given aircraft.

(c) The requirement for ICAs is not intended to ensure that all products or articles may be restored to an airworthy condition. A certain level of deterioration may require a product or an article to be permanently withdrawn from service, and restoration may not be reasonably achievable.

Certain deteriorations or levels of deterioration may require specific instructions (e.g. inspection or restoration) that will only be developed and provided on a case-by-case basis, as needed, for a given product or article, and as such, will not be included in the ICAs.

In some exceptional cases, ICAs for products may ultimately instruct the user to contact the DAH or declarant in order to define the specific instructions on a case-by-case basis. This typically happens when the definition of generic instructions covering all possible cases is not possible. For example, following an aircraft hard landing, a detailed analysis may have to be carried out by the DAH or declarant to determine the specific instructions to be followed, which depend on the touchdown loads.

## GM2 21L.A.9(a) Instructions for continued airworthiness

**DETERMINATION OF WHICH SUPPLIER DATA IS PART OF THE INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICAs)**

*Note 1:* For the purposes of this GM, the term ‘supplier data’ also applies to similar types of data when issued directly by the DAH or declarant (e.g. component maintenance manuals (CMMs) issued by the DAH or declarant).

*Note 2:* For the purposes of this GM, the term ‘supplier data’ should be understood as data coming from the supplier and related to either a full CMM or to part of a CMM.

*Note 3:* The link between the aircraft ICAs and the engine/propeller CMM, as detailed below, is similar to the link between engine/propeller ICAs and the CMM of equipment fitted to the engine/propeller.

*Note 4:* If the supplier is also the DAH (for instance, an engine or propeller manufacturer), then the ICAs for these items will be made available by virtue of the DAH obligations as type-certificate holder (TCH) and need not be included in the aircraft ICAs.

*Note 5:* If the supplier is an engine or propeller manufacturer, then the ICAs for these items will be made available by virtue of the DAH obligations as type-certificate holder (TCH) and need not be included in the aircraft ICAs. If the supplier is an engine or propeller manufacturer that is not the TCH due to the aircraft TC or declaration of design compliance also including the compliance of the engine or propeller, then the supply of ICAs from the engine or propeller manufacturer will need to be subject to a suitable arrangement.

(a) When determining whether a supplier data is part of the ICAs, the following should be considered:

(1) Supplier data related to the Airworthiness Limitations Section (ALS) of the ICAs is part of the ICAs.

(2) Supplier data related to instructions on how to accomplish the scheduled maintenance part of the aircraft ICAs are part of the aircraft ICAs. A typical case is the periodical removal of a component to perform a workshop task.

(3) Supplier data related to scheduled maintenance on the component should be endorsed by the DAH or declarant before becoming part of the aircraft ICAs, to define and confirm that the supplier data is applicable and effective.

(4) If the ICAs are defined at aircraft level, the following principles apply to the other supplier data that is not related to the ALS nor to scheduled maintenance:

(i) If the supplier data includes a maintenance instruction for an action identified in the aircraft-level ICAs, including an engine or propeller, this supplier data should be referenced in the aircraft-level ICAs and should be made available like any other ICAs.

As an alternative to linking such supplier data to the aircraft-level ICAs (e.g. with cross references), it is possible to include the relevant data directly into the aircraft ICAs. In such a case, the supplier data is not part of the aircraft ICAs since the aircraft ICAs already contain all the required information.

(ii) If an aircraft ICAs' task only requires a replacement task for an engine, propeller or part (i.e. 'remove and replace' or 'discard') and does not refer to the supplier data for further maintenance of the removed engine, propeller or part, this means that the aircraft airworthiness may only be maintained by replacement action, and that the supplier data is not part of the ICAs for the particular aircraft. In such cases, the supplier data does not need to be referenced in the aircraft ICAs.

*Example*: If supplier data provides off-aircraft maintenance instructions for an engine, propeller, or other article (i.e. workshop maintenance), then this data may not be considered as part of the complete set of the ICAs for the aircraft, but may be considered as part of the complete set of the ICAs for the engine or propeller. However, the procedure for removal from / installation on the aircraft is necessarily part of the aircraft ICAs.

(b) However, for the above cases, aircraft-level ICAs can provide, as additional or optional maintenance information, the references to the supplier data even if it is not considered part of the ICAs. In such cases, it should be made clear that the supplier data references are provided as additional or optional maintenance information and is not part of the product ICAs. Besides, it should be ensured that the use of additional or optional maintenance information not considered as ICAs but referenced together with the ICAs will not compromise the continued airworthiness of the product or article.

(c) For the supplier data identified as part of the ICAs, the DAH or declarant should:

(1) identify the supplier data that is part of the ICAs; this can be achieved either by creating a listing or by any other acceptable means that allow to identify which data is part of the ICAs and which data is not part of the ICAs (refer to AMC1 21L.A.9(b));

(2) just as for any other ICAs, ensure the publication of the supplier data;

(3) ensure the accuracy and the adequacy of the technical content of the supplier data.

## GM3 21L.A.9(a) Instructions for continued airworthiness

**NON-ICAs SUPPLIER DATA (e.g. COMPONENT MAINTENANCE MANUALS (CMMs))**

(a) Non-ICAs supplier data referenced together with the ICAs

Supplier data, or parts of the supplier data, which is not considered part of the ICAs but is additional or optional maintenance information referenced together with the product-level

ICAs may be issued by the supplier to the DAH or declarant under a contract or an arrangement, using the methodology proposed in AMC3 21L.A.9(a).

(b) Other non-ICAs supplier data

Non-ICAs supplier data, which is not referenced together with the ICAs, but which can be used for the maintenance of components approved for installation by the DAH or declarant, should be acceptable to the DAH or declarant. This non-ICAs supplier data may be documented in a list.

## AMC1 21L.A.9(b) Instructions for continued airworthiness

**IDENTIFICATION OF A COMPLETE SET OF INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICAs)**

The design approval holder (DAH) or declarant should identify the complete set of ICAs according to point 21L.A.9(b) in such a way that the complete set can be:

(a) directly listed in the product's type certificate data sheet (TCDS) or airworthiness data sheet; or

(b) indirectly referenced in the TCDS or airworthiness data sheet through other means, which allow the complete list of the ICAs to be obtained (e.g. a complete listing of ICAs contained in a 'principal manual' or a reference to the DAH's or declarant's website); or

(c) directly listed in the product's supplemental type certificate (STC); or

(d) indirectly referenced in the STC through other means, which allow the obtainment of the complete list of the ICAs; or

(e) if direct reference is made to the ICAs in the product's TCDS or the STC or airworthiness data sheet, no reference to the revision level of the ICAs should be made; in this case, the revision level should be available elsewhere (e.g. on the DAH's or declarant's website).

For design changes and repairs to type certified or declared aircraft, the identification of 'a complete set of the changes to the instructions for continued airworthiness' should be performed by the DAH or declarant by a statement to provide this information, or by confirmation that there are no changes to the ICAs. This statement may also be made in the accomplishment document (e.g. embodiment instructions).

For products and articles for which the DAH or declarant holds a design organisation approval (DOA), the ICAs are considered to have been issued under the authority of the DOA and, therefore, the approval of the ICAs should be made explicit to the reader in accordance with point 21.A.265(h) of Annex I (Part 21) to this Regulation, unless otherwise agreed with EASA.

## GM1 21L.A.9(b) Instructions for continued airworthiness

**ANY OTHER PERSONS REQUIRED TO COMPLY**

For the purposes of this GM, 'any other person required to comply' means:

(a) any independent certifying staff that performs maintenance on a product or article, in accordance with Regulation (EU) No 1321/2014, in the framework of a contract (or work order) with the person or organisation responsible for the aircraft continuing airworthiness;

(b) any maintenance organisation approved to maintain a product or article, in accordance with Regulation (EU) No 1321/2014, in the framework of a contract (or work order) with the owner

of the engine or article, or the person or organisation responsible for the aircraft continuing airworthiness;

(c) any organisation approved to manage the aircraft continuing airworthiness in accordance with Regulation (EU) No 1321/2014, in the framework of a contract with the aircraft owner or aircraft operator.

## GM2 21L.A.9(b) Instructions for continued airworthiness

**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICAs) — FORMAT**

The ICAs may be furnished or made available by various means (including paper copies, electronic documents, or web-based access). Regardless of the format, the design approval holder (DAH) or declarant is expected to furnish or make the ICAs available in a means that is readily accessible for and useable by the owner and any other person required to comply with the ICAs. Service documents, such as service information letters, may be used for transmitting ICAs information and updates.

(a) Formatting standards

DAHs or declarants may use the latest ATA, AECMA/ASD or GAMA formatting standards such as:

(1) AeroSpace and Defence Industries Association of Europe (ASD), ASD-S1000D, *International Specification for Technical Publications Utilizing a Common Source Data Base*, version 4 or higher;

(2) the Air Transport Association's (ATA) iSpec 2200, *Information Standards for Aviation Maintenance*, latest edition (ATA is now known as Airlines for America (A4A) but the standard is still listed as ATA); or

(3) General Aviation Manufacturers Association (GAMA) Specification No. 2, *Specification for Manufacturers Maintenance Data*, latest edition.

With regard to scheduled maintenance, DAHs or declarants may also refer to the glossary of the ATA MSG-3 standard, latest revision, for standardised task definitions and designations.

(b) General considerations

The ICAs should be easy to read and to follow. All ICAs should include a means to identify their applicability (model, type, etc.), and the associated revision status. Refer to sample formats in the Air Transport Association's iSpec 2200, *Information Standards for Aviation Maintenance*, latest edition, or AECMA/ASD standards. There is no requirement for any specific format or arrangement of the ICAs in a document or documents. However, the specific format selected by the DAH or declarant should be used and applied in a uniform manner. Empty pages in a document should contain the statement 'Intentionally left blank' or similar.

At the beginning of each procedure, the ICAs should contain cautions and warnings regarding possible mistakes that can be made when following the instructions.

Abbreviations, acronyms and symbolisation should be either avoided or explained as part of the ICAs documentation.

The ICAs contain units of measurement. Measurements could be, for instance, instrument readings, temperatures, pressures, torque values with tolerances, limits, and ranges when applicable. If the ICAs contain units of measurement of a system other than the metric, the ICAs should include a conversion to the metric system for each measurement, tolerance, or torque

value. A general conversion table alone should not be provided, as it may introduce an additional source of error.

The DAH or declarant should use a means to indicate changes to the ICAs directly in relation to each item of the information/data of the ICAs, e.g. using a vertical change bar in the margin next to the line.

(c) Publication of the ICAs in multiple documents

DAHs or declarants may prepare ICAs as a document, or several documents, depending on how much data is necessary to provide a complete set of ICAs.

If there are multiple documents, there should be a principal document that describes the general scope of all other documents, in order to provide an overview of the multiple document structure.

According to different standards, the Airworthiness Limitations Section (ALS) needs to be included in the principal document as a dedicated section. However, EASA may also accept a separate Airworthiness Limitations document when it is at least referenced as such in the principal document.

DAHs or declarants that decide to segregate information dedicated to a specific subject from a principal document into a separate document, e.g. 'Fuel Pipe Repair Manual', 'Cable Fabrication Manual', 'Duct Repair Manual' or 'Instrument Display Manual', should declare these documents to be ICAs.

DAHs or declarants may decide to integrate certain information in a principal document (as, for example, troubleshooting information as part of the aircraft maintenance manual (AMM) instead of a separate troubleshooting manual (TSM)).

(d) Language

The ICAs should be provided in any of the official language(s) of the European Union which is (are) acceptable to the competent authority.

*Note:* In certain countries, such as the USA, English is required for ICAs. EASA, therefore, recommends that DAHs or declarants include a version of the ICAs in simplified technical English (e.g. in accordance with ASD Specification STE100).

(e) Electronic media

The ICAs may be provided in an electronic format (e.g. CDs, via the internet, etc.) instead of paper copies or microfilms (refer to AMC1 21L.A.9(b)).

When electronic format is used, the DAH or declarant should consider aspects such as the traceability of updates, keeping previous versions (record-keeping), data security and the obligations of the person(s) or organisation(s) responsible for the aircraft continuing airworthiness, considering that the ICAs form the basis of the data used for continuing airworthiness activities.

## GM3 21L.A.9(b) Instructions for continued airworthiness

**APPROVAL STATUS OF THE MANUAL FOR A COMPONENT OR ARTICLE**

When the ICAs refer to a document for a specific component or article, it is possible that this document is used for products from more than one DAH. In such cases, instead of placing approval statements from each DAH in the same manual, it may be more practical to identify the approved status of the

relevant document through its inclusion in lists managed by the DAH in accordance with AMC1 21L.A.9(b).

## GM4 21L.A.9(b) Instructions for continued airworthiness

**INTEGRATION OF THE INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICAs) BETWEEN PRODUCTS (AIRCRAFT, ENGINES, PROPELLERS)**

The aircraft/engine/propeller type-certificate holder (TCH) and, if applicable, the declarant, should ensure the availability of ICAs to allow maintenance of the aircraft, including engines/propellers when installed on the aircraft.

When referring to engine/propeller ICAs directly in the aircraft ICAs, the aircraft TCH or declarant should not perform additional verification and validation. However, the integration and interface aspects between the aircraft and the engine/propeller are still under the responsibility of the aircraft TCH or declarant.

If the ICAs published by the aircraft TCH or declarant include some engine/propeller ICAs developed by the engine/propeller TCH, the engine/propeller TCH should make an arrangement with the aircraft TCH setting out engine/propeller TCH and aircraft TCH or declarant shared responsibilities with respect to the ICAs under point 21L.A.9.

This arrangement should:

— define the part of the engine/propeller ICAs which is published in the aircraft ICAs; and

— address the development, publication and update processes of these ICAs, including completeness and timely availability aspects.

— The incorporated engine/propeller data content remains under the responsibility of the engine/propeller TCH, and the publication is under the responsibility of the aircraft TCH or declarant. Therefore, the aircraft TCH or declarant should coordinate with the engine/propeller TCH regarding any modification or alteration of the incorporated data.

## AMC1 21L.A.9(d) Completeness and timely availability of the Instructions for Continued Airworthiness

**COMPLETENESS AND TIMELY AVAILABILITY OF THE INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICAs) FOR TYPE-CERTIFICATE (TC) APPLICANTS OR DECLARATION OF DESIGN COMPLIANCE**

(a) An applicant or declarant may wish to choose among the three options described below. Once the certification programme or demonstration of compliance for a declaration starts, it may be necessary to modify the initially selected option to accommodate programme changes. All such changes should be coordinated with EASA.

(1) *Option 1:* Complete ICAs are available at the time of the design approval (type certificate (TC)) or submission of a declaration of design compliance

(i) The ICAs will be made available at the time of the design approval or submission of the declaration of design compliance. This option minimises the risk of incomplete ICAs, especially for changes.

(ii) With all ICAs available at the time of the design approval or submission of the declaration of design compliance, they should also be furnished / made available to the aircraft operator / aircraft owner and made available to any other person required to comply with any of those instructions in accordance with point 21L.A.9, without using the provision to delay certain parts of the ICAs after the entry into service of the product.

(iii) Frequently, there is only a short period of time between the design approval or submission of the declaration of design compliance and the entry into service. Nevertheless, applicants/DAHs or declarants may still wish to apply Option 2 or 3 for a part of their ICAs as stated below.

(2) *Option 2:* Complete ICAs are available at entry into service (TC or submission of the declaration of design compliance)

If an applicant or declarant plans to make part of the ICAs available to EASA upon entry into service, the following approach is acceptable:

(i) For the Airworthiness Limitations Section (ALS), as part of the type design, notwithstanding the selection of Option 2: the applicant or declarant submits the ALS prior to the design approval or submission of the declaration of design compliance. Any ALS content that is incomplete, not yet demonstrated for compliance, or delayed beyond the design approval or submission of the declaration of design compliance, requires to be compensated through an interim limitation to establish compliance within this limitation. The interim limitation is notified to the aircraft operator(s) concerned as a temporary operational limitation in a manner agreed with EASA.

In this context, ALS content is understood as the task method (e.g. a detailed inspection), including its reference, title and applicability, and the associated threshold / interval / life-limit. The accomplishment procedure itself, i.e. how to carry out the task, is usually described in other parts of the ICAs (e.g. in the aircraft maintenance manual (AMM) or the non-destructive testing (NDT) manual). However, a feasibility study of the accomplishment procedure is required for compliance with specific requirements.

(A) This may typically apply when the aircraft's structural full-scale fatigue testing required for compliance with the fatigue- and damage-tolerance requirements, considering the expected operational life, will not be completed prior to the type certificate being issued. In this case, a temporary operational limitation is assigned and stated in the ALS, dependent on the aircraft's full-scale fatigue testing progress. The ALS is effectively incomplete beyond this temporary operational limitation, as the required justification and the resulting ICAs are not yet available to support the safe operation of the aircraft beyond this limitation.

(B) A type certificate data sheet (TCDS) or airworthiness data sheet notation is not necessary since the product is provided with complete ALS content up to the established temporary operational limitation.

(ii) A compliance plan identifying those parts of the ICAs that are only to be made available upon entry into service is produced, submitted to EASA and agreed between the applicant/declarant and EASA prior to the design approval or registration of the declaration of design compliance (refer also to point (iv) for the ICAs considered necessary at the time of the design approval/registration of a declaration of design compliance).

(iii) A commitment is made to produce, verify and, when requested, submit to EASA the relevant ICAs prior to entry into service. This commitment should be provided in a compliance document (e.g. the compliance plan). If the respective organisation responsible for design has not previously exercised the practice of delaying the ICAs beyond the design approval or submission of a declaration of design compliance, the required procedure should be agreed with EASA.

(iv) The ICAs considered necessary at the time of design approval or submission of the declaration of design compliance are provided or made available in a format that adequately defines the data. Furthermore, the way the data is presented at the time of the design approval or submission of the declaration of design compliance offers the same understanding of the data as the final published format does.

The applicant or declarant should agree with EASA, in a compliance plan, on all ICAs necessary at the time of the design approval or registration of the declaration of design compliance. The Agency investigation may vary from no involvement or evaluating a limited sample of the ICAs to performing a thorough review of specific parts of the ICAs.

(v) In cases where EASA has doubts as to whether the applicant/holder or declarant can fulfil the applicable requirements of point 21L.A.9 to control and support delaying the ICAs beyond the design approval, or type certificate (TC), or submission of the declaration of design compliance and until entry into service, EASA may decide to assign a condition for entry into service for non-ALS ICAs or withhold the registration of the declaration of design compliance.

As a condition for the entry into service, a note should be included in the type certificate data sheet (TCDS) or airworthiness data sheet as a result of these pending issues under the ICAs paragraph as follows:

'*Note:* The ICAs are not complete. As per point 21L.A.9 of Annex Ib (Part 21 Light) to Commission Regulation (EU) No 748/2012, they must be completed before the entry into service of the aircraft. Contact EASA for information on the status.'

The decision to assign a condition may be based on the applicant's or declarant's performance, e.g. if the applicant or declarant has already demonstrated in previous projects that it has provided the complete set of ICAs before the entry into service, if the applicant or declarant has already experienced difficulties in providing the ICAs considered necessary at the time of the design approval or submission of the declaration of design compliance, or has previously failed on a different project to meet its commitment to complete the ICAs prior to entry into service, or if the applicant/holder or declarant has no previous experience with the practice of delaying the ICAs beyond the design approval or submission of the declaration of design compliance.

(vi) Post-TC action or the submission of the declaration of design compliance is established together with EASA (if EASA requests such a review) to review the ICAs' status upon entry into service.

(vii) If all ICAs are made available to EASA at the time of entry into service, they should also be furnished at that time to the aircraft operator / aircraft owner and made available to any other person(s) required to comply with any of those instructions in accordance with point 21.A.7, without using the provision to delay certain parts of the ICAs beyond the entry into service.

(3) *Option 3:* Complete ICAs are available after the entry into service (TC or registration of declaration of design compliance)

As per point 21L.A.9(d), certain ICAs dealing with the 'overhaul or other forms of heavy maintenance' may be delayed until after the aircraft entry into service. Although there is no definition of what is meant by 'overhaul or other forms of heavy maintenance', the intention of the requirement is to provide flexibility to applicants/holders or declarants for long-lead ICAs of a scheduled nature.

If an applicant or declarant plans to make part of the ICAs available only after the entry into service, the following is acceptable for the complete set of ICAs:

(i) For the ALS, as it cannot be delayed until after the entry into service, point (i) of Option 2 applies.

(ii) For ICAs considered necessary at the time of the design approval or submission of the declaration of design compliance, point (iv) of Option 2 applies.

(iii) A detailed compliance plan identifying those parts of the ICAs that are to be provided prior to and after the entry into service. For ICAs made available after the entry into service, the plan should account for when the ICAs are needed so that they can be complied with. This approach may only be used for scheduled maintenance accomplishment procedures, where threshold / interval / life-limit requirements of the related scheduled tasks are established. In that respect, the following aspects should be considered:

(A) The majority of the ICAs are of an unscheduled nature; therefore, these items should be available at entry into service at the latest.

(B) Consideration should be given to the fact that a number of tasks are used for both scheduled and unscheduled maintenance (e.g. an operational check of a system is planned as a scheduled task at a certain point in time, but is also required as part of the installation procedure to determine the operational status of the system).

(C) For ICAs to be made available after entry into service, the detailed plan should contain threshold(s) controlled by the applicant/holder, stating the maximum value in flight hours (FHs) / flight cycles (FCs) or calendar time (CT), or a combination of them as applicable, by which point in time the delayed ICAs should be made available.

(D) This detailed plan should be available prior to the time of the design approval or submission of the declaration of design compliance and should be either directly integrated or cross-referenced in a compliance plan.

(E) Information on the format in which the ICAs delayed until after entry into service will be made available in time (e.g. regular revisions or temporary revisions (TRs) or service information (SBs, SIL, etc.).

(iv) A procedure/programme that ensures a detailed plan is produced and implemented in the applicant's or declarant's organisation in order to ensure the timely availability (to the aircraft operator / aircraft owner and to any other person(s) required to comply with any of those instructions and to EASA, if involved and when requested).

(v) A commitment is made to produce, verify and provide the relevant ICAs in accordance with the established detailed plan. This commitment should be provided in an appropriate document (e.g. a compliance plan). If the respective

organisation responsible for design has not previously exercised the practice of delaying the ICAs beyond the design approval or submission of the declaration of design compliance, the required procedure should be agreed with EASA.

(vi) In order to ensure that the applicant/holder or declarant can meet their obligations as set out in point 21L.A.9 to control and support delaying the ICAs, EASA may decide:

(A) for ICAs delayed until entry into service, to assign a condition/notation for the entry into service to be included in the TCDS or airworthiness data sheet as a result of these pending issues under the ICAs paragraph, as per point (v) of Option 2;

(B) for ICAs delayed until after entry into service, to assign an interim limitation to be published and included in the ALS as a temporary operational limitation, also for non-ALS ICAs, to compensate for the delayed ICAs; this approach may only be used for scheduled maintenance accomplishment procedures, where task and interval requirements are available.

The decision to assign a condition/limitation may be based on the applicant's or declarant's performance, e.g. if the applicant or declarant has already demonstrated in previous projects that it has provided the complete set of ICAs before the entry into service, if the applicant or declarant had already difficulties in providing the ICAs considered necessary at the time of the design approval or submission of the declaration of design compliance, or has failed before in a different project to control and support delaying the ICAs, or if the applicant/holder or declarant has not previously exercised the practice of delaying the ICAs beyond the design approval or submission of the declaration of design compliance.

(vii) Post-TC action or the submission of the declaration of design compliance should be established with EASA to regularly review the ICAs' status, if EASA requests such a review, taking into account other oversight activities.

(viii) An applicant/holder or declarant should provide visibility, regarding the ICAs that are delayed beyond entry into service, to the aircraft operator / aircraft owner and to any other person(s) required to comply with any of those instructions. This can be achieved by providing this information, for example, on a website or in a document, such as a maintenance planning document (MPD) or an aircraft maintenance manual (AMM), preferably in the principal ICAs manual. This visibility information is then itself considered ICAs information.

(ix) It is assumed that for those ICAs that are made available to EASA at the time of entry into service, they are also at the same time furnished to the aircraft operator / aircraft owner and made available to any other person(s) required to comply with any of those instructions in accordance with point 21L.A.9.

This is to satisfy EASA that such a delayed publication will not have an adverse effect on the continuing airworthiness of any given aircraft.

To allow the timely review and incorporation of a delayed part of the ICAs into continuing airworthiness activities and processes (e.g. amendment of the aircraft maintenance programme) by the person or organisation responsible for the aircraft continuing airworthiness or for performing maintenance, EASA considers that the delayed ICAs should typically be made available 2 years before the actual ICAs have to be used, when using normal revisions as a format. However, shorter

time margins may be acceptable, provided that the format used ensures the prompt notification of the availability of the delayed ICAs or the ICAs itself, but they should not be shorter than 1 year before the ICAs have to be used.

(b) Completeness and timely availability of changes to the ICAs (TC or declaration of design compliance)

Point 21L.A.9(e) regulates the distribution of changes to the ICAs required from the TC holder or declarant. Those changes to the ICAs could result from the design change process (minor and major changes), in-service experience, corrections, and others.

A programme showing how changes to the ICAs are distributed is part of the respective procedures (e.g. design organisation procedures, or other procedures used to demonstrate design capabilities). For changes to the ICAs triggered by design changes, typically these procedures follow the same principles as those available for TCs or the initial declaration of design compliance (Options 1 to 3), while taking into account the relevant privileges, e.g. that a DOA may approve minor changes in accordance with point 21.A.263(c)(2) of Annex I (Part 21).

## GM1 21L.A.10 Access and investigation

**ARRANGEMENTS**

Natural or legal persons that hold or that have applied for a type certificate (TC), a supplemental type certificate (STC), a major repair design approval, a permit to fly, a certificate of airworthiness, a restricted certificate of airworthiness, a noise certificate or a restricted noise certificate, that have declared design compliance, that have declared their design or production capability or that produce aircraft, engines, propellers or parts under Subpart R are required to allow the competent authority to make investigations that include the complete organisation including its partners, subcontractors and suppliers, whether they are in the State of the natural or legal person or not.

The investigations may include audits, enquiries, questions, discussions and explanations, monitoring, witnessing, inspections, checks, flight and ground tests, and inspections of completed products or parts that are either designed or produced.

In order to maintain its confidence in the standards achieved by the natural or legal person, the competent authority may conduct an investigation of a sample product or part and of its associated records, reports and certifications/declarations.

The arrangements are required to enable the natural or legal person to assist the competent authority and cooperate with it in conducting the investigation during the initial assessment and for the subsequent surveillance.

'Cooperation in performing investigations' means the competent authority has been granted full and free access to the facilities and to any information relevant to demonstrating compliance with the Part 21 Light requirements, and has provided assistance as necessary.

'Assistance to the competent authority' includes all the appropriate means regarding the facilities of the natural or legal person to allow the competent authority to conduct the investigation, such as meeting rooms, offices, support personnel, records, documentation, computer data, and communication facilities, all properly and promptly made available as necessary.

The competent authority seeks to have a good working relationship with the natural or legal person, and suitable liaison staff are required to be nominated to facilitate this, including one or more suitable

representative(s) to accompany competent authority staff during visits, not only at the natural or legal person's own facilities, but also with subcontractors, partners or suppliers.

## GM1 21L.A.11(a) Findings and observations

**ROOT-CAUSE ANALYSIS**

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

(b) A narrow focus on single events or failures, or the use of a simple, linear model, such as a fault tree, to identify the chain of events that led to the non-compliance, may not properly reflect the complexity of the issue and, therefore, there is a risk that important factors that must be considered to prevent reoccurrence will be ignored.

Such an inappropriate or partial root-cause analysis often leads to applying 'quick fixes' that only address the symptoms of the non-compliance. A peer review of the results of the root-cause analysis may increase its reliability and objectivity.

## AMC1 21L.A.11(a) Findings and observations

**FINDINGS — CORRECTIVE ACTION PLAN AND IMPLEMENTATION**

After receipt of notification of findings, the natural or legal person ('organisation') should identify and define the action for all findings, to address the effects of the non-compliance, as well as the root cause(s) and contributing factor(s).

Depending on the issues identified, the organisation may need to take immediate corrective action.

The respective corrective action plan should:

— include the rectification of the issue, corrective and preventive action, as well as the planning to implement them; and

— be timely submitted to the competent authority for acceptance before it is effectively implemented.

After receiving the competent authority's acceptance of the corrective action plan, the organisation should implement the associated action.

Within the agreed period, the organisation should inform the competent authority that the corrective action plan has been implemented and should send the associated pieces of evidence, on request from the competent authority.

## AMC1 21L.A.11(b) Findings and observations

**DUE CONSIDERATION TO OBSERVATIONS**

For each observation that is notified by the competent authority, the natural or legal person ('organisation') should analyse the related issues and determine when action is needed.

The handling of observations may follow a process similar to the handling of findings by the organisation.

The organisation should record the analysis and the related outputs, such as action taken, or the reasons why no action was taken.

## AMC1 21L.A.12(b) Means of compliance

**DESCRIPTION SUPPORTING THE ALTERNATIVE MEANS OF COMPLIANCE (AltMoC)**

(a) The description of the AltMoC should include:

(1) a summary of the AltMoC;

(2) the content of the AltMoC;

(3) a statement that compliance with the applicable regulation is achieved; and

(4) in support of that statement, an assessment which demonstrates that the AltMoC reach(es) an acceptable level of safety, taking into account the level of safety that is achieved by the corresponding Agency's AMC.

(b) All these elements that describe the AltMoC are an integral part of the management system records, in accordance with point 21L.A.7.

## GM1 21L.A.12 Means of compliance

**GENERAL**

(a) Acceptable means of compliance (AMC), as referred to in Article 76(3) of Regulation (EU) 2018/1139[11], are a tool to standardise the demonstration of compliance with, and facilitate the verification activities of the competent authorities in relation to, that Regulation and its delegated and implementing acts. AMC are published by EASA to achieve those objectives. While competent authorities and regulated entities are not legally bound to use the AMC, applying them is recommended.

(b) If an organisation wishes to use other means to comply with Regulation (EU) 2018/1139 and its delegated and implementing acts, which are different from the AMC that are published by EASA, that organisation may need to demonstrate compliance by using AltMoC that are established:

(1) by its competent authority (see GM1 21L.B.24); or

(2) by that organisation and approved by its competent authority (see point (c)).

[11] 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).

An AltMoC does not allow deviation from Regulation (EU) 2018/1139 and its delegated or implementing acts.

(c) AltMoC that are established by an organisation and approved by its competent authority

An organisation that wishes to use a different means of compliance than the one published by EASA may propose an AltMoC to the competent authority and use it only once the competent authority has approved it. In that case, the organisation is responsible for demonstrating how that AltMoC establishes compliance with the relevant regulation.

The approval of an AltMoC is granted to the organisation by its competent authority on an individual basis and is restricted to that specific organisation. Other organisations that wish to use the same AltMoC should go through the AltMoC process (i.e. demonstrate how that AltMoC establishes compliance with the relevant regulation) and obtain an individual approval from their competent authority.

## GM2 21L.A.12 Means of compliance

**WHEN AN ALTERNATIVE MEANS OF COMPLIANCE (AltMoC) IS REQUIRED**

When there is no Agency AMC to a certain point of a given regulation, the means of compliance that are proposed by an organisation to that point do not need to go through the AltMoC process. It is the responsibility of the competent authority to verify that compliance with a given regulation is achieved. However, in certain cases, the organisation may propose, and the competent authority may agree, to have such means of compliance go through the AltMoC process.

When there is an Agency AMC, the AltMoC process is required in the following cases (non-exhaustive list):

— an AltMoC to a given regulation is technically different from the AMC that is published by EASA; and

— a form is significantly different from the one that is included in the EASA AMC.

*Note: A form that is required by a delegated or implementing act cannot be modified.*

Examples of issues that are not considered to require the AltMoC process include but are not limited to:

— editorial changes to an Agency AMC, as long as they do not change the intent of the AMC; and

— incorporating an Agency AMC into the organisational structure, organisational processes, or standard operating procedures of an organisation with different wording and terminology that are customised to the organisation’s environment if it does not change the intent of the AMC and its associated level of safety.

## SUBPART B — TYPE CERTIFICATES

### GM1 21L.A.21 Scope

A type certificate (TC) that is issued under Subpart B of Annex I (Part 21) has the same validity as a TC that is issued under Subpart B of Annex Ib (Part 21 Light). However, the eligibility for design organisations is different (e.g. declared design organisations using Subpart J of Annex Ib are permitted to apply for a TC), and also the means of verifying compliance is different.

In addition, the production organisation requirements are also different, and organisations are permitted to become declared production organisations using Subpart G of Annex Ib (Part 21 Light) and produce products and parts within the scope of point 21L.A.21.

As per point 21L.A.23(b), an organisation that holds a design organisation approval (DOA) issued under Subpart J of Annex I (Part 21) meets the eligibility criteria of Subpart B of Annex Ib (Part 21 Light). Such organisations may use the privileges that are granted under that approval (as per points (2), (5) and (8) of point 21.A.263(c) of Annex I (Part 21)) and further described in points 21L.A.69(a) and 21L.A.209(a) of Annex Ib (Part 21 Light).

Furthermore, an organisation that holds a production organisation approval (POA) issued under Subpart G of Annex I (Part 21) is permitted to use that approval to release products and parts within the scope of Subpart B of Annex Ib (Part 21 Light), and use the privileges that are granted under that approval (as per point 21.A.163(b) of Annex I (Part 21)) and further described under points 21L.A.143(c)(1)(ii) and 21L.A.163(c)(1)(i)(C) of Annex Ib (Part 21 Light).

### GM1 21L.A.23(a) Demonstration of design capability

**TERMS OF APPROVAL COVERING THE RESPECTIVE PRODUCT CATEGORY**

If an applicant holds a design organisation approval (DOA) issued under Subpart J of Annex I (Part 21) and it wishes to use this approval to meet the eligibility criteria of point 21L.A.23, that applicant will need to apply for a change to the terms of approval to include the new aircraft type within the list of products.

### GM1 21L.A.23(b) Demonstration of design capability

**DECLARATION OF DESIGN CAPABILITY**

Organisations that have declared their design capability under Subpart J of Annex Ib (Part 21 Light) should update their declaration of design capability to include the new product type when submitting a new application for a type certificate (see point 21L.A.173 ‘Scope of work’).

## AMC1 21L.A.24(a) Application for a type certificate

**FORM AND MANNER**

The applicant should file an application using the web-based 'EASA Applicant Portal'[12] or the application form for a type certificate (FO.CERT.000xx[13], which may be downloaded from the EASA website.

The form should be completed for a type certificate in accordance with the instructions embedded at the bottom of the application form, and sent to the Agency by fax, email or regular mail following the information provided on the EASA website[14].

## AMC1 21L.A.24(b)(4) Application for a type certificate

**COMPLIANCE-DEMONSTRATION PLAN**

The compliance-demonstration plan is a document that allows the applicant and EASA to manage and control the evolving product type design, as well as the process of compliance demonstration by the applicant and its verification by EASA when required.

In particular, the following information should typically be expected:

— Identification of the relevant personnel that make decisions affecting airworthiness and environmental protection, and that will interface with EASA during the critical design review prior to the issue of the flight conditions and during the first-article inspection, unless otherwise identified to EASA (e.g. within the design organisation procedures).

— A project schedule, including major milestones.

— Subcontracting arrangements for design, environmental protection and/or production.

Point 21L.A.24(b)(2) 'preliminary descriptive data of the product, the intended use, and the kind of operation of the product for which certification is requested'

*Note:* An example of an Aeroplane General Description is provided in ABCD-GD-01-00 - Aeroplane General Description - 17.02.16 - v1 (1)[15].

An overview of the following:

— architecture, functions, systems;

— dimensions, design weights, payloads, design speeds;

— engines and power/thrust rating;

— materials and technologies;

— cabin configuration aspects;

— options (e.g. weight variants, power/thrust rating variants, optional avionics equipment items, brake options, tyre options, floats, skids);

— operating speed limitations;

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[12] https://ap.easa.europa.eu (accessed: DD.MM.2023)

[13] 'Application for Type Certificate / Restricted Type Certificate' (FO.CERT.00XX): Hyperlink TBD (accessed: DD.MM.2023)

[14] https://www.easa.europa.eu/document-library/application-forms/certificates-and-approvals (accessed: DD.MM.2023)

[15] https://www.easa.europa.eu/download/general-aviation/documents-guidance-and-examples/ABCD-GD-01-00%20-%20Aeroplane%20General%20Description%20-%2017.02.16%20-%20v1.docx

— service ceiling, maximum airfield elevation;

— limit load factors;

— number of passengers, payload, range;

— weight and centre-of-gravity (CG) envelope and fuel loading;

— performance;

— environmental envelope;

— runway surface conditions.

Point 21L.A.24(b)(3) 'a proposal for the type-certification basis and the applicable environmental-protection requirements, prepared in accordance with the requirements and options specified in points 21L.B.43 and 21L.B.45'

The proposed certification basis should include applicable certification specifications, proposed special conditions, proposed equivalent safety findings, as well as a proposed 'elect to comply' and proposed deviations, as applicable.

The applicant should provide detailed information about the proposed means of compliance with the applicable airworthiness and environmental-protection requirements identified under point 21L.A.24(b)(3). The information provided should be sufficient for EASA to easily determine the means of compliance used.

This should include the following:

— a compliance checklist addressing each requirement, the proposed means of compliance (see Appendix A to AMC1 21L.A.24(b) below for the relevant codes), and the related compliance document(s);

— identification of industry standards (Society of Automotive Engineers (SAE), American Society for Testing and Materials (ASTM), European Organisation for Civil Aviation Equipment (EUROCAE), AeroSpace and Defence Industries Association of Europe (ASD), etc.), methodology documents, handbooks, technical procedures, technical documents and specifications specified in the type certificate data sheet, certification memoranda, policy statements, guidance material, etc., that are proposed in the demonstration of compliance;

— when the compliance demonstration involves testing (point 21L.A.25(c) and (d)), a description of the ground- and flight-test article(s), test method(s), test location(s), test schedule, test house(s), test conditions (e.g. limit load, ultimate load), as well as of the intent/objective(s) of the testing; and

— when the compliance demonstration involves analyses/calculations, a description/identification of the tools (e.g. name and version/release of the software programs) and methods used, the associated assumptions, limitations and/or conditions, as well as of the intended use and purpose; furthermore, the validation and verification of such tools and methods should be addressed.

For every aspect mentioned above, the applicant should clearly identify whether the demonstration of compliance involves any method (analysis or test) which is novel or unusual for the applicant. In addition, the applicant should identify any deviations from the published AMC to the relevant CSs.

# Appendix A to AMC1 21L.A.24(b) Means-of-compliance codes

| Type of compliance | Means of compliance | Associated compliance documents |
|---|---|---|
| Engineering evaluation | MC0:<br>(a) compliance statement<br>(b) reference to design data<br>(c) election of methods, factors, etc.<br>(d) definitions | (a) Design data<br>(b) Recorded statements |
| | MC1: design review | (c) Descriptions<br>(d) Drawings |
| | MC2: calculation/analysis | (e) Substantiation reports |
| | MC3: safety assessment | (f) Safety analyses |
| Tests | MC4: laboratory tests | (g) Test programmes<br>(h) Test reports<br>(i) Test interpretations |
| | MC5: ground tests on related product(s) | |
| | MC6: flight tests | |
| | MC8: simulation | |
| Inspection | MC7: design inspection/audit | (j) Inspection or audit reports |
| Equipment qualification | MC9: equipment qualification | *Note:* Equipment qualification is a process that may include all previous means of compliance at equipment level. |

# AMC2 21L.A.24(b)(4) Application for a type certificate

**UPDATES TO THE COMPLIANCE-DEMONSTRATION PLAN**

It is acceptable to provide an initial compliance-demonstration plan that is not fully complete, e.g. due to schedule constraints of the design, analysis and testing activities.

The applicant should provide information in the compliance-demonstration plan that is provided to EASA about the applicable certification specifications and the environmental-protection requirements (e.g. for aircraft noise: in terms of the applicable chapter of Volume I of Annex 16 to the Chicago Convention and the related limits).

Furthermore, even if the initial compliance-demonstration plan is complete, it may be necessary to amend it throughout the duration of the project.

The compliance-demonstration plan should be updated and resubmitted to EASA during the certification project. In particular, updates to the following elements should be provided:

— any complementary information that was not included in the initial compliance-demonstration programme;

— any change that may have an impact on the certification basis or means of compliance;

— any change to the intended use or kind of operation of the product;

— a change to the key characteristics of the product such as but not limited to any declared limits that are intended to be recorded in the type certificate data sheet (TCDS);

— any change to the initial type-certification basis or environmental-protection requirements, as applicable to the product, regardless whether the change is initiated by EASA or by the applicant;

— any change to the proposed means of compliance, including its/their methodology;

— any relevant change to the design organisation personnel (and design organisation (DO) suppliers) that are involved in the project; and

— any change to the project schedule affecting planned Agency verification activities under point 21L.B.46.

## GM1 21L.A.24(c) Application for a type certificate

**PERIOD OF VALIDITY OF AN APPLICATION FOR A TYPE CERTIFICATE**

After the 3-year validity period of the application for a type certificate, the new application made in accordance with points (a) and (b) of point 21L.A.24 will be again valid for a period of 3 years.

## AMC1 21L.A.25(a);(b) Demonstration of compliance

**COMPLIANCE DOCUMENTATION**

(a) Compliance documentation comprises one or more test or inspection programmes/plans, reports, drawings, design data, specifications, calculations, analyses, etc., and provides a record of the means by which compliance with the applicable type-certification basis and environmental-protection requirements is demonstrated.

(b) Each compliance document should normally contain:

— the reference of the certification specifications, special conditions or environmental-protection requirements addressed by the document;

— substantiation data demonstrating compliance (except test or inspection programmes/plans);

— a statement by the applicant declaring that the document provides the proof of compliance for which it has been created; and

— the appropriate authorised signature.

(c) Each compliance document should be unequivocally identified by its reference and issue date. The various issues of a document should be controlled and comply with point 21L.A.7 'Record-keeping'.

## AMC1 21L.A.25(c) Demonstration of compliance

**INSPECTIONS AND TESTS**

Proposed type design: this term defines the type design (or the portion of the type design) as it is determined at the time when the testing and inspections are performed.

Verification document (also known as 'statement of conformity'): before each testing and inspection the verification document must confirm that the test specimen conforms with the proposed type design and that the test and measuring equipment is adequate for the test and that the sensors and measuring system are appropriately calibrated.

Conformity of the test specimen: the documented verification is intended to ensure that the manufactured test specimen, even in the presence of non-conformities, adequately represents the proposed type design. Possible types of non-conformity may be the following:

— Non-conformity between the design of the test specimen and the proposed type design at the time of the test. These are typically identified in the early stage of the testing and inspection

planning, and should be addressed as early as possible (e.g. in the test plan). There may be several reasons for such a non-conformity: to account for interfaces with the test equipment, to conservatively cover several existing or future design configurations, etc.

— Non-conformity between the manufactured test specimen and the design of the test specimen. Such a non-conformity may be the result of the manufacturing of the test specimen.

While it is convenient to define any possible non-conformity as early as possible, the applicant does not need to make the distinction between the two types of non-conformity above as long as they are explicitly addressed, justified in the verification document or by cross reference to the test plan or other documents. However, testing for the demonstration compliance with the applicable environmental-protection requirements should be conducted in the final design of the product.

Type certification is typically an iterative process in which the design is under continuous evolution. If the type design evolves after the time of the testing and inspections, then the final type design should be checked against the proposed type design (as it was at the time of the testing and inspections), and the differences (if any) should be analysed to ensure that the testing and inspection results are representative of the final configuration. However, such changes made to the type design may lead to the invalidation of the testing and inspection results, and the need to repeat the testing and inspections. It is recommended that the design organisation should have a thorough configuration management process to track the evolving type design.

Conformity of test and measuring equipment: the configuration of the test and measuring equipment should be defined in the test plan and include the following:

— definition/design of the test equipment (relevant tools, mechanical parts, electronic components used to execute the test); and

— definition of the measuring equipment:

  — type/model of sensors, together with their technical characteristics;

  — position and orientation of exciters and sensors; and

  — electronic measuring equipment (in some cases, this may also include the acquisition and post-processing of data).

The configuration of the test and measuring equipment should be defined and controlled through certification test plans and supporting documentation, according to the design assurance system, if applicable. The test plan should also include the following elements:

— the test cases, methods, and procedures for test execution;

— the pass–fail criteria; and

— pre-, during- and post-test inspections.

The verification document should confirm that the test and measuring equipment conforms to its purpose, and that the sensors and measuring system are appropriately calibrated. Any non-conformity should be assessed, and it should be justified that it will not compromise the test purpose and results. This can be done either in the verification document or by cross reference to other documents (test minutes of meetings, test notes, etc.).

Use of the term ‘adequate’: the test specimen, as well as the test and measuring equipment, is considered ‘adequate’ as long as the test execution on the manufactured test specimen (including any non-conformity) and the use of the installed test set-up does not compromise the test purpose and results (for example, by providing better performance than the proposed type design, or masking any potential failure mode or behaviour).

Changes that affect the validity of the verification document: if changes need to be introduced to the test specimen or to the test and measuring equipment after the verification is documented (and before the test is undertaken), then the verification document must be updated. The updated verification document must be made available to EASA before the test if EASA has informed the applicant that it will witness or carry out the tests or inspections.

Development versus certification tests: sometimes, tests of specimens that conform to a preliminary design, but are not intended for certification (known as development tests), are performed as part of a risk control strategy and to develop knowledge of a subject. Problems and failures found during development are part of the process of increasing the understanding of the design, including its failure modes and the potential for optimisation. Such development tests do not need to meet the requirements of point 21L.A.25(c).

Any planned test event should be classified in advance as either a development test or a certification test. Tests that support the compliance demonstration should be classified as certification tests.

It is acceptable for a development test to finally form part of the compliance demonstration, and it may be declared afterwards to be a certification test as long as it meets the requirements of point 21L.A.25(c). For this reason, it is important to keep the configuration of such tests under control.

If the test specimen used for a certification test has already undergone a series of previous tests that may affect or ultimately invalidate its acceptance as required by point 21L.A.25(c), this aspect should be considered when documenting the verification, and specific analyses or inspections may be required.

Because of the above aspects, EASA advises applicants to inform it if they intend to conduct a campaign of development tests that may eventually be used as certification tests to establish whether EASA would wish to witness the test.

## GM1 21L.A.25(d) Demonstration of compliance

**FLIGHT TESTING**

Detailed material on flight testing for compliance demonstration is included in the applicable CSs and GM. Information on flight testing for compliance demonstration with the environmental-protection requirements especially in terms of aircraft noise may be found in Annex 16 to the Chicago Convention and in ICAO Doc 9501 ‘Environmental Technical Manual’.

The objective of the period of operation in the final configuration is to expose the aircraft to the variety of uses, including training, that are likely to occur when in routine service to provide an assurance that it performs its intended functions to the standard required for certification and should continue to do so in service. The flight tests should include a range of representative ambient operating conditions and airfields.

This period of operation may fully overlap with the compliance-demonstration flight testing if it can be demonstrated that the above criteria are met.

The duration of this period as well as the approach selected (i.e. use of compliance-demonstration flights or extending the period of operation) should be proposed in the compliance-demonstration plan.

The flight testing should cover both routine operations and some simulation of abnormal conditions. The details of the programme should be agreed with EASA prior to commencement of the testing.

It may be possible to combine this testing with any testing required to demonstrate compliance with the applicable CSs. This will be agreed on a case-by-case basis with EASA.

A substantial proportion of the flying should be on a single aircraft (and, if applicable, a combination of engine and propeller). The flying should be carried out to a continuous schedule on an aircraft that is very close to the final type design, operated as though it were in service and should include a range of representative ambient operating conditions and airfields.

## AMC1 21L.A.25(e)(1) Demonstration of compliance

**REVIEW OF DATA AND INFORMATION RELATED TO THE DEMONSTRATION OF COMPLIANCE**

Availability of compliance data (see point 21L.A.25(e)): data and information required to be provided by the applicant should be made available to EASA in a reliable and efficient way as agreed by EASA.

## AMC1 21L.A.25(e)(2) Demonstration of compliance

**TESTS AND INSPECTIONS**

The applicant should inform EASA sufficiently in advance about the execution of tests and inspections that:

1. are used for compliance-demonstration purposes; and
2. have been identified as being of particular interest to EASA during the review and approval of the compliance-demonstration plan

in order to permit EASA the opportunity to witness or carry out these inspections or tests.

The applicant may propose to EASA to witness or carry out flight or other tests of particular aspects of the product during its development and before the type design is fully defined.

However, in case of flight tests, the applicant should perform the tests before EASA witnesses or performs them to ensure that no features of the product preclude the safe conduct of the evaluation requested. The Agency may require any such tests to be repeated once the type design is fully defined to ensure that subsequent changes have not adversely affected the conclusions from any earlier evaluation.

A verification document as per point 21L.A.25(c) is required for the above tests.

## AMC1 21L.A.25(e)(3) Demonstration of compliance

**PHYSICAL INSPECTION OF THE FIRST ARTICLE**

*Note:* The applicant should be prepared for any additional investigations as notified by EASA according to point 21L.B.46(d).

1. Purpose

The purposes of the first-article inspection (of the article that is in conformance with the proposed type design for certification) prior to the issuance of the type certificate for a particular aircraft, propeller or engine design are the following:

a. for EASA to verify completion of the demonstration-of-compliance activities conducted by the applicant under point 21L.A.25 and in accordance with the approved compliance-demonstration plan;

b. for EASA to verify[1] that the type design complies with the type-certification basis and the applicable environmental-protection requirements;

c. In case the applicant is a declared design organisation, for EASA to conduct a further oversight visit in accordance with point 21L.B.183(b) of Subpart J in order to ensure that the applicant is able to discharge its obligations.

[1] The verification of compliance is limited to the scope of the activities that can be conducted under point 2 and the elements of the design that are selected for review based upon a risk-based approach to compliance.

2. Methodology and evidence

The first-article inspection will be conducted by EASA at an appropriate location(s) selected by the applicant for a type certificate. This (these) location(s) should:

— include the physical location of the aircraft, engine or propeller for which a type certificate has been requested; and

— be in the principal place of business (which in accordance with Article 8(2) of Regulation (EU) No 748/2012 must be in an EU Member State).

*Note:* The principal place of business is defined as follows: 'The head office or registered office of the organisation within which the principal financial functions and operational control of the activities referred to in this Regulation are exercised.'

The Agency will conduct a physical inspection of the aircraft, engine or propeller for which a type certificate has been requested. This inspection, along with any other activity that EASA deems necessary (see point 21L.A.25(e)), should ensure that the objectives mentioned in point 1 are met.

The applicant for a type certificate should make the following arrangements to support the first-article inspection:

a. prepare the aircraft engine, propeller, systems or components for live testing (including flight testing) upon EASA's request;

b. make available the final version of the compliance-demonstration plan;

c. make available the declaration of compliance for the product (aircraft, engine and/or propeller);

d. provide access to the supporting compliance documentation and test reports;

e. provide access to key design and production personnel;

f. make available any design processes and procedures that were used.

When the applicant has selected to use flight testing to demonstrate compliance (see MC6 in Appendix A to AMC1 21L.A.24(b)), EASA may decide to conduct flight testing to verify compliance. This flight testing will be performed according to a plan proposed by the applicant prior to the first-article inspection and agreed by EASA.

The above list of additional sources of evidence is not exhaustive.

It is possible that during the first-article inspection, EASA may discover evidence that:

a. the design is not in compliance with the type-certification basis or the applicable environmental-protection requirements (this could be due to the applicant misinterpreting or misunderstanding the applicable design requirements);

b. the applicant has not fulfilled its design obligations as a declared design organisation;

c. there are shortfalls in the applicant's design management system (in accordance with point 21.A.239 or point 21L.A.174) that result in a non-compliance or loss of control of the design.

If such evidence is discovered, the applicant should support EASA in conducting a more in-depth investigation into the compliance documentation and/or the design practices of the design organisation. The purpose of this in-depth investigation should be to determine whether or not compliance was demonstrated, the root cause and the corrective actions. This investigation should also serve to prevent a reoccurrence of the issue.

3. Aircraft condition and configuration

The aircraft, engine or propeller presented to EASA should be in the final configuration for which a type certificate has been requested and the compliance demonstration has been declared.

The applicant may arrange visits with EASA prior to the declaration of compliance, in accordance with point 21L.A.25(f) (for example, for noise testing).

Any differences between the configuration presented to EASA for the first-article inspection and the final configuration in the declaration of compliance (in accordance with point 21L.A.25(f)) should be justified by the applicant and may, therefore, depending upon their criticality, be subject to more focused scrutiny during the first-article inspection. It is possible that some differences from the final configuration may delay the issuance of the type certificate.

4. Findings and resolution

In the process of the activities mentioned in point 2, EASA will raise an appropriate finding or observation against the aircraft or declared design organisation if a non-compliance is discovered. Findings of non-compliance should be resolved by the applicant before the type certificate is issued.

5. Duration and schedule

The first-article inspection may be a single visit or multiple visits depending on the complexity of the design. For example, EASA may wish to witness or participate to compliance-demonstration testing (for example, noise testing) prior to the first-article inspection.

The applicant should coordinate with the competent authority so that the first-article-inspection activities conducted under point 21L.B.143(b) are conducted as far as practicable at the same time as first-article-inspection activities conducted under point 21L.B.46(c).

## GM1 21L.A.25(f) Demonstration of compliance

**DECLARATION OF COMPLIANCE**

All compliance-demonstration activities conducted in accordance with the compliance-demonstration plan, including all the testing and inspections conducted in accordance with point 21L.A.25(c) and all flight testing conducted in accordance with point 21L.A.25(d) and those necessary to determine compliance with the applicable environmental-protection requirements should be completed before the issuance of the final declaration of compliance.

'No feature or characteristic' that may make the product unsafe in point 21L.A.25(f)(2) means the following: while every effort is made to address in the applicable certification basis all the risks to

product safety that may be caused by the product, experience shows that safety-related events may occur with products in service, even though compliance with the certification basis is fully demonstrated. One of the reasons may be that some existing risks are not properly addressed in the certification basis. Therefore, the applicant should declare that it has not identified any such features or characteristics.

'No feature or characteristic' that may make the product environmentally incompatible (point 21L.A.25(f)(2)):

It is assumed that environmental compatibility is demonstrated when the product complies with the applicable environmental-protection requirements. Therefore, the applicant, when declaring that the aircraft complies with the applicable environmental-protection requirements under point 21L.A.25(f)(1), shall also declare that they have not identified any such feature or characteristic.

## GM1 21L.A.27(c)(1) Requirements for the issuance of a type certificate

**CLARIFICATION OF THE TERM 'DETERMINE'**

A type certificate 'determined' in accordance with Part 21 Light means a type certificate or a document that allows the issuance of a certificate of airworthiness issued before 28 September 2003 by a Member State that complies with Article 3(1)(a) of Regulation (EU) No 748/2012.

## AMC1 21L.A.27(d) Requirements for the issuance of a type certificate

**DEMONSTRATION OF NO UNRESOLVED ISSUES**

After the physical inspection and investigation carried out by EASA in accordance with points 21L.A.46(c) and (d), and upon notification from EASA in accordance with point 21L.B.46(d), the applicant should carry out the necessary actions, such as:

— redesign,

— retesting,

— additional compliance-demonstration activities,

— corrections and updates to compliance-demonstration documents

to ensure that no unresolved issues remain.

When any findings from the first-article inspection are resolved by the applicant to the satisfaction of EASA or no findings are raised by EASA or the competent authority, then point 21L.A.27(d) will be considered met.

## AMC1 21L.A.29 Transferability of a type certificate

The applicant should file an application using the form for the transfer of a certificate (FO.CERT.00038), which may be downloaded from the EASA website[16].

[16] https://www.easa.europa.eu/document-library/application-forms/certificates-and-approvals (accessed: DD.MM.2023)

This form should be completed in accordance with the instructions embedded at the bottom of the application form, and sent to EASA by fax, email or regular mail following the information provided on the EASA website[17].

## SUBPART C — DECLARATIONS OF AIRCRAFT DESIGN COMPLIANCE

# AMC1 21L.A.43(b) Declaration of design compliance

**FORM AND MANNER**

The declarant should use the form below for the declaration of aircraft design compliance:

**European Union Aviation Safety Agency** **Form**

**Declaration of aircraft design compliance in accordance with Part 21 Light Subpart C**

**Data protection:** Personal data included in this declaration is processed by EASA pursuant to Regulation (EU) 2018/1725 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data. It will be processed solely for the purposes of the performance, management and follow-up of the application by EASA, without prejudice to possible transmission to internal audit services, to the Court of Auditors, to the European Anti-Fraud Office (OLAF) for the purposes of safeguarding the financial interests of the European Union. The declarant shall have the right of access to their personal data and the right to rectify any such data that is inaccurate or incomplete. Should the declarant have any queries concerning the processing of their personal data, they shall address them to EASA at the following address: dpo[at]easa.europa.eu. The declarant shall have the right of recourse at any time to the European Data Protection Supervisor.

| **1. Your reference** | **Please provide a brief, unique identifier that we will use to refer to your declaration** |
|---|---|

| **2. Declarant's address and contact details** |
|---|
| **2.1 Declarant's data** |

[17] https://www.easa.europa.eu/document-library/application-forms/certificates-and-approvals (accessed: DD.MM.2023)

| | | | | |
|---|---|---|---|---|
| **2.1.1 Name and address** (registered (business) name and address/legal seat of the company) | Account number | **3XXXXX** | DOA/DDO reference | **if applicable** |
| | (Company) Name | | | |
| | Street / Nr | | | |
| | Postcode | | | |
| | City | | | |
| | Country | | | |
| **2.1.2 Contact Person** (responsible for this declaration) | Title | ☐ Mr ☐ Ms ☐ … | | |
| | Name | | | |
| | First name | | | |
| | Job title | | | |
| | Phone / Fax | | | |
| | Email | | | |

| **3. Product identification** | | |
|---|---|---|
| **3.1 Product category** | ☐ Small aeroplane with a MTOM of 1 200 kg or less and a maximum seating configuration of 2 persons. | ☐ Sailplane with a MTOM of 1 200 kg or less<br>☐ Powered sailplane with a MTOM of 1 200 kg or less<br>☐ Balloon designed for no more than 4 persons<br>☐ Hot airship designed for no more than 4 persons |
| **3.2 Applicability** | Designated type name (this must be a unique means to identify the aircraft) | |
| | Designated model name(s) | |
| **3.3 Technical specifications used for compliance** | Please specify the technical specifications used and the amendment/issue number (e.g. CS-23 Amendment 6) | |
| **3.4 Environmental-protection requirements (if applicable)** | Please specify the environmental-protection requirements with which compliance has been determined | |
| **3.5 Engine details (if applicable)** | ☐ Engine has been issued with an EASA type certificate | Please provide the EASA type-certificate number and engine details |
| | ☐ Compliance of the engine with the applicable technical specifications (as detailed in 3.3 above) has been declared within this declaration | |
| **3.6 Propeller details (if applicable)** | ☐ Propeller has been issued with an EASA type certificate | Please provide the EASA type-certificate number and propeller details |
| | ☐ Compliance of the propeller with the applicable technical specifications (as detailed in 3.3 above) has been declared within this declaration | |

| | |
|---|---|
| **3.7 Compliance demonstration plan** | [*Reference, revision number and date of the* compliance-demonstration plan] |

## 4. Declarant's declaration of compliance

I declare that I have the legal capacity to submit this declaration to EASA and that all information provided in this declaration form and its annexes is correct and complete.

I hereby declare that the design of the aircraft identified in Section 3.2 is in compliance with the applicable detailed technical specifications detailed in Section 3.3 and the applicable environmental-protection requirements detailed in Section 3.4 in accordance with the compliance-demonstration plan detailed in Section 3.7.

☐ *(in the case that the engine is not issued with an EASA type certificate)* The engine that is included within the design of the aircraft is compliant with the applicable technical specifications detailed in Section 3.3.

☐ *(in the case that the propeller is not issued with an EASA type certificate)* The propeller that is included within the design of the aircraft is compliant with the applicable technical specifications detailed in Section 3.3.

I hereby declare that no features or characteristics have been identified that may make the aircraft environmentally incompatible for the intended use.

I hereby commit to undertake the obligations of a declarant of a declaration of design compliance as detailed in point 21L.A.47 of Annex Ib (Part 21 Light) to Regulation (EU) No 748/2012.

I declare that I have provided the required information in Annexes 1 to 5, and that it is accurate and complete and indicated where it is not applicable.

| | | |
|---|---|---|
| | | |
| Date/Location | Name | Signature |

**Important note:** EASA cannot accept declarations without signature. Please make sure that you sign the declaration.

| | |
|---|---|
| This declaration should be sent by email to:<br>TBD@easa.europa.eu | |

## ANNEX I — Airworthiness Data Sheet

## ANNEX II — Reference to Data Sheet for Noise in the EASA noise database (if applicable)

## ANNEX III — Aircraft Flight Manual including any limitations

## ANNEX IV — Instructions for Continued Airworthiness

## ANNEX V — Any other conditions/limitations which the declarant has determined and wishes to declare

The declarant should submit the declaration of design compliance through the web-based 'EASA Applicant Portal'[18] using the request for registration of a declaration of design compliance form (FO.CERT.xxxxx), which may be downloaded from the EASA website.

[18] https://ap.easa.europa.eu (accessed: DD.MM.2023)

The form should be completed along with the declaration of design compliance and sent to EASA by email or regular mail following the information provided on the EASA website[19].

Prior to submitting the declaration of design compliance, an 'EASA project' should be initiated by EASA in order to provide the declarant with a means to provide the required supporting documentation to EASA. The declarant should request that EASA initiate an 'EASA project' to facilitate the submission of the supporting documentation.

## AMC1 21L.A.43(b)(10) Declaration of design compliance

**DATA SHEET FOR AIRWORTHINESS (point 21L.A.43(b)(10))**

Templates prepared for aeroplanes, sailplanes and balloons.


Airworthiness Data Sheet - CS-23 types


Airworthiness Data Sheet - CS-22 types


Airworthiness Data Sheet - Balloons v0.

## AMC1 21L.A.43(b)(11) Declaration of design compliance

**DATA SHEET FOR NOISE**

The required noise data for the data sheet for noise (as required by point 21L.A.43(b)(11)) should be provided by the declarant using the EASA's Part 21 Light database of declared noise levels[20]. The declarant should submit a request to EASA for an account to access EASA's Part 21 Light database of declared noise levels using a dedicated request for registration form (FO.CERT.xxxxx), which may be downloaded from the EASA website.

All applicable fields in EASA's Part 21 Light database of declared noise levels should be completed by the declarant before EASA may check the provided noise data. After a reasonability and completeness check, EASA will publish the declared data in the database. This data will be utilised to support the registration of the declaration of design compliance under point 21L.B.63.

The noise data that is provided in EASA's Part 21 Light database of declared noise levels by the declarant is under the sole responsibility of the declarant of the declaration of design compliance.

The individual records in the published version of EASA's Part 21 Light database of declared noise levels are considered 'data sheet for noise'.

It is important that the declarant uses EASA's Part 21 Light database of declared noise levels to ensure that the declared noise levels and supporting data are made available to the competent authority for the issuance of a restricted noise certificate under point 21L.B.172. Otherwise, the competent authority may not be able to issue such a certificate.

[19] https://www.easa.europa.eu/document-library/application-forms/certificates-and-approvals (accessed: DD.MM.2023)

[20] Hyperlink TBD

## GM1 21L.A.43(b)(4);(b)(5) Declaration of design compliance

**SIGNED STATEMENTS**

All compliance-demonstration activities conducted in accordance with the compliance-demonstration plan, including all the inspections and tests and all flight tests conducted in accordance with point 21L.A.44, should be completed before signing the statements required in points (4) and (5) of point 21L.A.43(b).

'No feature or characteristic' that may make the aircraft unsafe in point 21L.A.43(b)(5) means the following: while every effort is made to address in the applicable detailed technical specifications all the risks to product safety that may be caused by the product, experience shows that safety-related events may occur with products in service, even though compliance with the applicable detailed technical specifications is fully demonstrated. One of the reasons may be that some existing risks are not properly addressed in the applicable detailed technical specifications. Therefore, the declarant should declare that they have not identified any such features or characteristics.

'No features or characteristics' that may make the aircraft environmentally incompatible (point 21L.A.43(b)(5)):

It is assumed that environmental compatibility is demonstrated when the aircraft complies with the applicable environmental-protection requirements. Therefore, the declarant when declaring that the aircraft complies with the applicable environmental-protection requirements under point 21L.A.43(b)(4), shall also declare that they have not identified any such features or characteristics.

## GM1 21L.A.43(c) Information to be provided to the Agency

The documents and information that are required to be provided to EASA under point 21L.A.43(c) may be provided to EASA by the declarant in advance of the submission of the declaration of design compliance. This would be advantageous for the declarant to facilitate EASA's investigations prior to the issuance of the flight conditions for a permit to fly under point 21L.B.242(a)(2) and the first-article inspection under AMC 21L.A.47(a).

If so requested, EASA may provide the declarant with an appropriate account for EASA's document management system (for example, SEPIAC) with which the declarant may provide the documents and information listed in point 21L.A.43(c). This would also include the data related to compliance with the environmental-protection requirements for noise that is required to be provided under point 21L.A.43(b)(11) which can be facilitated by requesting access to EASA's Part 21 Light database of declared noise levels (see AMC1 21L.A.43(b)). Such data will be required to enable the competent authority to issue a restricted noise certificate under point 21L.B.172(b).

## AMC1 21L.A.43(c) Declaration of design compliance

Data and information required to be provided by the declarant should be made available to EASA in a reliable and efficient way as agreed by EASA.

## GM1 21L.A.44 Compliance activities for a declaration of design compliance

**VOLUNTARY INVOLVEMENT OF THE AGENCY PRIOR TO THE SUBMISSION OF THE DECLARATION**

The declarant may choose to involve EASA prior to submitting the declaration of design compliance. This would allow EASA to:

(a) check the scope of the product is within the scope of Subpart C;

(b) provide guidance on the completeness of the compliance-demonstration plan and the selection of the means of compliance;

(c) check the selection of the applicable detailed technical specifications and applicable noise requirements;

(d) provide guidance about and witnessing and participating to noise tests;

(e) avoid any issues or delays during the first-article inspection (after submission of the declaration of design compliance).

The initiation of the project by the declarant by submitting a request to EASA may occur before starting the compliance activities or during those activities. The assignment of a dedicated project number would facilitate any subsequent communication with EASA. This will facilitate the provision of compliance documentation required by point 21L.A.43(c) which can be provided by the declarant to EASA at key stages in the compliance demonstration prior to submission of the declaration of design compliance.

The declarant should also request access to EASA's Part 21 Light database of declared noise levels referring to the given Agency project number[21] in order to provide the required data under point 21L.A.43(b)(11) (see AMC1 21L.A.43(b)).

In accordance with point 21L.B.61, the environmental-protection requirements are defined in Regulation (EU) 2018/1139 to be those contained in Annex 16 to the Chicago Convention. As regards aircraft noise, noise testing is generally conducted making use of technical and equivalent procedures that are described in ICAO Doc 9501 'Environmental Technical Manual', Volume I 'Procedures for the Noise Certification of Aircraft'. The use of such procedures demands a deeper knowledge of the environmental-protection requirements. In case of doubt and to minimise the risk of any re-test after the first-article inspection, the declarant is encouraged to contact EASA well before the noise flight test.

## AMC1 21L.A.44(a) Compliance activities for a declaration of design compliance

**COMPLIANCE-DEMONSTRATION PLAN**

The compliance-demonstration plan is a document that allows the declarant to manage and control the evolving aircraft design, as well as the process of compliance demonstration that enables EASA to investigate the root cause(s) in the event of a safety issue being discovered.

In particular, the following information should typically be expected:

— Identification of the relevant personnel that make decisions affecting airworthiness and environmental compatibility, and that will interface with EASA during the physical inspection (safety review) prior to the issuance of the flight conditions and during the first-article inspection.

— A project schedule, including major milestones.

— Subcontracting arrangements for design, environmental compatibility and/or production.

[21] The access to the Agency's Part 21 Light database of declared noise levels will be granted when the declarant initiates their first Part 21 Light declared project at EASA. Access to this database will also enable the declarant to use this database for future projects.

Point 21L.A.43(c)(2) 'Configurations covered by the declaration'

An overview of the following:

— architecture, functions, systems;

— dimensions, design weights, payloads, design speeds;

— engines and power/thrust rating;

— materials and technologies;

— cabin configuration aspects;

— options (e.g. weight variants, power/thrust rating variants, optional avionics equipment items, brake options, tyre options, floats, skids).

Point 21L.A.43(c)(2) 'Operating characteristics and limitations'

— operating speed limitations;

— service ceiling, maximum airfield elevation;

— limit load factors;

— number of passengers, payload, range;

— weight and centre-of-gravity (CG) envelope and fuel loading;

— performance;

— environmental envelope;

— runway surface conditions;

— other items, if considered to be more appropriate, that address the specific aeronautical product.

The declarant should provide detailed information about the means of compliance with the applicable requirements identified under point 21L.A.45. This should include the following:

— a compliance checklist addressing each requirement, the proposed means of compliance (see Appendix A to AMC1 21L.A.44(a) below for the relevant codes), and the related compliance document(s);

— identification of industry standards, methodology documents, handbooks and any other acceptable means of compliance, specified in the airworthiness data sheet, that have been followed in the demonstration of compliance;

— identification of methodologies and procedures laid down in Annex 16 to the Chicago Convention that have or will be followed in the demonstration of compliance with the applicable environmental-protection requirements;

— when the compliance demonstration involves testing, a description of the ground-and flight-test article(s), test method(s), test location(s), test schedule, test house(s), test conditions (e.g. limit load, ultimate load), as well as of the intent/objective(s) of the testing; and

— when the compliance demonstration involves analyses/calculations, a description/ identification of the tools (e.g. name and version/release of the software programs) and methods used, the associated assumptions, limitations and/or conditions, as well as of the intended use and purpose.

For every aspect related to airworthiness compliance mentioned above, the declarant should clearly identify whether the demonstration of compliance involves different means than those contained in the published AMC to the relevant CSs and any method (analysis or test) which is novel or unusual for the declarant.

For every aspect related to compliance with the applicable environmental-protection requirements mentioned above, the declarant should clearly identify whether the demonstration of compliance involves means that are described in ICAO Doc 9501 'Environmental Technical Manual'.

## Appendix A to AMC1 21L.A.44(a) Compliance activities for a declaration of design compliance

**MEANS-OF-COMPLIANCE CODES**

| Type of compliance | Means of compliance | Associated compliance documents |
|---|---|---|
| Engineering evaluation | MC0:<br>(a) compliance statement<br>(b) reference to design data<br>(c) election of methods, factors, etc.<br>(d) definitions | (a) Design data<br>(b) Recorded statements |
| | MC1: design review | (c) Descriptions<br>(d) Drawings |
| | MC2: calculation/analysis | (e) Substantiation reports |
| | MC3: safety assessment | (f) Safety analysis |
| Tests | MC4: laboratory tests | (g) Test programmes<br>(h) Test reports<br>(i) Test interpretations |
| | MC5: ground tests on related product(s) | |
| | MC6: flight tests | |
| | MC8: simulation | |
| Inspection | MC7: design inspection/audit | (j) Inspection or audit reports |
| Equipment qualification | MC9: equipment qualification | *Note:* Equipment qualification is a process that may include all previous means of compliance at equipment level. |

## GM1 21L.A.44(a) Compliance activities for a declaration of design compliance

**UPDATES TO THE COMPLIANCE-DEMONSTRATION PLAN**

The initial compliance-demonstration plan may not be fully complete, e.g. due to schedule constraints of the design, analysis and testing activities.

Furthermore, even if the initial compliance-demonstration plan is complete, it may be necessary to amend it throughout the duration of the compliance-demonstration activities.

In particular, updates to the following elements should be conducted by the declarant:

— any complementary information that was not included in the initial compliance-demonstration plan;

— any change to the intended use or kind of operation of the product;

— a change to the key characteristics of the product such as but not limited to any declared limits that are intended to be recorded in the airworthiness data sheet and noise data sheet;

— any change to the initial detailed technical specifications or environmental-protection requirements, as applicable to the product;

— any change to the proposed means of compliance, including the related methodology;

— any changes to the schedule that impacts on the first-article inspection.

The declarant should submit an updated and final version of the compliance-demonstration plan when submitting the declaration of design compliance to EASA (point 21L.A.43(c)(3)).

If a declarant has chosen to involve EASA prior to the declaration (GM1 21L.A.44) and has already submitted a preliminary version of the compliance-demonstration plan to EASA, they should resubmit the updated and final version of it.

## AMC1 21L.A.44(b) Compliance activities for a declaration of design compliance

**COMPLIANCE DOCUMENTATION**

1. Compliance documentation comprises one or more test or inspection programmes/plans, reports, drawings, design data, specifications, calculations, analyses, etc., and provides a record of the means by which compliance with the applicable detailed technical specifications and environmental-protection requirements has been demonstrated.
2. Each compliance document should normally contain:
   — the reference of the detailed technical specifications or environmental-protection requirements addressed by the document;
   — substantiation data demonstrating compliance (except test or inspection programmes/plans);
   — a statement by the declarant declaring that the document provides the proof of compliance for which it has been created; and
   — the declarant's signature.
3. Each compliance document should be unequivocally identified by its reference and issue date. The various issues of a document should be controlled and comply with point 21L.A.7 'Record-keeping'.

## AMC1 21L.A.44(c);(d);(e) Compliance activities for a declaration of design compliance

INSPECTIONS AND TESTS

In accordance with point 21L.A.44(d), the declarant should address the conformity of the test specimen as well as of the test and measuring equipment.

Conformity of the test specimen

The recorded justification of the conformity of the test articles is intended to ensure that the manufactured test specimen adequately represents the declared applicable design data. Possible types of non-conformity may be the following:

— Non-conformity between the design of the test specimen and the originally intended design data at the time of the test. These are typically identified in the early stage of the test planning, and should be addressed as early as possible (e.g. in the test plan). There may be several reasons for such a non-conformity: to account for interfaces with the test equipment, to conservatively cover several existing or future design configurations, etc.

— Non-conformity between the manufactured test specimen and the design of the test specimen. Such a non-conformity may be the result of the manufacturing of the test specimen.

While it is convenient to define any possible non-conformity as early as possible, the declarant does not need to make the distinction between the two types of non-conformity above as long as they are explicitly addressed and justified by cross reference to the test plan or other documents. However, testing for the demonstration of compliance with the environmental-protection requirements should be conducted with the final design of the product.

Compliance demonstration is typically an iterative process in which the design is under continuous evolution. If the aircraft design evolves after the time of the inspection or test, then the final aircraft design should be checked against the originally intended design (as it was at the time of the inspection or test), and the differences (if any) should be analysed to ensure that the inspection or test results are representative of the final configuration. However, such changes made to the aircraft design may lead to the invalidation of the inspection or test results and the need to repeat the inspection or test. It is recommended that the declarant should have a thorough configuration management process to track the evolving aircraft design.

Conformity of the test and measuring equipment: the configuration of the test and measuring equipment should be defined in the test plan and include the following:

— definition/design of the test equipment (relevant tools, mechanical parts, electronic components used to execute the test); and

— definition of the measuring equipment:

  — type/model of sensors, together with their technical characteristics;

  — position and orientation of exciters and sensors; and

  — electronic measuring equipment (in some cases, this may also include the acquisition and post-processing of data).

The configuration of the test and measuring equipment should be defined and controlled through test plans and supporting documentation. The test plan should also include the following elements:

— the test cases, methods, and procedures for test execution;

— the pass–fail criteria; and

— pre-, during- and post-test inspections.

The declarant should confirm that the test and measuring equipment conform to its definition in the test plan, and that the sensors and measuring system are appropriately calibrated. Any non-conformity should be assessed, and it should be justified that it will not compromise the test purpose and results. This can be done either in the recorded justification of the conformity of the test articles and equipment or by cross reference to other documents (test minutes of meetings, test notes, etc.).

Use of the term 'adequate': the test and measuring equipment is considered 'adequate' as long as the test execution on the manufactured test specimen (including any non-conformity) and the use of the installed test set-up do not compromise the test purpose and results (for example, by providing better performance than the proposed type design, or by masking any potential failure mode or behaviour).

Changes that affect the validity of the recorded justification of the conformity of the test articles and equipment: if changes need to be introduced to the test specimen or to the test and measurement equipment after the justification has been recorded (and before the test is undertaken), then it must be updated.

Development versus compliance-demonstration tests: sometimes, tests of specimens that conform to a preliminary design, but are not intended for demonstration of compliance (known as development tests), are performed as part of a risk-control strategy and to develop knowledge of a subject. Problems and failures found during development are part of the process of increasing the understanding of the design, including its failure modes and the potential for optimisation. Such development tests do not need to meet the requirements of point 21L.A.44(d) and (e).

Any planned test event should be classified in advance as either a development test or a compliance-demonstration test.

It is acceptable for a development test to finally form part of the compliance demonstration, and it may be declared afterwards to be a compliance-demonstration test as long as it meets the requirements of point 21L.A.44(d) and (e). For this reason, it is important to keep the configuration of such tests under control.

If the test specimen used for a compliance-demonstration test has already undergone a series of previous tests that may affect or ultimately invalidate its validity due to potential non-conformity to point 21L.A.44(d) as required by point 21L.A.43(c)(5), this aspect should be considered when justifying the conformity, and specific analyses or inspections may be required to support such a statement.

Because of the above aspects, declarants may wish to inform EASA if they intend to conduct a campaign of development tests that may eventually be used as demonstration of compliance tests to establish whether EASA would wish to witness the test.

## GM1 21L.A.44(f) Compliance activities for a declaration of design compliance

**INSPECTIONS AND TESTS PERFORMED BY THE AGENCY**

The declarant should inform EASA sufficiently in advance about the execution of significant inspections and tests that are used for compliance-demonstration purposes in order to permit EASA the opportunity to perform or witness these inspections or tests in advance of the first-article inspection required by point 21L.A.47(a).

This would be advantageous for the declarant to avoid any issues or delays during the physical inspection (safety review) for the flight-conditions approval and during the first-article inspection.

Additionally, the declarant may propose to EASA to perform or witness flight or other tests of particular aspects of the product during its development and before the type design is fully defined. However, before EASA performs or witnesses any flight test, the declarant should first perform these tests and should ensure that no features of the product preclude the safe conduct of the evaluation requested.

A recorded justification of the conformity of the test articles and equipment as per point 21L.A.43(c)(5) is required for the above tests.

The declarant should inform EASA of its intent to conduct demonstration-of-compliance testing for the environmental-protection requirements for noise in order to provide EASA with the opportunity to witness and participate to the testing. This will ensure that there are no unforeseen issues with the registration of the declaration of design compliance after the first-article inspection.

## GM1 21L.A.44(g) Compliance activities for a declaration of design compliance

**FLIGHT TESTING TO ENSURE NO SAFETY ISSUES EXIST WHEN AN AIRCRAFT ENTERS INTO SERVICE**

The objective of flight testing is to expose the aircraft to the variety of uses, including training, that are likely to occur when in routine service to provide an assurance that it performs its intended functions without safety issues and should continue to do so in service.

The testing should cover typical routine operations and also some simulation of abnormal conditions.

It may be possible to combine flight testing with the testing required to demonstrate compliance with the applicable detailed technical specifications and environmental-protection requirements.

A substantial proportion of the flying should be on a single aircraft. The flying should be carried out to a continuous schedule on an aircraft that is very close to the final type design, operated as though it were in service and should include a range of representative ambient operating conditions and airfields.

## GM2 21L.A.44(g) Compliance activities for a declaration of design compliance

**FLIGHT TESTING TO ENSURE NO ENVIRONMENTAL COMPATABILITY ISSUES EXIST WHEN AN AIRCRAFT ENTERS INTO SERVICE**

The objective of noise flight tests is to establish the environmental performance of the product that occurs during the in-service operation and to confirm that the aircraft is environmentally compatible in terms of aircraft noise.

## GM1 21L.A.45 Detailed technical specifications and environmental protection requirements that are applicable to aircraft subject to declarations of design compliance

**ENVIRONMENTAL-PROTECTION REQUIREMENTS**

(See GM1 21L.B.61(c)(1))

Volumes I, II and III of Annex 16 to the Chicago Convention are available at https://elibrary.icao.int/.

Since the Standards and Recommended Practices in Annex 16 Volumes I, II and III apply only to certain categories of products and as such do not necessarily apply to all products that are within the scope of Subpart C, it is recommended that the declarant may contact the Environment and Sustainability Section of EASA to confirm the environmental-protection requirements that are applicable to their particular product and at any stage of the declared process for further guidance.

# AMC 21L.A.47(a) Physical inspection and flight tests of the first article of that aircraft (first-article inspection) prior to registration of a declaration of design compliance

1. Purpose

The purposes of the first-article inspection (of the article that is in conformance with the declared design) prior to the registration of a declaration of design compliance for a particular aircraft design are:

a. for EASA to ensure the completion of the demonstration-of-compliance activities conducted by the declarant under point 21L.A.44 in accordance with the information provided in accordance with point 21L.A.43 and in particular the compliance-demonstration plan;

b. for EASA to ensure[1] that the designed aircraft is capable of conducting safe flight during in-service operations and does not have any environmental incompatibilities;

c. in case the declarant is a declared design organisation, for EASA to conduct further oversight in accordance with point 21L.B.183(b) of Subpart J in order to ensure that the declarant is able to discharge its obligations.

*Note:* Under Subpart C of Section A there is no obligation for a declarant of an aircraft declaration of design compliance to submit a declaration of design capability.

[1] *This is limited to the scope of the activities that can be conducted under point 2 and the elements of the product that are selected for inspection based upon a risk-based approach to safety and environmental incompatibility.*

2. Methodology and evidence

The first-article inspection will be conducted by EASA at an appropriate location(s) selected by the declarant where an effective review and inspection activities can take place. This (these) location(s) should:

— include the location of the aircraft for which the declaration of design compliance has been submitted under point 21L.A.43;

— be in the principal place of business (which in accordance with Article 8(2) of Regulation (EU) No 748/2012 must be in an EU Member State); and

— in case the declarant is a declared design organisation, be in a location that enables the competent authority to conduct the oversight stated in point 1(c) above.

*Note:* The principal place of business is defined as follows: 'The head office or registered office of the organisation within which the principal financial functions and operational control of the activities referred to in this Regulation are exercised.'

The Agency will conduct a physical inspection of the aircraft, engine or propeller for which the registration of a declaration of design compliance has been requested. This inspection, along with any other activity that EASA deems necessary (see point 21L.A.44(f)), should ensure that the objectives mentioned in point 1 are met.

The declarant should make the following arrangements to support the first-article inspection:

a. prepare the aircraft, engine, propeller, systems or components for live testing (including flight testing) upon EASA's request;

b. make available the final version of the compliance-demonstration plan;

c. provide access to supporting compliance documentation and test reports;

d. provide access to key design and production personnel;

e. if relevant (the declarant has opted to become a declared design organisation), make available any design processes and procedures that were used.

It will be necessary for EASA to conduct flight testing of the final configuration of the aircraft. This flight testing will be performed according to a plan proposed by the declarant prior to the first-article inspection and agreed by EASA.

Flight testing could be a combination of:

a. a predefined flight-test plan that is not specific to the particular aircraft type;

b. specific flight testing to focus on targeted aspects after a review of the declarant's flight-testing data/reports.

The above list of additional sources of evidence is not exhaustive.

It is possible that during the first-article inspection EASA may discover evidence that indicates that the declarant has:

a. misunderstood, misinterpreted or not demonstrated compliance with the applicable technical specifications or the applicable environmental-protection requirements, which could lead to an unsafe or an environmentally incompatible design;

b. not fulfilled its design obligations as a declared design organisation (if applicable);

c. not utilised good design management principles to ensure compliance or control of the design.

If such evidence is discovered, the declarant should support EASA in conducting a more in-depth investigation into the compliance documentation and/or the design practices of the declarant. The purpose of this in-depth investigation should be to determine whether or not compliance was demonstrated, the root cause(s) and the corrective actions. This investigation should also serve to prevent a reoccurrence of the issue.

3. Aircraft condition and configuration

The declarant should present to EASA the aircraft, engine or propeller (if applicable) in the final configuration for which compliance has been declared by the declarant.

It is possible for the declarant to arrange inspection visits with EASA prior to the declaration of compliance (for example, for noise testing).

Any differences between the configuration presented to EASA for the first-article inspection and the final configuration in the declaration of design compliance should be justified by the declarant and may, therefore, depending upon their criticality, be subject to more focussed scrutiny during the first-article inspection. It is possible that some differences from the final configuration may delay the registration of the declaration of design compliance.

4. Findings and resolution

In the process of the activities mentioned in point 2, EASA will raise an appropriate finding or observation against the aircraft if a non-compliance is discovered. Findings will need to be resolved by the declarant before the declaration of design compliance is registered.

5. Duration and schedule

The first-article inspection may be a single visit or multiple visits depending on the complexity of the design. For example, EASA may wish to witness or participate to compliance-demonstration testing (for example, noise testing) prior to the first-article inspection.

The declarant should coordinate with the competent authority so that the first-article-inspection activities conducted under point 21L.B.143(b) or point 21L.B.251(b) are conducted as far as practical at the same time as first-article-inspection activities conducted under point 21L.B.62(b).

## SUBPART P — PERMIT TO FLY

# AMC1 21L.A.241(b)(1);(c)(2) Physical inspection and critical design review

**PHYSICAL INSPECTION AND CRITICAL DESIGN REVIEW OF PRODUCTS TO BE CERTIFIED**

1. Introduction

For the purposes of this AMC, 'physical inspection and critical design review' includes:

a. the investigation prior to the issuance of the permit to fly, which consists of a physical conformity inspection of the aircraft by the competent authority; and

b. the investigation prior to the approval of the flight conditions, which consists of a critical design review of the design at this stage supported by a physical inspection and assessment of the aircraft design by EASA.

*Note:* It is possible that an oversight visit to the applicant may be found to be necessary prior to the submission of the application for the approval of the flight conditions and the issuance of a permit to fly to ensure the conformity of the aircraft for which a permit to fly has been requested. This could be due to difficulties the competent authority could have in establishing the conformity of major subassemblies after final assembly or due to the fact that the competent authority may wish to check the conformity of lower assemblies. The applicant should approach its competent authority to identify this need early on in the production of the prototype.

2. Purpose

The purposes of the physical inspection and the critical design review prior to the approval of the flight conditions and the issuance of a permit to fly for a particular aircraft design for which an application for a type certificate has been submitted are:

a. for EASA to verify[1] that the demonstration-of-compliance activities conducted by the applicant under point 21L.A.25 have reached a sufficient level of maturity to progress to flight testing in order to conclude the demonstration of compliance;

b. for EASA to ensure that the design configuration for which the flight conditions have been requested is capable of conducting safe flight during flight testing;

c. in case the applicant is a declared design organisation, for EASA to conduct the first oversight visit in accordance with point 21L.B.183(b) of Subpart J in order to ensure that the applicant is able to discharge its obligations;

d. for the competent authority to ensure the conformity of the aircraft with the configuration for which the issuance of a permit to fly has been requested;

e. in case the applicant is a declared production organisation, for the competent authority to conduct the first oversight visit in accordance with point 21L.B.143(b) of Subpart G and point 21L.B.241 of Subpart P in order to ensure that the applicant is able to discharge its obligations and is capable of producing or controlling the production of aircraft, products and parts that conform with the design data.

[1] *The verification is limited to the scope of the activities that can be conducted under point 3 and the elements of the design that are selected for review based upon a risk-based approach to compliance.*

3. Methodology and evidence

The applicant should arrange for the physical inspection and the critical design review to be conducted by EASA and the competent authority at an appropriate location(s) where effective design review and inspection activities can take place.

This (these) location(s) should:

— include the physical location of the aircraft for which the approval of the flight conditions and the issuance of a permit to fly have been requested;

— be in the principal place of business (which in accordance with Article 8(2) of Regulation (EU) No 748/2012 must be in an EU Member State); and

— in case the applicant is a declared production organisation, be in a location that enables the competent authority to conduct the oversight visit stated in point 2(e) above; this (these) location(s) should include the actual production and manufacture of significant elements of the aircraft to enable the competent authority to determine that the declared production organisation is in compliance with the declaration of production capability that was submitted.

*Note:* The principal place of business is defined as follows: 'The head office or registered office of the organisation within which the principal financial functions and operational control of the activities referred to in this Regulation are exercised.'

The Agency and the competent authority will conduct a physical inspection of the aircraft, engine or propeller for which the approval of the flight conditions and the issuance of a permit to fly have been requested. This inspection, along with any other activity that EASA deems necessary (see point 21L.A.25(e)), should ensure that the objectives mentioned in point 2 are met.

The applicant for the approval of the flight conditions and for the issuance of a permit to fly should make the following arrangements to support the physical inspection and critical design review:

a. prepare the aircraft, engine, propeller, systems or components for live testing upon the request of EASA or the competent authority;

b. make available the latest compliance-demonstration plan;

c. make available the latest versions of supporting compliance documentation and test reports;

d. provide access to key design and production personnel;

e. make available any relevant conformity documentation;

f. make available the relevant design or production processes and procedures used.

4. Aircraft condition and configuration

The applicant should ensure that the aircraft presented to EASA and the competent authority is in a condition for first flight and is in the configuration for which the approval of the flight conditions and the issuance of a permit to fly have been requested.

5. Findings and resolution

In the process of the activities mentioned in point 3, EASA or the competent authority may raise an appropriate finding against the aircraft or declared design organisation or declared production organisation if a non-compliance is discovered. Depending upon their nature, these findings may need to be resolved by the applicant before the flight conditions are approved or the permit to fly is issued.

## AMC1 21L.A.241(b)(2);(c)(1) physical inspection and safety review

**PHYSICAL INSPECTION AND SAFETY REVIEW OF AIRCRAFT TO BE DECLARED**

1. Introduction

For the purposes of this AMC, 'physical inspection and safety review' includes:

a. the investigation prior to the issuance of the permit to fly, which consists of a physical conformity inspection of the aircraft by the competent authority; and

b. the investigation prior to the approval of the flight conditions, which consists of a safety review by conducting a physical inspection and assessment of the aircraft by EASA.

*Note:* It is possible that an oversight visit to the declarant may be found to be necessary prior to the submission of the application for the approval of the flight conditions and the issuance of a permit to fly to ensure the conformity of the aircraft for which a permit to fly has been requested. This could be due to difficulties the competent authority could have in establishing the conformity of major subassemblies after final assembly or the fact that the competent authority would wish to check the conformity of lower assemblies. The declarant should approach its competent authority to identify this need early on in the production of the prototype.

2. Purpose

The purposes of the physical inspection and the safety review prior to the approval of the flight conditions and the issuance of a permit to fly for a particular aircraft design for which the declarant intends to submit a declaration of design compliance are:

a. for EASA to ensure[1] that the design configuration, for which the flight conditions have been requested for the compliance activities under point 21L.A.44, is capable of conducting safe flight during flight testing and that the design and the related compliance are sufficiently mature so as not to pose an unacceptable level of risk;

b. in case the declarant is a declared design organisation, for EASA to conduct the first oversight visit in accordance with point 21L.B.183(b) of Subpart J in order to ensure that the declarant is able to discharge its obligations;

*Note:* Under Subpart C of Section A there is no obligation for a declarant to submit a declaration of design capability and become a declared design organisation.

c. for the competent authority to ensure the conformity of the aircraft with the configuration for which the issuance of a permit to fly has been requested;

d. for the competent authority to:

i. either, in case the declarant is a declared production organisation, conduct the first oversight visit in accordance with point 21L.B.143(b) of Subpart G and point 21L.B.241 of Subpart P in order to ensure that the declarant is able to discharge its obligations

and is capable of producing or controlling the production of aircraft, products and parts that conform with the design data; or

ii. conduct a first oversight visit of the production organisation that intends to issue statements of conformity for aircraft, which conform to a declaration of design compliance, to ensure that the production organisation is capable of fulfilling its obligations under Subpart R.

[1] *This is limited to the scope of the activities that can be conducted under point 3 and the elements of the product that are selected for inspection based upon a risk-based approach to safety and environmental incompatibility.*

3. Methodology and evidence

The declarant should arrange for the physical inspection and the safety review to be conducted by EASA and the competent authority at an appropriate location(s) where an effective review and inspection activities can take place.

This (these) location(s) should:

— include the physical location of the aircraft for which the approval of the flight conditions and the issuance of a permit to fly have been requested;

— be in the principal place of business (which in accordance with Article 8(2) of Regulation (EU) No 748/2012 must be in an EU Member State); and

— in case the declarant is a declared production organisation or uses Subpart R, be in a location that enables the competent authority to conduct the oversight stated in point (2)(d) above; this location should include the actual production and manufacture of significant elements of the aircraft to enable the competent authority to determine that the declared production organisation or natural or legal person is in compliance with either the declaration of production capability that was submitted or with Subpart R.

*Note:* The principal place of business is defined as follows: 'The head office or registered office of the organisation within which the principal financial functions and operational control of the activities referred to in this Regulation are exercised.'

The Agency and the competent authority will conduct a physical inspection of the aircraft, engine or propeller for which the approval of the flight conditions and the issuance of a permit to fly have been requested. This inspection, along with any other activity that EASA or the competent authority deems necessary (for example, see point 21L.A.44(f)), should ensure that the objectives mentioned in point 2 are met.

The declarant that applies for the approval of the flight conditions and the issuance of a permit to fly should make the following arrangements to support the physical inspection and safety review:

a. prepare the aircraft, engine, propeller, systems or components for live testing upon the request of EASA or the competent authority;

b. make available the compliance-demonstration plan for a particular aircraft;

c. make available relevant supporting compliance documentation and test reports;

d. provide access to key design and production personnel;

e. make available relevant conformity documentation;

f. make available the relevant design or production processes and procedures used.

4. Aircraft condition and configuration

The declarant should ensure that the aircraft presented to EASA and the competent authority is in a condition for first flight and is in the configuration for which the approval of the flight conditions and the issuance of a permit to fly have been requested.

5. Findings and resolution

In the process of the activities mentioned in point 3, EASA or the competent authority may raise an appropriate finding against the aircraft or the production organisation if a non-compliance is discovered. These findings may need to be resolved by the declarant before the flight conditions are approved or the permit to fly is issued.

# SECTION B

***PROCEDURES FOR COMPETENT AUTHORITIES***

**SUBPART A — GENERAL PROVISIONS**

## GM1 21L.B.12 Exchange of information

**COORDINATION WITH OTHER RELATED ACTIVITIES**

The purpose of coordination with other related activities is to:

(a) harmonise the effects of various approval and certification/oversight teams, especially when dealing with one organisation/applicant/declarant to prevent conflicts of conclusions;

(b) ensure efficient flow of information among the various approval and certification/oversight teams to facilitate the execution of their duties;

(c) optimise the use of EASA's and the competent authorities' resources to minimise disruption and cost.

Therefore, for a given organisation/applicant/declarant, the responsible Agency teams or staff or the competent authorities of a Member State should arrange for exchange of information with, and provide necessary assistance, as appropriate, to, the relevant competent authority of a Member State or EASA teams or staff — e.g.:

(a) the appropriate certification/oversight teams;

(b) the design organisation oversight team;

(c) the production organisation oversight team;

(d) the maintenance organisation approval team; or

(e) other approval or certification/oversight teams as appropriate.

This is considered vital for activities related to the critical design review / safety review prior to issuing the flight conditions for a permit to fly and also for the activities relating to the first-article inspection.

## GM2 21L.B.12 Exchange of information

**COORDINATION**

The exchange of information should be performed in accordance with Article 72 of Regulation (EU) 2018/1139 in particular when:

(a) the competent authority of a Member State immediately reacts to a safety problem;

(b) the competent authority of a Member State grants exemptions to the substantive requirements of Regulation (EU) 2018/1139 and its implementing acts (for a period of more than 2 months or when the exemptions become repetitive);

(c) the competent authority of a Member State grants approvals or registers declarations on an equivalent level of protection by way of derogation from the Part 21 Light requirements.

## GM3 21L.B.12 Exchange of information

**REPORTING — INFORMATION RELEVANT TO REGISTERS ESTABLISHED BY THE AGENCY**

When so requested by EASA, the competent authority of the Member State should notify any certificate or approval or declaration issued, changed or revoked, including details of the scope of that certificate or approval or declaration to EASA for inclusion in a central register established and managed by EASA.

## AMC1 21L.B.13(b) Information to the Agency

**AIRWORTHINESS DIRECTIVES**

When the competent authority of a Member State receives an airworthiness directive from the competent authority of a non-Member State, that airworthiness directive should be transferred to EASA for dissemination in accordance with Article 76 of Regulation (EU) 2018/1139.

## AMC2 21L.B.13(b) Information to the Agency

**EXCHANGE OF SAFETY-SIGNIFICANT INFORMATION WITH THE AGENCY**

Each competent authority should appoint a coordinator to act as the point of contact for the exchange of safety-significant information between the competent authority and EASA.

## GM1 21L.B.13(b) Information to the Agency

**MEANING OF SAFETY-SIGNIFICANT INFORMATION THAT STEMS FROM OCCURRENCE REPORTS**

Safety-significant information that stems from occurrence reports means:

(a) a conclusive safety analysis which summarises individual occurrence data and provides an in-depth analysis of a safety issue, and which may be relevant for EASA's safety action planning; and

(b) individual sets or pieces of occurrence data for cases for which EASA is the competent authority and which fulfils the reporting criteria of GM3 21L.B.13(b).

## GM2 21L.B.13(b) Information to the Agency

**RECOMMENDED CONTENT FOR CONCLUSIVE SAFETY ANALYSES**

A conclusive safety analysis should contain the following:

(a) a detailed description of the safety issue, including the scenario in which the safety issue occurs; and

(b) an indication of the stakeholders that are affected by the safety issue, including types of operations and organisations;

and, as appropriate:

(c) a risk assessment establishing the severity and probability of all the possible consequences of the safety issue;

(d) information about the existing safety barriers that the aviation system has in place to prevent the likely consequences of the safety issue from occurring;

(e) any mitigating action that is already in place or developed to deal with the safety issue;

(f) recommendations for future actions to control the risk; and

(g) any other element the competent authority considers essential for EASA to properly assess the safety issue.

## GM3 21L.B.13(b) Information to the Agency

**OCCURRENCES FOR WHICH THE AGENCY IS THE COMPETENT AUTHORITY**

Occurrences that are related to natural or legal persons, organisations or products, which are certified or overseen by EASA, should be notified to EASA if:

(a) the occurrence is defined as a reportable occurrence in accordance with the applicable regulations;

(b) the natural or legal person or organisation responsible for addressing the occurrence is certified or overseen by EASA; and

(c) the competent authority of the Member State has come to the conclusion that:

(1) the natural or legal person or organisation certified or overseen by EASA to which the occurrence relates was not informed of the occurrence; or

(2) the occurrence has not been properly addressed or has been left unattended by the natural or legal person or organisation certified or overseen by EASA.

Such occurrence data should be reported in a format compatible with the European Co-ordination Centre for Accident and Incident Reporting Systems (ECCAIRS) and should provide all relevant information for its assessment and analysis, including necessary additional files in the form of attachments.

## AMC1 21L.B.16 Management system

**GENERAL**

(a) In deciding upon the required airworthiness organisational structure, the competent authority should review:

(1) the number of certificates, approvals and their scope, authorisations and letters of agreement to be issued;

(2) the number, complexity and size of the organisations under its oversight;

(3) the possible use of qualified entities and of the resources of the competent authorities of other Member States to discharge its obligations with regard to continuing oversight;

(4) the complexity of the aviation industry, taking into consideration the diversity of the products, parts and appliances; and

(5) the potential growth of activities in the field of civil aviation.

(b) The competent authority should retain effective control of the important inspection functions and not delegate them in such a way that organisations, in effect, regulate themselves in airworthiness matters.

(c) The set-up of the organisational structure should ensure that the various tasks and obligations of the competent authority do not solely rely on individuals. The continuous and undisturbed fulfilment of these tasks and obligations of the competent authority should also be guaranteed in cases of illness, accidents or leave of individual employees.

## AMC2 21L.B.16 Management system

**GENERAL**

(a) The competent authority should be organised in such a way that:

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

(2) the functions and processes described in the applicable requirements of Regulation (EU) 2018/1139 and its delegated and implementing acts, acceptable means of compliance (AMC), certification specifications (CSs), detailed technical specifications and guidance material (GM) may be properly implemented;

(3) the competent authority policies, organisation and operating procedures for the implementation of the applicable requirements of Regulation (EU) 2018/1139 and its delegated and implementing acts are properly documented and applied;

(4) all the personnel of the competent authority involved in the related activities are provided with training where necessary;

(5) specific and effective provision is made for the communication and interface as necessary with EASA and the competent authorities of the Member States; and

(6) all the functions related to implementing the applicable requirements are adequately described.

(b) A general policy in respect to the activities related to the applicable requirements of Regulation (EU) 2018/1139 and the delegated and implementing acts adopted on its basis should be developed, promoted and implemented by the manager at the highest appropriate level — for example, the top of the functional area of the competent authority that is responsible for the related matters.

(c) Appropriate steps should be taken to ensure that the policy is known and understood by all the personnel involved, and all the necessary steps should be taken to implement and maintain the policy.

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

(1) the provisions of Regulation (EU) 2018/1139;

(2) the provisions of the applicable rules and their AMC, CSs and GM;

(3) the needs of industry; and

(4) the needs of EASA and of the other competent authorities.

(e) The policy should define specific objectives for the key elements of the organisation and processes for implementing the related activities, including the corresponding control procedures and the measurement of the achieved standard.

## GM1 21L.B.16 Management system

**OVERSIGHT OF DECLARED ORGANISATIONS**

The following are the activities which should be covered by the competent authority management system for the oversight of declared organisations (declared production organisations under Section A Subpart G, and declared design organisations under Section A Subpart J of Annex Ib (Part 21 Light)):

(a) appointment of the declared organisation team leader and the team;

(b) verification of the declaration received;

(c) registration of the declaration;

(d) establishment of an oversight programme;

(e) performance of oversight activities;

(f) follow-up of corrective actions;

(g) recommendation on the continuation of the activities conducted by the declared organisation;

(h) registration of the changes notified by the declared organisations under point 21L.A.128 or point 21L.A.178 respectively; and

(i) enforcement measures under point 21L.B.22.

## AMC1 21L.B.16(a)(1) Management system

**DOCUMENTED POLICIES AND PROCEDURES**

(a) The various elements of the organisation for the activities related to Regulation (EU) 2018/1139 and its delegated and implementing acts should be documented in order to establish a reference source for the establishment and maintenance of such organisation.

(b) The documented procedures should be established in a way that facilitates their use. They should be clearly identified, kept up to date and made readily available to all the personnel involved in the related activities.

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

(1) policies and objectives;

(2) the organisational structure;

(3) responsibilities and the associated authority;

(4) procedures and processes;

(5) internal and external interfaces;

(6) internal control procedures;

(7) the training of personnel;

(8) cross references to associated documents; and

(9) assistance from other competent authorities or EASA (where required).

(d) It is likely that the information may be held in more than one document or series of documents, and suitable cross-reference information should be provided. For example, the organisational structure and the job descriptions are not usually in the same documentation as the detailed working procedures. In such cases, it is recommended that the documented procedures should include an index of cross references to all such other related information, and the related documentation should be readily available when required.

## GM1 21L.B.16(a)(2) Management system

**SUFFICIENT PERSONNEL**

(a) This GM on the determination of the required personnel is limited to the performance of certification and oversight tasks, excluding any personnel that are required to perform tasks subject to any national regulatory requirements.

(b) The elements to be considered when determining the required personnel and planning their availability may be divided into quantitative and qualitative elements, and there should be, at least:

(1) quantitative elements in accordance with AMC1 21L.B.16; and

(2) the following qualitative elements:

(i) the size, nature and complexity of the activities of certified organisations, taking into account:

(A) the privileges of the organisation;

(B) the type of the approval and the scope of the approval/declaration;

(C) the possible use of industry certification standards;

(D) the number of personnel; and

(E) the organisational structure and the existence of subcontractors;

(ii) the safety priorities identified;

(iii) the results of past oversight activities, including audits, inspections and reviews, in terms of risks and regulatory compliance, taking into account:

(A) the number and the levels of findings;

(B) the time frame for the implementation of corrective actions; and

(C) the maturity of the management systems implemented by the organisation, and its ability to effectively manage safety risks; and

(iv) the size and complexity of the aviation industry, and the potential growth of activities in the field of civil aviation, which may be an indication of the number of new applications, and of changes to existing certificates, approvals, authorisations and letters of agreement to be expected.

(c) Based on existing data from previous oversight planning cycles, and taking into account the situation within the Member States' aviation industry, the competent authority may estimate:

(1) the standard working time required for processing applications for new certificates, approvals and authorisations, or registration of declarations;

(2) the number of new certificates and approvals to be issued, or registrations of declarations for each oversight planning cycle; and

(3) the number of changes to existing certificates, approvals, authorisations and declarations to be processed for each oversight planning cycle.

(d) In line with the competent authority's oversight policy, the following planning data should be determined:

(1) the standard number of audits to be performed per oversight planning cycle;

(2) the standard duration of each audit;

(3) the standard working time for audit preparation, on-site auditing, reporting, and follow-up, per inspector;

(4) the standard number of unannounced inspections to be performed;

(5) the standard duration of inspections, including the preparation, reporting, and follow-up, per inspector; and

(6) the minimum number and required qualifications of inspectors for each audit/inspection.

(e) Standard working time could be expressed either in working hours per inspector, or in working days per inspector. All planning calculations should, then, be based on the same units (hours or working days).

(f) It is considered good practice to use a spreadsheet application to process the data defined under points (c) and (d) to assist in determining the total number of working hours/days per oversight planning cycle required for certification, oversight and enforcement activities. This application could also serve as a basis for implementing a system for planning the availability of personnel.

(g) The number of working hours/days per planning period for each qualified inspector that may be allocated for certification, oversight and enforcement activities should be determined, taking into account:

(1) purely administrative tasks not directly related to certification and oversight;

(2) training;

(3) participation in other projects;

(4) planned absences; and

(5) the need to include a reserve for unplanned tasks or unforeseeable events.

(h) The determination of working time available for certification, oversight and enforcement activities should also consider, if applicable:

(1) the use of qualified entities;

(2) cooperation with other competent authorities for approvals that involve more than one Member State; and

(3) oversight activities under a bilateral aviation safety agreement.

(i) Based on the elements listed above, the competent authority should be able to:

(1) monitor the dates when audits and inspections are due, and when they were carried out;

(2) implement a system to plan the availability of personnel; and

(3) identify possible gaps between the number and the qualifications of personnel and the required volume of certification and oversight.

Care should be taken to keep planning data up to date in line with changes in the underlying planning assumptions, with a particular focus on risk-based oversight principles.

## AMC1 21L.B.16(a)(3) Management system

**QUALIFICATIONS AND TRAINING — GENERAL**

(a) It is essential for the competent authority to have the full capability to adequately assess the compliance and performance of an organisation by ensuring that the whole range of activities is assessed by appropriately qualified personnel.

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

(1) define the competencies required to perform the allocated certification and oversight tasks;

(2) define the associated minimum qualifications that are required;

(3) establish initial and recurrent training programmes in order to maintain and to enhance competency at the level that is necessary to perform the allocated tasks; and

(4) ensure that the training provided meets the established standards and is regularly reviewed and updated whenever necessary.

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

(d) When training is not provided through an internal training organisation, adequately experienced and qualified persons may act as trainers, provided that their training skills have been assessed. If required, an individual training plan should be established that covers specific training skills. Records should be kept of such a training, and of the assessment, as appropriate.

## AMC2 21L.B.16(a)(3) Management system

**QUALIFICATIONS AND TRAINING — TECHNICAL PERSONNEL INCLUDING INSPECTORS**

(a) Competent authority technical personnel should have:

(1) practical experience and expertise in the application of aviation safety standards and safe operating practices;

(2) comprehensive knowledge of:

(i) relevant parts of the implementing regulations, AMC, CSs and GM;

(ii) the competent authority's procedures;

(iii) their rights and obligations;

(iv) systems based on the EU management system requirements (including compliance monitoring) and on ICAO Annex 19; and

(v) design- or production- (as applicable) related human-factors and human-performance principles;

(3) a relevant engineering degree or an aircraft maintenance technician qualification with additional education; 'relevant engineering degree' means an engineering degree from aeronautical, mechanical, electrical, electronic, avionics or other studies relevant to the design and production of aircraft/aircraft components; and

(4) knowledge of design or production standards, as applicable.

(b) In addition, competent authority inspectors should have:

(1) received training on auditing techniques and on assessing and evaluating management systems and safety risk management processes; and

(2) 5 years of relevant work experience to be allowed to work independently as an inspector; this may include experience gained during training to obtain the qualifications described in point (a)(2).

(c) In addition to their technical competency, technical personnel should have a high degree of integrity, be impartial in carrying out their tasks, be tactful, and have a good understanding of human nature.

(d) A programme for recurrent training should be developed to ensure that technical personnel remain competent to perform their allocated tasks. As a general policy, it is not desirable for the technical personnel to obtain technical qualifications from those entities that are under their direct regulatory oversight.

## AMC3 21L.B.16(a)(3) Management system

**INITIAL AND RECURRENT TRAINING FOR INSPECTORS**

(a) Initial training programme

The initial training programme for inspectors should include, to an extent appropriate to their role, current knowledge, experience and skills, at least all the following:

(1) aviation legislation, organisation, and structure;

(2) the Chicago Convention, the relevant ICAO annexes and documents;

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

(4) an overview of Regulation (EU) 2018/1139 and the delegated and implementing acts adopted on its basis, and the related AMC, CSs and GM;

(5) specific knowledge of Regulation (EU) No 748/2012, its related AMC, CSs and GM, as well as of any other applicable requirements;

(6) management systems, including the assessment of the effectiveness of a management system, in particular hazard identification and risk assessment, and non-punitive reporting techniques in the context of the implementation of a just culture;

(7) auditing techniques;

(8) procedures of the competent authority that are relevant to the inspector's tasks;

(9) human-factors principles;

(10) the rights and obligations of inspecting personnel of the competent authority;

(11) on-the-job training relevant to the inspector's tasks; and

(12) technical training appropriate to the role and tasks of the inspector, in particular for those areas that require approvals.

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

(b) Recurrent training programme

Once qualified, the inspector should receive training periodically, as well as whenever it is deemed necessary by the competent authority, in order to remain competent to perform their allocated tasks. The recurrent training programme for inspectors should include, as appropriate to their role, at least the following topics:

(1) changes in aviation legislation, the operational environment and technologies;

(2) procedures of the competent authority that are relevant to the inspector's tasks;

(3) technical training that is appropriate to the inspector's role and tasks; and

(4) results from past oversight activities.

(c) Assessments of an inspector's competency should take place at regular intervals that do not exceed 3 years. The results of these assessments, as well as any actions taken following these assessments, should be recorded.

# AMC1 21L.B.16(a)(5) Management system

**SAFETY RISK MANAGEMENT PROCESS**

(a) The safety risk management process required by point 21L.B.16 should be documented. The following should be defined in the related documentation:

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

(2) risk management steps including:

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

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

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

(3) who has the responsibility for hazard identification and risk management;

(4) who has the responsibility for the follow-up of risk-mitigation actions;

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

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

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

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

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

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

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

(4) in addition to the initial hazard identification exercise, the safety risk management process is triggered as a minimum whenever changes occur that may affect the competent authority's capability to perform any of the tasks required by Part 21;

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

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

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

(8) the results of risk assessments are periodically reviewed to check whether they remain relevant (Are the assumptions still valid? Is there any new information?).

## GM1 21L.B.16(a)(5) Management system

**SAFETY RISK MANAGEMENT PROCESS**

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

The safety risk management process required by point 21L.B.16 is intended to address safety risks that are directly related to the competent authority's organisation and processes, and which may affect its capability to perform its tasks and discharge its responsibilities. This process is not intended to be a substitute for the State safety risk management Standards and Recommended Practices (SARPs) defined in ICAO Annex 19 Chapter 3 point 3.3. This does not mean, however, that the competent authority may not use information and data obtained through its State Safety Programme (SSP), including oversight data and information, for the purpose of safety risk management as part of its management system.

The safety risk management process is also to be applied to the management of changes (point 21L.B.18), which is intended to ensure that the management system remains effective whenever changes occur.

## AMC1 21L.B.16(d) Management system

**PROCEDURES AVAILABLE TO THE AGENCY**

(a) Copies of the procedures related to the competent authority's management system, and their amendments, which should be made available to EASA for the purpose of standardisation, should provide at least the following information:

(1) The competent authority's organisational structure for the continuing oversight functions that it undertakes, with a description of the main processes. This information should demonstrate the allocation of responsibilities within the competent authority, and that the competent authority is capable of carrying out the full range of tasks regarding the size and complexity of a particular Member State's aviation industry. It should also consider the overall proficiency and the scope of authorisation of the competent authority's personnel;

(2) For personnel that are involved in oversight activities, the minimum required professional qualification and level of experience, and the principles that guide their appointment (e.g. assessment);

(3) How the following are carried out: assessments of applications and evaluations of compliance; the issuance of certificates, approvals, authorisations and letters of agreement; continuing oversight activities; the follow-up of findings; enforcement measures; and the resolution of safety concerns;

(4) The principles used to manage exemptions and derogations;

(5) The processes that are in place to distribute applicable safety information for timely reaction to a safety problem;

(6) The criteria for planning continuing oversight activities (i.e. an oversight programme), including the management of interfaces when conducting continuing oversight activities; and

(7) An outline of the initial training of newly recruited oversight personnel (taking future activities into account), and the basic framework for the recurrent training of oversight personnel.

(b) As part of the continuous monitoring of a competent authority, EASA may request details of the working methods used, in addition to a copy of the procedures of the competent authority's management system (and of any amendments to it). These additional details are the procedures and related guidance material that describe the working methods for the personnel of the competent authority that conduct oversight activities.

(c) Information related to the competent authority's management system may be submitted in an electronic format.

## GM1 21L.B.17 Allocation of tasks to qualified entities

**CERTIFICATION TASKS**

The tasks that may be performed by a qualified entity on behalf of the competent authority include those that are related to the initial certification and the continuing oversight of persons and organisations as defined in Regulation (EU) No 748/2012.

## GM1 21L.B.19 Resolution of disputes

**PRINCIPLES FOR THE RESOLUTION OF DISPUTES**

It is essential for the efficient accomplishment of the activities related to Part 21 Light of the competent authority of the Member State that all decisions regarding the resolution of disputes be taken at as low a level as possible. In addition, the documented procedures for the resolution of disputes should clearly identify the chain of escalation.

## AMC1 21L.B.20(a) Record-keeping

**GENERAL**

(a) The record-keeping system should ensure that all records are accessible within a reasonable time whenever they are needed. Those records should be organised in a manner that ensures their traceability and retrievability throughout the required retention period.

(b) All records that contain sensitive data on applicants, declarants or organisations should be stored in a secure manner with controlled access, to ensure their confidentiality.

(c) The records should be kept in paper form, or in an electronic format, or a combination of both. Records that are stored on microfilm or optical discs are also acceptable. The records should remain legible and accessible throughout the required retention period. The retention period starts when the record is created.

(d) Paper record systems should use robust material that can withstand normal handling and filing. Computer record systems should have at least one backup system that should be updated within 24 hours of any new entry. Computer record systems should include safeguards to prevent unauthorised personnel from altering the data.

(e) All the computer hardware that is used to ensure the backup of data should be stored in a different location from the one that contains the working data and in an environment that ensures that the data remains in a good condition. When hardware or software changes take place, special care should be taken that all the necessary data continues to be accessible throughout at least the full period that is specified in point 21L.B.20(d).

## AMC1 21L.B.20(a)(1);(a)(2) Record-keeping

**COMPETENT AUTHORITY MANAGEMENT SYSTEM**

The records that are related to the competent authority's management system should include, as a minimum and as applicable:

(a) the documented policies and procedures;

(b) the files of the competent authority's personnel, with the supporting documents related to their training and qualifications;

(c) the results of the competent authority's internal audits and safety risk management processes, including audit findings, as well as any corrective, preventive, and risk-mitigation action; and

(d) the contracts that are established with the qualified entities that perform certification or oversight tasks on behalf of the competent authority.

## AMC1 21L.B.21(c) Findings and corrective actions

**NOTIFICATION OF FINDINGS**

In the case of a level 1 finding, confirmation should be obtained in a timely manner that the accountable manager has taken note of the finding and its details.

Level 1 and level 2 findings require timely and effective oversight by the competent authority to ensure the completion of the corrective action. That oversight may include intermediate communication, such as letters, as necessary, to remind the natural or legal person to verify that the corrective action plan is followed.

## GM1 21L.B.21(f) Findings and observations

**DIFFERENCE BETWEEN A 'LEVEL 2 FINDING' AND AN 'OBSERVATION'**

'Findings' are issued for a non-compliance with the applicable regulation, whereas 'observations' may be issued to a natural or legal person ('organisation') that remains compliant with the applicable regulation while additional input to the organisation may be considered for continuous improvement (see points (1), (2) and (3) of point 21L.B.21(f)).

However, the competent authority may decide to issue a 'level 2' finding when the 'observations' process is not managed correctly or is overlooked.

## AMC1 21L.B.22 Enforcement measures

**LINK BETWEEN FINDINGS AND LIMITATION OR SUSPENSION**

It is expected that any natural or legal person will move quickly to re-establish compliance with Part 21 Light and will not risk the possibility of their approval or the registration of their declaration of design compliance or declaration of design or production capability being suspended.

Level 1 findings are those which may lead, if not properly addressed, to limitation, suspension or revocation of the approval. If appropriate, these negative decisions on the approval may be taken immediately or after the organisation fails to comply within the time period agreed by the competent authority.

The type of the negative decision (i.e. limitation, suspension or revocation) should depend upon the contents and the extent of the level 1 finding. Normally, a limitation or a suspension should be considered first.

## GM1 21L.B.22 Enforcement measures

(a) GENERAL

Decisions on the suspension or revocation of a certificate, approval, registration of a declaration of design compliance or declaration of design or production capability will always be actioned in such a way as to comply with any applicable national laws or regulations related to appeal rights and the conduct of appeals.

In case of Agency decisions, as competent authority, the rules for appeal are included in Regulation (EU) 2018/1139.

(b) LIMITATION

A limitation is an amendment to a certificate, approval, or a registration of a declaration of design compliance or declaration of design or production capability that partially limits the activities of the organisation.

(c) SUSPENSION

A suspension is a temporary withdrawal of a natural or legal person's ('organisation's') ability to conduct their activities. The declaration remains valid, but no activities that invoke the declaration can be made while the suspension is in force. The normal activities of the natural or legal person may be reinstated when the circumstances that caused the suspension are corrected and the natural or legal person can once again demonstrate full compliance with the applicable requirements.

## AMC1 21L.B.23(b) Airworthiness directives

**UNSAFE CONDITION**

An unsafe condition exists if there is factual evidence (from in-service experience, analysis or tests) that:

(a) an event may occur that would result in fatalities, usually with the loss of the aircraft, or reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions to the extent that there would be:

(i) a large reduction in safety margins or functional capabilities; or

(ii) physical distress or excessive workload such that the flight crew cannot be relied upon to perform their tasks accurately or completely; or

(iii) serious or fatal injury to one or more occupants,

unless it is shown that the probability of such an event is within the limit defined by the applicable certification specifications; or

(b) there is an unacceptable risk of serious or fatal injury to persons other than occupants; or

(c) design features intended to minimise the effects of survivable accidents do not perform their intended function.

*Note 1:* Non-compliance with the applicable certification specifications or technical specifications is generally considered as an unsafe condition, unless it is shown that possible events resulting from this non-compliance do not constitute an unsafe condition as defined under points (a), (b) and (c).

*Note 2:* An unsafe condition may exist even though applicable airworthiness requirements are complied with.

*Note 3:* The definition in points (a), (b) and (c) covers the majority of cases where EASA considers there is an unsafe condition. There may be other cases where overriding safety considerations may lead EASA to issue an airworthiness directive.

*Note 4:* There may be cases where events can be considered as an unsafe condition if they occur too frequently (significantly beyond the applicable safety objectives) and could eventually lead to the consequences listed in point (a) in specific operating environments. Although having

less severe immediate consequences than those listed in point (a), the referenced events may reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions to the extent that there would be, for example, a significant reduction in safety margins or functional capabilities, a significant increase in crew workload, or in conditions impairing crew efficiency, or discomfort to occupants, possibly including injuries.

## GM1 21L.B.23(b) Airworthiness directives

**DETERMINATION OF AN UNSAFE CONDITION**

It is important to note that these guidelines are not exhaustive. However, this material is intended to provide guidelines and examples that will cover most cases, taking into account the applicable certification requirements or technical specifications.

1. INTRODUCTION

The certification, approval or declaration of a product is a demonstration of compliance with the applicable requirements which are intended to ensure an acceptable level of safety. This demonstration, however, includes certain accepted assumptions and predicted behaviours, such as:

— fatigue behaviour is based on analysis supported by test;

— modelling techniques are used for aircraft flight manual (AFM) performance calculations;

— the systems' safety analyses give predictions of what the systems' failure modes, effects and probabilities may be;

— the system components' reliability figures are predicted values derived from general experience, tests or analyses;

— the crew is expected to have the skills to apply the procedures correctly; and

— the aircraft is assumed to be maintained in accordance with the prescribed instructions for continued airworthiness (ICAs) (or maintenance programme).

In-service experience, additional testing, further analysis, etc., may show that certain initially accepted assumptions are not correct. Thus, certain conditions initially demonstrated as safe, are revealed by experience as unsafe. In this case, it is necessary to mandate corrective actions in order to restore a level of safety consistent with the applicable certification requirements or technical specifications.

To support the determination of an unsafe condition, the investigation may need to include examinations of worn, damaged and time-expired parts / analysis / demonstrations / tests / statistical analysis, and comparison with the design assumptions.

See AMC1 21L.B.23(b) for the definition of 'unsafe condition' used in point 21L.A.3(a)(3) and (b)(3).

2. GUIDELINES FOR ESTABLISHING WHETHER A CONDITION IS UNSAFE

The following points give general guidelines for analysing the reported events and determining whether an unsafe condition exists, and are provided for each type of product subject to a specific airworthiness approval (type certificates (TCs) or supplemental type certificates (STCs)) for aircraft, engines or propellers or a declaration of design compliance for an aircraft.

This analysis may be qualitative or quantitative, i.e. formal and quantitative safety analyses may not be available. In such cases, the level of analysis should be consistent with that required by

the certification specifications or technical specifications and may be based on engineering judgement supported by in-service experience data.

2.1 Analysis method for aircraft

2.1.1 Accidents or incidents without any aircraft, engine, system, propeller or part malfunction or failure

When an accident/incident does not involve any component malfunction or failure but when a human factor of the crew has been a contributing factor, this should be assessed from a man–machine interface standpoint to determine whether the design is adequate or not. Point 2.5 gives further details on this aspect.

2.1.2 Events involving an aircraft, engine, system, propeller or part failure, malfunction or defect

The general approach for analysis of in-service events caused by malfunctions, failures or defects will be to analyse the actual failure effects, taking into account previously unforeseen failure modes or improper or unforeseen operating conditions revealed by in-service experience.

These events may have occurred in service, or have been identified during maintenance, or have been identified as a result of subsequent tests, analyses or quality control.

They may result from a design or production deficiency (non-conformity with the applicable design data), or from improper maintenance. In this case, it should be determined whether improper maintenance is limited to one aircraft, in which case an airworthiness directive may not be issued, or if it is likely to be a general problem due to improper design and/or maintenance procedures, as detailed in point 2.5.

2.1.2.1 Flight

An unsafe condition exists if:

— there is a significant shortfall of the actual performance compared to the approved or declared performance (taking into account the accuracy of the performance calculation method); or

— the handling qualities, although having been found to comply with the applicable certification specifications at the time of initial approval or declared as being compliant with the applicable technical specifications, are subsequently shown by in-service experience not to comply.

2.1.2.2 Structural or mechanical systems

An unsafe condition exists if the deficiency may lead to a structural or mechanical failure which could exist in a principal structural element. Principal structural elements are those which contribute significantly to carrying flight, ground, and pressurisation loads, and whose failure could result in a catastrophic failure of the aircraft.

They could reduce the structural stiffness to such an extent that the required flutter, divergence or control reversal margins are no longer achieved.

They could result in the loss of a structural piece that could damage vital parts of the aircraft, cause serious or fatal injuries to persons other than occupants.

They could, under ultimate load conditions, result in the liberation of items of mass that may injure the aircraft occupants.

They could jeopardise the proper operation of systems and may lead to hazardous or catastrophic consequences, if this effect has not been taken adequately into account in the initial certification safety assessment.

2.1.2.3 Systems

The consequences of reported system components' malfunctions, failures or defects should be analysed.

For this analysis, the certification or design data may be used as supporting material, in particular systems' safety analyses (if applicable).

The general approach for analysis of in-service events caused by systems' malfunctions, failures or defects will be to analyse the actual failure effects.

As a result of this analysis, an unsafe condition will be assumed if it cannot be shown that the safety objectives for hazardous and catastrophic failure conditions are still achieved, taking into account the actual failure modes and rates of the components affected by the reported deficiency.

The failure probability of a system component may be affected by:

— a design deficiency (the design does not meet the specified reliability or performance);

— a production deficiency (non-conformity with the certified type design or declared design data) that affects either all components, or a certain batch of components;

— improper installation (for instance, insufficient clearance of pipes to surrounding structure);

— susceptibility to adverse environment (corrosion, moisture, temperature, vibrations etc.);

— ageing effects (component failure rate increases when the component ages);

— improper maintenance.

When the failure of a component is not immediately detectable (hidden or latent failures), it is often difficult to have a reasonably accurate estimation of the component failure rate since the only data available are usually results of maintenance or flight crew checks. This failure probability should, therefore, be conservatively assessed.

As it is difficult to justify that the safety objectives for the following systems are still met, a deficiency that affect these types of systems may often lead to a mandatory corrective action:

— backup emergency systems; or

— fire detection and protection systems (including shut-off means).

Deficiencies that affect the systems used during an emergency evacuation (emergency exits, evacuation assist means, emergency lighting system, etc.) and to locate the site of a crash (emergency locator transmitter (ELT)) will also often lead to mandatory corrective action.

2.1.2.4 Others

In addition to the above, the following conditions are considered unsafe:

— There is a deficiency in certain components which are involved in fire protection or which are intended to minimise/retard the effects of fire/smoke in a survivable crash, preventing them to perform their intended function (for instance, deficiency in cargo liners or cabin material leading to non-compliance with the applicable flammability requirements).

— There is a deficiency in the lightning or the high-intensity radiated field (HIRF) protection of a system which may lead to hazardous or catastrophic failure conditions.

— There is a deficiency which could lead to a total loss of power or thrust due to common mode failure.

2.2 Engines

The consequences and probabilities of engine failures should be assessed at the aircraft level in accordance with point 2.1, and also at the engine level for those failures considered as 'hazardous' in CS E-510, CS E-210, CS-22 Subpart H or the applicable technical specifications.

The latter will be assumed to constitute unsafe conditions, unless it can be shown that the consequences at the aircraft level do not constitute an unsafe condition for a particular aircraft installation.

2.3 Propellers

The consequences and probabilities of propeller failures should be assessed at the aircraft level in accordance with point 2.1, and also at the propeller level for those failures considered as 'hazardous' in CS P-150, CS-22 Subpart J or the applicable technical specifications.

The latter will be assumed to constitute unsafe conditions, unless it can be shown that the consequences at the aircraft level do not constitute an unsafe condition for a particular aircraft installation.

2.4 Parts

The consequences and probabilities of equipment failures should be assessed at the aircraft level in accordance with point 2.1.

2.5 Human-factors aspects in establishing and correcting unsafe conditions

This point provides guidance on the way to treat an unsafe condition that results from a maintenance or crew error observed in service.

It is recognised that human-factors techniques are under development. However, the following is a preliminary guidance on the subject.

Systematic review should be used to assess whether the crew or maintenance error raises issues that require regulatory action (whether in design or other areas) or should be noted as an isolated event without intervention. This may need the establishment of a

multidisciplinary team (designers, crews, human-factors experts, maintenance experts, aircraft operators, etc.).

The assessment should include at least the following:

— Characteristics of the design intended to prevent or discourage incorrect assembly or operation.

— Characteristics of the design that allow or facilitate incorrect operation.

— Unique characteristics of a design feature differing from established design practices.

— The presence of indications or feedback that alerts the operator to an erroneous condition.

— The existence of similar previous events, and whether or not they resulted (on those occasions) in unsafe conditions.

— Complexity of the system, associated procedures and training (has the crew a good understanding of the system and its logic after a standard crew qualification programme?).

— Clarity/accuracy/availability/currency and practical applicability of manuals and procedures.

— Any issues arising from interactions among personnel, such as shift changeover, dual inspections, team operations, supervision (or lack of it), or fatigue.

Apart from a design change, the corrective actions, if found necessary, may consist of modifications of the manuals, inspections, training programmes, and/or information to the operators about particular design features. The Agency may decide to make mandatory such corrective action if necessary.

## GM1 21L.B.24 Means of compliance

**ALTERNATIVE MEANS OF COMPLIANCE — GENERAL**

(a) A competent authority may establish alternative means to comply with the Regulation, which are different from the AMC that are established by EASA.

In that case, the competent authority is responsible for demonstrating how those alternative means of compliance (AltMoC) establish compliance with the Regulation.

(b) AltMoC that are used by a competent authority, or by an organisation under its oversight, may be used by other competent authorities, or another organisation, only if they are processed by those authorities in accordance with point 21L.B.24, and by that organisation in accordance with point 21L.A.12.

(c) AltMoC that are issued by the competent authority may cover the following cases:

(1) AltMoC to be used by organisations under the oversight of the competent authority and which are made available to those organisations; and

(2) AltMoC to be used by the authority itself to discharge its responsibilities.

# AMC1 21L.B.24(a);(b) Means of compliance

**PROCESSING THE ALTERNATIVE MEANS OF COMPLIANCE**

To meet the objectives of points (b) and (c) of point 21L.B.24:

(a) the competent authority should establish the means to consistently evaluate over time that all the AltMoC that are used by itself or by organisations under its oversight allow for the establishment of compliance with the Regulation;

(b) if the competent authority issues AltMoC for itself or for the organisations under its oversight, it should:

(1) make them available to all relevant organisations; and

(2) notify EASA of the AltMoC as soon as they are issued, including the information that is described in point (d) of this AMC;

(c) the competent authority should evaluate the AltMoC that are proposed by an organisation by analysing the documentation provided and, if considered necessary, by inspecting the organisation; when the competent authority finds that the AltMoC are in accordance with the Regulation, it should:

(1) notify the applicant that the AltMoC are approved;

(2) indicate that those AltMoC may be implemented, and agree when the organisation's processes and procedures are to be amended accordingly; and

(3) notify EASA of the AltMoC approval as soon as they are approved, including the information that is described in point (d) of this AMC; and

(d) the competent authority should provide EASA with the following information:

(1) a summary of the AltMoC;

(2) the content of the AltMoC;

(3) a statement that compliance with the Regulation is achieved; and

(4) in support of that statement, an assessment that demonstrates that the AltMoC reach an acceptable level of safety, taking into account the level of safety that is achieved by the corresponding Agency's AMC.

(e) All these elements that describe the AltMoC are an integral part of the records to be kept, which are managed in accordance with point 21L.B.20.

## GM1 21L.B.24(b);(c) Means of compliance

**CASES IN WHICH THERE IS NO CORRESPONDING AGENCY AMC**

When there is no Agency AMC to a certain requirement in the Regulation, the competent authority may choose to develop national guides or other types of documents to assist the organisations under its oversight in compliance demonstration. The competent authority may inform EASA so that such guides or other types of documents may be later considered for incorporation into an AMC that is published by EASA using the EASA rulemaking process.

## SUBPART B — TYPE CERTIFICATES

# GM1 21L.B.43(a) Type-certification basis for a type certificate

1. INTRODUCTION

This GM addresses the type-certification basis for a type certificate (TC).

2. APPLICABLE CERTIFICATION SPECIFICATIONS (CSs) (see point 21L.B.43(a)(1))

The type-certification basis for a TC consists of the airworthiness CSs that were effective on the date of application and were applicable for the particular certificate.

3. ELECT TO COMPLY (see point 21L.B.43(a)(1)(i))

It is also possible for an applicant to elect to comply with a CS that became applicable after the date on which the applicant has submitted the application.

The Agency should assess whether the proposed certification basis is appropriate to ensure that the 'elect to comply' proposal includes any other CSs that are 'directly related' to one or several of the CSs in it. Directly related CSs are those that are deemed to contribute to the same safety objective by building on each other's requirements, addressing complementary aspects of the same safety concern, etc. Typically, they are adopted simultaneously with, or prior to, the CSs with which the applicant has elected to comply.

4. EQUIVALENT LEVEL OF SAFETY (see point 21L.B.43(a)(1)(ii))

In cases in which the applicable CSs cannot be literally complied with, either fully or in part, EASA may accept a suitable alternative which provides an equivalent level of safety through the use of appropriate compensating factors.

In cases in which the requirements contain not only objectives but also prescriptive parts, an equivalent level of safety may be accepted if:

— the objectives are met by designs or features other than those required in the CSs; or

— suitable compensating factors are proposed.

5. ALTERNATIVE MEANS OF COMPLIANCE (see point 21L.B.43(a)(1)(iii))

If the intent of the CSs defined in point 21L.B.43(a)(1) cannot be met, EASA may accept mitigating factors to the CSs, provided that the safety objective is met.

In the case of a TC, the alternative means should provide a demonstration of compliance with the essential requirements for airworthiness laid down in Annex II to Regulation (EU) 2018/1139.

*Note:* 'Alternative means of compliance' should not be confused with 'AMC'.

6. SPECIAL CONDITIONS (see point 21L.B.43(a)(2))

The Agency may also prescribe special conditions in accordance with point 21L.B.44. Guidance on special conditions is provided in GM1 21L.B.44.

## GM1 21L.B.44 Special conditions

**GENERAL**

The term 'novel or unusual design features' should be judged in view of the applicable certification basis for a particular product. A design feature, in particular, should be judged to be a 'novel or unusual design feature' when the certification basis does not sufficiently cover it.

The term 'unsafe condition' is used with the same meaning as described in AMC1 21L.B.23(b) 'Airworthiness directives'.

The term 'newly identified hazards' is intended to address new risks that may be recognised in the design (e.g. questionable features) or its operational characteristics (e.g. volcanic ash) for which there is not yet enough in-service experience.

## AMC1 21L.B.46(c) Investigation

**PHYSICAL INSPECTION AND CRITICAL DESIGN REVIEW**

Prior to the approval of the flight conditions to support the issuance of a permit to fly, a physical inspection and a critical design review is conducted with the applicant and the competent authority for conformity (production) under point 21L.B.242(a). The experience and outcome of this activity should be used by EASA to determine the scope and particular aspects of the design that should be the focus of the physical inspection and assessment of the first article of that product (first-article inspection) that is conducted under point 21L.B.46(c) prior to the issuance of the type certificate for a particular product.

## AMC2 21L.B.46(c) Investigation

**PHYSICAL INSPECTION AND ASSESSMENT OF THE FIRST ARTICLE OF A PRODUCT (FIRST-ARTICLE INSPECTION)**

1. Purpose

The purposes of the first-article inspection (of the article that is in conformance with the proposed type design for certification) prior to the issuance of the type certificate for a particular aircraft, propeller or engine design are:

a. for EASA to verify the completion of the demonstration-of-compliance activities conducted by the applicant under point 21L.A.25 and in accordance with the approved compliance-demonstration plan;

b. for EASA to verify[1] with a risk-based approach that the type design complies with the type-certification basis and the applicable environmental-protection requirements;

c. in case the applicant is a declared design organisation, for EASA to conduct a further oversight visit in accordance with point 21L.B.183(b) of Subpart J in order to ensure that the applicant is able to discharge its obligations.

[1] *The verification of compliance is limited to the scope of the activities that can be conducted under point 2 and the elements of the design that are selected for review based upon a risk-based approach to compliance.*

2. Methodology and evidence

The first-article inspection should be conducted by EASA at an appropriate location(s) selected by the applicant for a type certificate. This (these) location(s) should include the physical location of the

aircraft, engine or propeller for which the type certificate has been requested and should be in the principal place of business (which in accordance with Article 8(2) of Regulation (EU) No 748/2012 must be in an EU Member State).

The Agency should conduct a physical inspection of the aircraft, engine or propeller for which the type certificate has been requested. This inspection, along any other activity that is considered necessary should ensure that the objectives mentioned in point 1 are met. Evidence to support compliance will be gathered by EASA prior to and during the first-article inspection. The physical inspection of the aircraft and, if applicable, of the engine and the propeller will provide substantial evidence that the design is in compliance with the type-certification basis and that the applicant (if a declared design organisation) is able to discharge its obligations.

Additional sources of evidence to support the determination of compliance of the design that are available to EASA prior to and during the first-article inspection include:

a. witnessing or participating in live testing (including flight testing) of the aircraft, engine, propeller, systems or components;

b. evaluation of the final compliance-demonstration plan produced by the applicant and how it relates to the final design;

c. evaluation of the completeness of the declaration of compliance submitted by the applicant;

d. evaluation of supporting compliance documentation and test reports;

e. discussions with key design and production personnel;

f. review of design processes and procedures (for non-approved organisations).

If the applicant selects to use flight testing to demonstrate compliance (see MC6 in Appendix A to AMC1 21L.A.24(b)), EASA may decide to conduct flight testing to verify compliance for applications for an aircraft type certificate. An appropriate flight-test plan should be developed and proposed by the applicant prior to the first-article inspection and agreed by EASA in order to ensure that there are no adverse flight characteristics.

Flight testing could be a combination of:

a. a predefined flight-test plan that is not specific to the particular aircraft type;

b. specific flight testing to focus on targeted aspects after a review of the applicant's flight-testing data/reports.

The above list of additional sources of evidence is not exhaustive.

It is possible that during the first-article inspection EASA may discover evidence that:

a. the design is not in compliance with the type-certification basis or the applicable environmental-protection requirements (this could be due to the applicant misinterpreting or misunderstanding the applicable design requirements);

b. the applicant has not fulfilled its design obligations as a declared design organisation;

c. there are shortfalls in the applicant's design management system (in accordance with point 21.A.239 or 21L.A.174) that result in a non-compliance or a loss of control of the design.

If such evidence is discovered, EASA may require a more in-depth investigation into the compliance documentation and/or the design practices of the design organisation. The purpose of this in-depth investigation should be to determine whether or not compliance was demonstrated, the root cause(s) and to establish corrective actions. This investigation should also serve to prevent a reoccurrence of the issue.

3. Aircraft condition and configuration

The aircraft, engine or propeller presented to EASA should be in the final configuration for which a type certificate has been requested and the compliance demonstration has been declared.

The applicant could arrange visits with EASA prior to the declaration of compliance (in accordance with point 21L.A.25(f)) (for example, for noise testing).

Any differences between the configuration presented to EASA for the first-article inspection and the final configuration in the declaration of compliance (in accordance with point 21L.A.25(f)) should be justified by the applicant and should be subject to detailed scrutiny during the first-article inspection.

4. Availability of supporting documentation and key personnel

The supporting documentation and compliance data should be available at the time EASA visits the applicant's facilities or at any other time upon request by EASA. Key design personnel will be made available to EASA in case of need. If this is not the case, EASA might not be in a position to issue the type certificate.

5. Findings and resolution

If a non-compliance is discovered by EASA in the process of the activities mentioned in point 2, an appropriate finding or observation should be raised against the aircraft, engine or propeller or declared design organisation in accordance with point 21L.B.21, which may result in the enforcement measures contained in point 21L.B.22. Findings of non-compliance should be resolved before the type certificate is issued. Depending upon their nature, findings against the declared design organisation may need to be resolved before the type certificate is issued.

**SUBPART C — DECLARATIONS OF DESIGN COMPLIANCE**

## GM1 21L.B.61(b) Detailed technical specifications for declarations of design compliance

The acceptable detailed technical specifications that should be used by a declarant to design an aircraft (including engine and propeller, if applicable), and then declare compliance with are published on the EASA website. The declarant should regularly check that the acceptable detailed technical specifications have not changed, and the declarant is encouraged to contact EASA to establish whether a change to the acceptable detailed technical specifications is pending or forthcoming to avoid any issues at the time of submission of the declaration of design compliance.

## GM1 21L.B.61(c)(1) Detailed technical specifications and applicable environmental protection requirements for declarations of design compliance

**APPLICABLE ENVIRONMENTAL-PROTECTION REQUIREMENTS**

The applicable environmental-protection requirements are the Standards and Recommended Practices (SARPs) in Volume I 'Aircraft Noise', Volume II 'Aircraft Engine Emissions' and Volume III 'Aeroplane $CO_2$ Emissions' of Annex 16 to the Chicago Convention for products for which the first subparagraph of Article 9(2) of Regulation (EU) 2018/1139 applies. The applicable levels of amendments to Annex 16 to the Chicago Convention are those adopted in the first subparagraph of Article 9(2) of Regulation (EU) 2018/1139.

Related guidance material is provided in the attachments to these Annex 16 volumes and in ICAO Doc 9501 'Environmental Technical Manual', Volume I 'Procedures for the Noise Certification of Aircraft', Volume II 'Procedures for the Emissions Certification of Aircraft Engines' and Volume III 'Procedures for the $CO_2$ Emissions Certification of Aeroplanes'.

However, these SARPs apply only to certain categories of products and as such do not necessarily apply to all products that are within the scope of Subpart C. The applicability of the SARPs is provided in the administration chapters and in the specific applicability sections of the chapters of Annex 16 Volumes I, II and III.

## AMC 21L.B.62(b) Physical inspection and assessment of the first article of a given aircraft in the final configuration (first-article inspection) prior to the registration of a declaration of design compliance

1. Purpose

The purposes of the first-article inspection (of the article that is in conformance with the proposed type design for certification) prior to the registration of a declaration of design compliance for a particular aircraft design are:

a. for EASA to ensure the completion of the demonstration-of-compliance activities conducted by the declarant under point 21L.A.44 in accordance with the information

provided in accordance with point 21L.A.43 and in particular the compliance-demonstration plan;

b. for EASA to ensure[1] that the designed aircraft is capable of conducting safe flight during in-service operations and does not have any environmental incompatibilities;

c. in case the declarant is a declared design organisation, for EASA to conduct further oversight in accordance with point 21L.B.183(b) of Subpart J in order to ensure that the declarant is able to discharge its obligations;

*Note:* Under Subpart C of Section A there is no obligation for a declarant of an aircraft declaration of design compliance to submit a declaration of design capability.

[1] *This is limited to the scope of the activities that can be conducted under point 2 and the elements of the design that are selected for review based upon a risk-based approach to safety and environmental incompatibility.*

2. Methodology and evidence

The first-article inspection should be conducted by EASA at an appropriate location(s) selected by the declarant. This (these) location(s) should include the physical location of the aircraft for which the declaration of design compliance has been submitted under point 21L.A.43 and should be in the principal place of business (which in accordance with Article 8(2) of Regulation (EU) No 748/2012 must be in an EU Member State).

The Agency should conduct a physical inspection of the aircraft, engine or propeller for which the registration of a declaration of design compliance has been requested. This inspection, along with any other activity that EASA deems necessary (see point 21L.A.44(f)), should ensure that the objectives mentioned in point 1 are met. Evidence to support compliance should be gathered by EASA prior to and during the first-article inspection. The physical inspection of the aircraft and, if applicable, of the engine and propeller will provide substantial evidence that the aircraft is capable of conducting a safe flight and is environmentally compatible during in-service operations and that the declarant (if a decaled design organisation) is able to discharge its obligations.

Additional sources of evidence during the visit at the declarant's facilities may include:

a. witnessing or participating to live testing (including flight testing) of the aircraft, engine, propeller, systems or components;

b. review of the completeness of the compliance-demonstration plan produced by the declarant and how it relates to the final design;

c. determination of the completeness of supporting compliance documentation and test reports and how they relate to the first article under inspection;

d. discussions with key design and production personnel;

e. in case of need and if relevant, a review of the design processes and procedures in order to determine root causes of any issues that are discovered.

It will be necessary for EASA to conduct flight testing of the final configuration of the aircraft. The flight testing will be performed according to a plan proposed by the declarant prior to the first-article inspection and agreed by EASA.

Flight testing could be a combination of:

a. a predefined flight-test plan that is not specific to the particular aircraft type;

b. specific flight testing to focus on targeted aspects after a review of the declarant's flight-testing data/reports.

The above list of additional sources of evidence is not exhaustive.

It is possible that during the first-article inspection EASA may discover evidence that indicates that the declarant has:

a. misunderstood, misinterpreted or not demonstrated compliance with the applicable technical specifications or the applicable environmental-protection requirements, which could lead to an unsafe or an environmentally incompatible design;

b. not fulfilled its design obligations as a declared design organisation (if applicable);

c. not utilised good design management principles to ensure compliance or control of the design.

If such evidence is discovered, EASA may wish to conduct a more in-depth investigation into the compliance documentation and/or the design practices of the declarant. This in-depth investigation should determine whether or not compliance was demonstrated, the root cause(s) and the corrective actions. This investigation should also aim to prevent a reoccurrence of the issue.

3. Aircraft condition and configuration

The aircraft presented to EASA should be in the final configuration for which the declarant has submitted a declaration of design compliance.

It is possible that the declarant could arrange visits with EASA prior to the declaration of the compliance demonstration being submitted (for example, for noise testing).

Any differences between the configuration presented to EASA for the first-article inspection and the final configuration in the declaration of compliance demonstration should be justified by the declarant and should, therefore, be subject to detailed scrutiny during the first-article inspection.

5. Findings and resolution

If a non-compliance is discovered by EASA in the process of the activities mentioned in point 2, an appropriate finding or observation should be raised by EASA against the given aircraft or, if applicable, the declared design organisation in accordance with point 21L.B.21 which, may result in the enforcement measures contained in point 21L.B.22. These findings should be resolved before the declaration of design compliance is registered.

## GM1 21L.B.63(b) Registration of a declaration of design compliance

**COMPLETENESS OF COMPLIANCE DOCUMENTATION AND DATA PROVIDED TO THE AGENCY**

Prior to the registration of the declaration of design compliance, EASA should ensure that:

(a) its document management system contains the compliance documentation required by point 21L.A.43(c);

(b) the declarant has provided the data for the data sheet for noise required by point 21L.A.43(b)11 using EASA's Part 21 Light database of declared noise levels and that the data provided is reasonable and consistent prior to publication.

## SUBPART P — PERMIT TO FLY

# AMC 21L.B.241(a)(1) and 21L.B.242(a)(1) Critical design review of the design and physical inspection and assessment of the aircraft

**PHYSICAL INSPECTION AND CRITICAL DESIGN REVIEW OF PRODUCTS TO BE CERTIFIED**

1. Introduction

For the purposes of this AMC, 'physical inspection and critical design review' includes:

a. the investigation prior to the issuance of a permit to fly, which consists of a physical inspection of the aircraft by the competent authority; and

b. the investigation prior to the approval of the flight conditions, which consists of a critical design review of the design and a physical inspection and assessment of the aircraft by the Agency.

*Note:* The competent authority may determine that it is necessary to conduct an oversight visit at the applicant's facilities prior to the submission of the application for the approval of the flight conditions and the issuance of a permit to fly to ensure the conformity of the aircraft for which a permit to fly has been requested. For example, this could be due to the need to conduct a conformity check of subassemblies prior to their incorporation into the final prototype.

2. Purpose

The purposes of the physical inspection and the critical design review prior to the approval of the flight conditions and the issuance of a permit to fly for a particular aircraft design for which an application for a type certificate has been submitted are:

a. for EASA to verify[1] that the demonstration-of-compliance activities conducted by the applicant under point 21L.A.25 have reached a sufficient level of maturity to progress to flight testing in order to conclude the demonstration of compliance;

b. for EASA to ensure that the design configuration for which the flight conditions have been requested is capable of conducting safe flight during flight testing;

c. in case the applicant is a declared design organisation, for EASA to conduct the first oversight visit in accordance with point 21L.B.183(b) of Subpart J in order to ensure that the applicant is able to discharge its obligations;

d. for the competent authority to ensure the conformity of the aircraft with the configuration for which the issuance of a permit to fly has been requested;

e. in case the applicant is a declared production organisation, for the competent authority to conduct the first oversight visit in accordance with point 21L.B.143(b) of Subpart G and point 21L.B.241 of Subpart P in order to ensure that the applicant is able to discharge its obligations and is capable of producing or controlling the production of aircraft, products and parts that conform with the design data.

[1] *The verification is limited to the scope of the activities that can be conducted under point 3 and the elements of the design that are selected for review based upon a risk-based approach to compliance.*

3. Methodology and evidence

The physical inspection and the critical design review should be conducted by EASA and the competent authority at an appropriate location(s) selected by the applicant for the type certificate. This (these) location(s) should include the physical location of the aircraft for which the approval of the flight conditions and the issuance of a permit to fly have been requested and should be in the principal place of business (which in accordance with Article 8(2) of Regulation (EU) No 748/2012 must be in an EU Member State).

The Agency and the competent authority should conduct a physical inspection of the aircraft, engine or propeller for which the approval of the flight conditions and the issuance of a permit to fly have been requested. This inspection, along with any other activity that EASA or the competent authority deems necessary (for example, see point 21L.A.25(e)), should ensure that the objectives mentioned in point 2 are met.

Additional sources of evidence during the visit at the applicant's facilities may include:

a. witnessing or participating to live testing of the aircraft, engine, propeller, systems or components;

b. evaluation of the compliance-demonstration plan produced by the applicant;

c. evaluation of supporting compliance documentation and test reports;

d. discussions with key design and production personnel;

e. review of conformity documentation;

f. review of the relevant design or production processes and procedures (for non-approved organisations).

The above list of additional sources of evidence is not exhaustive.

4. Aircraft condition and configuration

The aircraft presented to EASA and the competent authority should be in a condition for first flight and be in the configuration for which the approval of the flight conditions and the issuance of a permit to fly have been requested. If this is not the case, then a judgement should be made whether the critical design review and physical inspection can be conducted or not based upon any differences between the 'as presented' configuration and condition and the configuration that will be used for flight testing.

5. Availability of supporting documentation and key personnel

The applicant is required to make available supporting documentation as well as compliance and conformity data at the time of the visit by EASA and the competent authority at the applicant's facilities. Key design and production personnel should be made available by the applicant to EASA and the competent authority in case of need. The Agency and the competent authority may wish to withhold the approval of the flight conditions and the issuance of the permit to fly if this is not the case.

6. Findings and resolution

If a non-compliance is discovered by EASA or the competent authority in the process of the activities mentioned in point 2, an appropriate finding may be raised against the particular aircraft or declared

design organisation or declared production organisation. Depending upon their nature, these findings may need to be resolved before the flight conditions are approved or the permit to fly is issued.

7. Duration and schedule

The physical inspection and the critical design review may be a single visit or, if necessary, multiple visits depending on the complexity of the design, the maturity of the design and any unique characteristics that are identified in the compliance-demonstration plan. It should not solely be viewed as a single one-day event.

## AMC 21L.B.241(a)(2) and 21L.B.242(a)(2) Physical inspection and assessment of the aircraft in order to ensure that the aircraft is capable of safe flight, and that flight testing can be conducted safely (physical inspection and safety review)

**PHYSICAL INSPECTION AND SAFETY REVIEW OF AIRCRAFT TO BE DECLARED**

1. Introduction

For the purposes of this AMC, 'physical inspection and safety review' includes:

a. the investigation prior to the issuance of a permit to fly, which consists of a physical inspection of the aircraft by the competent authority; and

b. the investigation prior to the approval of the flight conditions, which consists of a physical inspection and assessment of the aircraft by EASA.

2. Purpose

The purposes of the physical inspection and the safety review prior to the approval of the flight conditions and the issuance of a permit to fly for a particular aircraft design for which the declarant intends to submit a declaration of design compliance are:

a. for EASA to ensure[1] that the design configuration, for which the flight conditions have been requested for the compliance-demonstration activities under point 21L.A.44, is capable of conducting safe flight during flight testing and that the design is sufficiently mature so as not to pose an unacceptable level of risk;

b. in case the declarant is a declared design organisation, for EASA to conduct the first oversight visit in accordance with point 21L.B.183(b) of Subpart J in order to ensure that the declarant is able to discharge its obligations;

*Note:* Under Subpart C of Section A there is no obligation for a declarant to submit a declaration of design capability and become a declared design organisation.

c. for the competent authority to ensure the conformity of the aircraft with the configuration for which the issue of a permit to fly has been requested.

d. for the competent authority to:

i. either, in case the declarant is a declared production organisation, conduct the first oversight visit in accordance with point 21L.B.143(b) of Subpart G and point 21L.B.241 of Subpart P in order to ensure that the declarant is able to discharge its

obligations and is capable of producing or controlling the production of aircraft, products and parts that conform with the design data;

ii. or conduct a first oversight visit of the production organisation that intends to issue statements of conformity for aircraft, which conform to a declaration of design compliance, to ensure that the production organisation is capable of discharging its obligations under Subpart R.

[1] *This is limited to the scope of the activities that can be conducted under point 3 and the elements of the product that are selected for inspection based upon a risk-based approach to safety and environmental incompatibility.*

3. Methodology and evidence

The physical inspection and the safety review should be conducted by EASA and the competent authority at an appropriate location(s) selected by the declarant. This (these) location(s) should include the physical location of the aircraft for which the approval of the flight conditions and the issuance of a permit to fly have been requested and should be in the principal place of business (which in accordance with Article 8(2) of Regulation (EU) No 748/2012 must be in an EU Member State).

The Agency and the competent authority should conduct a physical inspection of the aircraft, engine or propeller for which the approval of the flight conditions and the issuance of a permit to fly have been requested. This inspection, along with any other activity that EASA or the competent authority deems necessary (for example, see point 21L.A.44(f)), should ensure that the objectives mentioned in point 2 are met.

Additional sources of evidence during the visit at the declarant's facilities may include:

a. witnessing or participating to live testing of the aircraft, engine, propeller, systems or components;

b. review of the completeness of the compliance-demonstration plan produced by the declarant;

c. review of the maturity of the supporting compliance documentation and test reports;

d. discussions with key design and production personnel;

e. review of conformity documentation;

f. review of the relevant design or production processes and procedures (for non-approved organisations).

The above list of additional sources of evidence is not exhaustive.

4. Aircraft condition and configuration

The aircraft presented to EASA and the competent authority should be in a condition for first flight and be in the configuration for which the approval of the flight conditions and the issuance of a permit to fly have been requested.

If this is not the case, then a judgement should be made whether the safety review and physical inspection can be conducted or not based upon any differences between the 'as presented' configuration and condition and the configuration that will be used for flight testing.

5. Availability of supporting documentation and key personnel

The declarant is required to make available supporting documentation and conformity data at the time of the visit by EASA and the competent authority at the declarant's facilities. Key design and

production personnel should be made available by the declarant to EASA and the competent authority in case of need. The Agency and the competent authority may wish to withhold the approval of the flight conditions and the issue of a permit to fly if this is not the case.

6. Findings and resolution

If a non-compliance is discovered by EASA or the competent authority in the process of the activities mentioned in point 2, an appropriate finding may be raised against the particular aircraft or, if applicable, the declared design organisation or declared production organisation. Depending upon their nature, these findings may need to be resolved before the flight conditions are approved or the permit to fly is issued.

7. Duration and schedule

The physical inspection and safety review may be a single visit or multiple visits depending on the complexity and the maturity of the design. It should not solely be viewed as a single one-day event.

# 4. References

## 4.1. Related EU regulations

— Commission Regulation (EU) No 748/2012 of 3 August 2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OJ L 224, 21.8.2012, p. 1)

# 5. Quality of the NPA

To continuously improve the quality of its documents, EASA welcomes your feedback on the quality of this NPA with regard to the following aspects:

## 5.1. The regulatory proposal is of technically good/high quality

*Please choose one of the options below and place it as a comment in CRT; if you disagree or strongly disagree, please provide a brief justification.*
Fully agree / Agree / Neutral / Disagree / Strongly disagree

## 5.2. The text is clear, readable and understandable

*Please choose one of the options below and place it as a comment in CRT; if you disagree or strongly disagree, please provide a brief justification.*
Fully agree / Agree / Neutral / Disagree / Strongly disagree

## 5.3. The regulatory proposal is well substantiated

*Please choose one of the options below and place it as a comment in CRT; if you disagree or strongly disagree, please provide a brief justification.*
Fully agree / Agree / Neutral / Disagree / Strongly disagree

## 5.4. The regulatory proposal is fit for purpose (capable of achieving the objectives set)

*Please choose one of the options below and place it as a comment in CRT; if you disagree or strongly disagree, please provide a brief justification.*
Fully agree / Agree / Neutral / Disagree / Strongly disagree

## 5.5. The impact assessment (IA), as well as its qualitative and quantitative data, is of high quality

*Please choose one of the options below and place it as a comment in CRT; if you disagree or strongly disagree, please provide a brief justification.*
Fully agree / Agree / Neutral / Disagree / Strongly disagree

## 5.6. The regulatory proposal applies the 'better regulation' principles[1]

*Please choose one of the options below and place it as a comment in CRT; if you disagree or strongly disagree, please provide a brief justification.*
Fully agree / Agree / Neutral / Disagree / Strongly disagree

## 5.7. Any other comments on the quality of this NPA (please specify)

*Note:* Your comments on Chapter 5 will be considered for internal quality assurance and management purposes only and will not be published in the related CRD.

[1] For information and guidance, see:
- 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_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